

1899.

(THIRD SESSION.)

---

NEW SOUTH WALES.

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VOTES

AND

PROCEEDINGS

OF THE

LEGISLATIVE ASSEMBLY

DURING THE THIRD SESSION

OF

1899,

WITH THE VARIOUS DOCUMENTS CONNECTED THEREWITH.

---

IN FIVE VOLUMES.

Vol. III.

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(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## VOTES AND PROCEEDINGS.

THIRD SESSION, 1899.

(IN FIVE VOLUMES.)

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1899.

(THIRD SESSION.)

—  
LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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# NINETEENTH ANNUAL REPORT

OF THE

# DEPARTMENT OF LANDS,

BEING FOR THE YEAR

1898.

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*Printed under No. 4 Report from Printing Committee, 24 August, 1899.*

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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## DEPARTMENT OF LANDS.

(NINETEENTH ANNUAL REPORT.)

*Printed under No. 4 Report from Printing Committee, 24 August, 1899.*

To the Honorable J. H. Young, M.P., Secretary for Lands.

Sir,

Department of Lands, Sydney, 4th July, 1899.

I have the honor to submit for your information the nineteenth Annual Report of the business of the Department, being that for the year 1898.

*Legislation.*

A small but very important Bill passed into law during 1898, viz., "The Crown Lands Act, 1898." This Act consists of only four sections. It settled the basis on which improvements to an incoming tenant should be appraised, and thus put to rest a question troublesome in itself, and one which, under the interpretation placed upon the pre-existing law, promised considerable and undue hardship to the selector. The Act in question provides that the value that shall be appraised and paid shall be the value of the improvements at the commencement of the incoming tenant's title; shall be their value to him; shall not include any value which may be due to the inherent capabilities of the land; and shall in no case exceed the cost of making the improvements.

In addition to this, the Act provides that when lands are set apart for homestead selection, settlement lease, &c., a preliminary appraisalment will not be necessary, but it will be sufficient if an official valuation of the improvements be gazetted, which valuation will be subject to correction on a subsequent appraisalment.

The Act also provides that in valuing water-frontage land (on the rescission of the usual reservation by the Crown of 100 feet from high-water mark), the price payable for the purchase of the land shall be the difference in value of the adjoining land consequent upon the addition of the reserved land to it.

*Legal Decisions.*

*Minister for Lands v. Chapman.*—In this case, Chapman was the holder of a conditional purchase, the application for which was confirmed by the Local Land Board on the 21st January, 1892. On the 17th April, 1896, the Minister referred to the Land Board, in pursuance of section 20 of the Crown Lands Act of 1884, the question whether any statements made by Chapman in his declaration which accompanied his application for the land were false. The Land Board in May, 1896, found in Chapman's favour.

On the 18th August following the Minister referred the case to the Land Appeal Court, under section 59 of the Crown Lands Act of 1895, on the ground that the Board had failed or neglected to discharge its duty according to law. The Land Appeal Court, in the following November, remitted the case to the Land Board, who, upon rehearing the case, indorsed their previous finding. The Minister again referred the case to the Land Appeal Court, under section 59 of the Act of 1895, on the ground that the rights or interests of the Crown were injuriously affected by the Board's

Board's decision. The Land Appeal Court dismissed the Minister's reference, holding that the Minister had no power to make the reference. A special case was then stated for the Supreme Court, and that Court decided that once a decision has been given under section 20 of the Act of 1884, there is no provision in the law giving the Minister the right to reopen the matter. (N.S.W.L.R., xix, page 9; W.N., xiv, p. 141.)

*Minister for Lands v. Stairs.*—The decision in this case followed the decision in the preceding case. (*S. M. Herald*, 5 March, 1898.)

*Minister for Lands v. Nelson.*—Certain lands were, on the 22nd August, 1896, set apart for settlement lease, to become available on and after the 17th September following:—On the 21st August, 1896, the land was "temporarily reserved and exempt from sale or lease other than settlement lease." Part of the land had been surrendered to the Crown in an exchange under section 47 of the Act of 1895, and on the 21st August, 1896, the lands were proclaimed to be Crown lands for the purposes of the Crown Lands Acts, but there was no notification declaring the land to be open to conditional purchase. When the land became (on 17th September) available for settlement lease, several applications for settlement leases were made, and among the applicants for a settlement lease were Richard Lumby and James Nelson. A ballot was held, which resulted in Lumby coming first and Nelson twenty-second. Nelson thereupon withdrew, and applied for an additional conditional purchase and a conditional lease, in pursuance of section 11 of the Act of 1895. The Land Board confirmed Lumby's application, and disallowed the application made by Nelson. Nelson appealed to the Land Appeal Court, and that Court reversed the Land Board's decision.

The case then came before the Supreme Court as a special case, and the Supreme Court decided that the land was not available for conditional purchase—1st, because it was land which had been exchanged under section 47 of the Act of 1895, and there was no notification declaring it to be open to conditional purchase; and, 2nd, because there was a notification under section 39 of the Crown Lands Act of 1889, expressly reserving it from sale or lease other than settlement lease. (N.S.W.L.R., xix, p. 17; W.N., xiv, p. 137.)

*Hill, Clark, & Co. v. Dalgety & Co.*—This was a decision of the Privy Council, reversing a decision of the Supreme Court in which the Supreme Court (N.S.W.L.R., xvii, p. 282; W.N. xiii, p. 81) held that the Land Appeal Court has no power at the request of one of the parties to state a case under the Rabbit Act of 1890 for the opinion of the Supreme Court. (N.S.W.L.R., xix, p. 98; W.N. xiv, p. 175.)

*Flood v. Garnsey and Wife.*—On the 2nd September, 1886, Edith F. Flood made applications for a conditional purchase and conditional lease, which were confirmed on 18th July, 1887. On the 21st September, 1892, the purchase and lease were notified as forfeited, but on 25th October, 1892, the Minister approved of the forfeiture being provisionally reversed, and a notification of the reversal appeared in the *Gazette* of 28th October, 1892. On the 19th May, 1893, this provisional reversal of forfeiture was revoked. On the 27th October, 1892, Isabella Garnsey (then Cambridge) applied for the land as a conditional purchase and a conditional lease, and on the 25th May, 1893, Ida Flora Flood lodged similar applications. The Land Board confirmed Isabella Cambridge's applications on 20th June, 1893, and disallowed those of Ida Flora Flood on the 14th of the following August. Ida Flora Flood appealed to the Land Appeal Court, and her appeal was dismissed. A case was subsequently stated for the Supreme Court, the question being whether the provisional reversal of the forfeiture (which reversal was itself subsequently reversed) prevented the lands from being Crown lands for the purpose of Isabella Cambridge's applications. The Supreme Court held that the lands were not Crown lands open to selection. (N.S.W.L.R., xv, p. 330.) On the 14th September, 1894, the Land Appeal Court made an order directing the Land Board to confirm Ida Flora Flood's applications, and the Board carried out this order on the 3rd December, 1894. On the same day the Land Board reversed the order of the 20th June, 1893, and disallowed Isabella Cambridge's applications. Isabella Cambridge then appealed to the Land Appeal Court, which held that the Board could not reverse their former order without the Appeal Court's direction. The Appeal Court, however, on the 19th June, 1895, made an order directing the Land Board to rehear the case, and to disallow the application of Isabella Cambridge.

On

On the 20th October, 1895, a rule was obtained by the appellants calling upon the respondents to show cause why the verdict of the Supreme Court should not be set aside and a new trial granted; but on the 26th August, 1896, the Court refused to allow the question, which was decided on the special case to be reopened. An appeal was then made to the Privy Council against this order. The Privy Council, however, affirmed the order of the Supreme Court, stating that it would be quite contrary to the design and purposes of the Land Laws and the institution of the Land Appeal Court that the rival claimants of the land should be allowed to raise the question which had been decided by the Supreme Court on the special case in an action in that Court and have its decision reviewed. (xix N.S.W.L.R., p. 342; W.N. xv, p. 162.)

*Ex parte F. Harper.*—The question in this case was whether it was open to the Minister to refer to the Land Board, after a conditional purchase had been confirmed, the question whether the conditional purchaser made a false declaration when he applied for the land. It was argued that, under section 13 of the Act of 1889, it was the duty of the Land Board to be satisfied as to the *bona-fides* of the applicant, and that the land was taken up for his sole use and benefit, and that once the Board is satisfied on that point their decision is final.

The Supreme Court decided that, although the Board's finding was final as against everybody except the Crown, the Minister had power to refer the case to the Board, in pursuance of section 20 of the Act of 1884; that the Board had jurisdiction to deal with the matter; and that, if it transpired that the confirmation of the application had been brought about by any false statement in the declaration, the Minister could forfeit the land. (N.S.W.L.R. xix, p. 133; W.N. xiv., p. 194.)

*Attorney-General v. Walters.*—This was a judgment of the Privy Council reversing a judgment of the Supreme Court. An original and an additional conditional purchase were made under the repealed Acts, subject to a condition that the land should be improved to the extent of 6s. per acre within three years, and to the extent of 10s. per acre within five years from date of purchase. In accordance with the provisions of section 17 of the Act of 1875, the Minister directed that the period for effecting improvements should date from the date of survey of the land, viz., the 26th February, 1885. In June, 1888, the Land Board, on an inquiry under section 20 of the Act of 1884, found that improvements to the value of 6s. per acre had been made within three years from date of survey. This finding of the Board was so far final. On the 4th August, 1891, the Minister referred to the Land Board the question whether 10s. per acre worth of improvements had been made within the five-year period. In December, 1891, the Land Board found that the original conditional purchase never was improved to the value of 10s. per acre, and that the additional conditional purchase was never improved at all.

It appeared to be a question whether the second reference (*i.e.*, on the 4th August, 1891), was under section 13 or section 20 of the Act of 1884; but the Privy Council, differing from the Supreme Court, thought that the reference must be taken to have been made under the provisions of the latter section.

The Chief Justice held that the power of the Minister to declare a forfeiture had, since the repeal of section 18 of the Act of 1861, been completely swept away; that the reference was under section 13 of the Act of 1884; that it bound no one; and that the Minister, if he considered the case to be one that justified forfeiture, should refer the specific question of *forfeiture* to the Land Board. The Privy Council held that it was sufficient for the Land Board to find on the question of fact whether the statutory requirements connected with the conditional purchases had been fulfilled, and that as the Board had found that the conditions had not been fulfilled, the Minister had the discretionary power of declaring a forfeiture. They said: "The Act of 1884 does not prescribe any particular form of reference under section 20. There seems to be no reason why a decision upon a reference framed in the words of subsection (ii) of section 13, though not containing anything pointing directly and in terms of section 20, should not be final under the provisions of that section, if the question is really a question of forfeiture—that is, an issue of fact, which, if determined against the conditional purchaser, would render the purchase liable to forfeiture." (N.S.W.L.R. (Equity) xix 64; W.N. xv, p. 17.)

*Ex parte James Bennett.*—Bennett was the holder of a conditional purchase, applied for in May, 1891. The Minister, in pursuance of section 20 of the Crown Lands Act of 1884, referred to the Land Board the question whether any statements in

in the declaration lodged by Bennett when he applied for the land were false, and whether any evidence given on oath in connection with the purchase had, within the meaning of section 135 of that Act, been given for the purpose of misleading any officer, &c., or had wilfully misrepresented facts. The Board found that a certain statement made by Bennett did wilfully misrepresent facts. Application was made for a prohibition to the Board and the Minister.

The Supreme Court held that a prohibition would not lie against the Minister, he not being a Court; and, so far as the Land Board was concerned, there was nothing to prohibit, as the functions of the Board had come to an end. (N.S.W. L.R., XIX, p. 139; W.N. XIV, p. 196.)

*Attorney-General v. Love.*—The important question involved in this case was, whether the English Nullum Tempus Act (9 Geo. III, c. 16) is in force in this Colony, and applies to land which has never been granted out or dealt with by the Crown—whether sixty years adverse possession holds good against the Crown. The Privy Council, supporting a judgment of the Supreme Court, decided the question in the affirmative. (N.S.W.L.R., XIX, p. 205; W.N., XV, p. 132.)

*Minister for Lands v. Watt and Gilchrist.*—A homestead selection was applied for by James Willmott of land which had been withdrawn from the Genanagic Pastoral Holding, under the provisions of section 3 of the Crown Lands Act of 1895.

The block contained improvements; and the Land Board, when they confirmed Willmott's application, found that, as the lands had been withdrawn under the section referred to, the improvements were the property of the pastoral lessee.

The Minister referred the case to the Land Appeal Court, under the provisions of section 59 of the Act of 1895, on the grounds that the rights and interests of the Crown were injuriously affected by the Land Board's decision, and that the Board had failed to discharge its duty according to law. The Land Appeal Court held that it had no jurisdiction to entertain the Minister's reference, inasmuch as the Minister had offered no evidence in support of the allegations in the reference; that there was no evidence before the Board or the Court that the Crown is entitled to the improvements; and that the mere fact that the Board had arrived at an erroneous conclusion does not sustain a charge of default in the performance of judicial duty.

The case came before the Supreme Court, and that Court held that it may have been that as the Minister offered no evidence before the Land Appeal Court, that Court should have found in favour of the pastoral lessee, but that the Land Appeal Court had jurisdiction and should have decided the matter. (N.S.W.L.R. XIX, p. 258; W.N., XV, p. 65.)

*Bolger v. Minister for Lands.*—The question in this case was whether Regulation 49 under the Crown Lands Acts is *ultra vires*. That Regulation provides that two or more homestead selection blocks may be included in one application and only one deposit and survey fee paid.

On the 18th November, 1897, James Bairstow lodged an application including twenty-one blocks. On the same day Martin Bolger lodged an application for only one block. A ballot was held, at which Bairstow was successful for the particular block for which Bolger had applied. The Land Board confirmed Bairstow's application, and disallowed that of Bolger. Bolger appealed to the Land Appeal Court, but that Court dismissed the appeal, holding that Regulation 49 is not *ultra vires*. A special case was then stated for the Supreme Court.

The Supreme Court held the Regulation to be *intra vires*, and saw nothing inconvenient in it, or anything in it inconsistent with the Act. The Chief Justice applied the principle laid down in *Blackwood v. the London Chartered Bank of Australia* (5 L.R.P.C. 92), in which the Lord Chancellor said:—

“If these Regulations, properly construed, are found to be reasonable and convenient Regulations for carrying the Act into full effect, though they may govern, not only the form, but the effect of instruments of transfer of those rights which precede the grant of leases; if they are found to relate to matters arising within the provisions of the Act—which they unquestionably do; if they are found to be consistent with the provisions of the Act—which they unquestionably are; and, if they are not in the Act expressly provided for—then their Lordships cannot do otherwise than come to the conclusion that they are valid in law, and that there is no ground for the objection that they are *ultra vires*.” (N.S.W.L.R. XIX, p. 275; W.N. XV, p. 54.)

*Minister*

*Minister for Lands v. Ricketson and the Australian Mortgage Land and Finance Company (Limited).*—The respondents were the holders of the Billabong Pastoral Holding, an extension of the lease of which had been granted under the provisions of section 43 of the Crown Lands Act of 1889. The leasehold area contained about 30,000 acres. By virtue of the provisions of section 78 of the Crown Lands Act of 1884, 400 acres were withdrawn from the pastoral lease and the area thus withdrawn contained a tank known as Bartley's Tank. The Land Board appraised the compensation payable under two headings, viz., one amount to represent the value of the lease of the 400 acres for the unexpired term of the lease, and another to represent the value of the improvements. These values were ascertained irrespective of the effect of the withdrawal upon the value of the lessees' other lands, the Board having limited the inquiry to the area actually withdrawn.

An appeal was made by the lessees to the Land Appeal Court and their appeal sustained, and subsequently the case came before the Supreme Court at the instance of the Minister for Lands.

The Supreme Court ruled that the lessee should receive compensation to the extent of their loss, and that their loss should be tested by what was the value of that of which they were deprived. They held that the compensation payable should be ascertained by taking the two things for which compensation was to be given—the unexpired term of the lease, and the improvements—together as being one; and the whole area of the holding, with all its improvements thereon, should first be assessed, and then the value of the holding, less the area and improvements withdrawn—the difference representing the amount which the lessees should receive as compensation. (N.S.W., L.R., xix. p. 281.)

*Landale v. Minister for Lands.*—Landale was the holder of a pastoral holding, and in accordance with the provisions of the Crown Lands Act of 1884, made application for the division of his holding into a leasehold area and a resumed area. He forwarded with his application a statement in which he alleged that the area within the pastoral holding amounted to 24,000 acres, less a claim for about 6,000 acres, thus reducing the area to 18,000 acres; but a plan which he at the same time forwarded, shewed the area of the proposed leasehold area as 13,925 acres and that of the proposed resumed area as 14,816 acres—28,741 acres in all.

The holding was divided in the manner proposed by Landale, and the division notified in the *Gazette* of the 11th July, 1885. In 1887 the rents of the leasehold and resumed areas thus created were determined, and in the *Gazette* of 12th September of that year the rents were calculated upon an estimated acreage of the leasehold area, stated as 13,925 acres, and an estimated area of the resumed area, stated as 14,816 acres.

The acreage of the leasehold and the resumed areas were over-estimated to the extent of 2,100 and 1,300 acres respectively, and the Crown granted a refund of the rent paid in excess between the years 1890 and 1897, but declined to grant a refund for an earlier period.

The pastoral holding had not been surveyed.

Landale claimed a refund of rent paid in excess between 1885 and 1890, as there had been a mistake in the area and this was a mistake of fact.

The Supreme Court, while explaining that money might be recovered if paid under a mistake of facts even though the party paying may at the time of payment have had means of knowledge of which he neglected to avail himself, held that the case was one where there had been no mistake, as both parties were aware there had been, and probably would be, no actual measurement; that Landale had himself put forward and was content to take an estimated acreage as the basis upon which rent was to be determined and paid. The case was held to be governed by the principle that "when parties have agreed to act upon an assumed state of facts, their rights as between themselves are justly made to depend on the conventional state of facts and not on the truth." (N.S.W.L.R. xix, page 314.)

*Ex parte Fielding.*—W. Fielding purchased a certain conditional purchase from the Sheriff. The Land Board, after an inquiry under section 20 of the Crown Lands Act of 1884, found that the conditional purchase was liable to forfeiture for breach of the condition of residence. Fielding appealed to the Land Appeal Court upon the ground (*inter alia*) that the decision was against evidence. The Appeal Court allowed fresh evidence to be given before them, and then decided the question how far the first ground (that the decision of the Board is against evidence, and the weight

weight of evidence) had been made good upon the whole of the evidence before the Court. Their decision was: "We have carefully perused and considered the evidence before the Board, and in the light of the fresh evidence taken before this Court at appellant's request; we find ourselves unable to say that the Board's finding is one which reasonable men should not have arrived at; and, consequently, the Court must decline to disturb that finding, except so far as it contains what purports to be a declaration of forfeiture. This is not within the powers of the Board, and must be eliminated from the finding."

The Court refused to state a case for the Supreme Court on, the ground that no question of law was involved. Application was then made for a writ of mandamus to compel the Court to state a case on the grounds—

- (1.) That further evidence having been taken before the Court in the appeal, it became a matter of rehearing by the Court, and should have been decided by the Court on its merits, having regard to the whole of the evidence, and without regard to the finding of the Land Board.
- (2.) That the Court proceeded upon a wrong principle of law in dismissing the appeal on the ground that it could not determine that the finding of the Board was not one that reasonable men might have come to.

The Supreme Court, although thinking the Land Appeal Court's decision was somewhat inartificially worded, came to the conclusion that that Court had formed an independent judgment, and refused to grant a mandamus. (W.N. xv, p. 45.)

*Ex parte Simpson.*—W. H. Simpson was the holder of a non-residential conditional purchase within a special area. The purchase was applied for, and the application confirmed, before the passing of the Crown Lands Act of 1895.

Simpson, by virtue of the provisions of section 36 of that Act, applied to have the value of the land determined by appraisalment. On the 11th December, 1895, the Land Board appraised the land at £4 per acre, ignoring the fact that the price of a non-residential is double that of a residential conditional purchase. On the 13th February, 1896, the Minister accepted the appraisalment; but, on the 13th December, 1897, referred the case to the Land Appeal Court under section 59 of the Act of 1895, on the ground that the Land Board should have appraised the value of the land as held under non-residential conditional purchase.

A writ of prohibition was issued against the Land Appeal Court and the Minister.

The Supreme Court held that as section 36 refers to the provisions of section 6 of the Crown Lands Act of 1889, and the latter section limits the period within which the Minister may refer an appraisalment to the Land Appeal Court to one month, the Minister could not refer the case after the expiration of this period, and that section 6 of the Act of 1889, and section 36 of the Act of 1895, are not set aside by section 59 of the latter Act. (W.N. xv, p. 10.)

*Re J. H. Smith.*—Reference was made by the Minister to the Land Board as to whether J. H. Smith, the holder of a conditional purchase in the Warren district, had made a false declaration when he applied for the land, and also whether he had given false evidence before the Land Board, upon inquiry as to the fulfilment of the conditions imposed by the Act. Application was made to make absolute a rule nisi for a writ of prohibition directed to the Land Board and the Minister, to restrain them from proceeding on the reference. The Court discharged the rule with costs. (W.N. xv, p. 12.)

*Patrick v. Johnston.*—This was a special case stated by the Land Appeal Court. Johnston was the holder of a conditional purchase and conditional lease, and Patrick lodged a complaint with the Land Board that Johnston had not fulfilled the conditions attaching to his land. The Land Board held that Patrick was not entitled to lodge the complaint as he had no interest in the land. Patrick appealed to the Land Appeal Court, but that Court dismissed the appeal. The case came before the Supreme Court, where it was decided that although Patrick had no legal or equitable interest in the land, yet he had held the land under occupation license, which was interrupted by Johnston selecting the land; that up to this time he had the interest in the land which the occupation license represented; and that he knew that if the conditions were not complied with the lands might become forfeited and be added to the land held by him under license. The Court could not hold that Patrick was a mere stranger in the matter, and accordingly decided that he was entitled to lodge the complaint. (W.N. xv, p. 92.)

*Ex*



*Ex Parte Charles Campbell.*—Campbell applied for a settlement lease, but the Local Land Board not being satisfied as to the applicant's *bona fides* disallowed the application. The Land Appeal Court, on appeal, upheld the Board's decision, and refused to state a case for the Supreme Court, holding that the Board's decision turned, not upon a question of law but on one of fact. Campbell applied for a writ of mandamus, directing the Land Appeal Court to state a case; but the Supreme Court said it was impossible for that Court to say that the Land Board ought to have been satisfied upon the evidence before them; and even if it did say so it would carry the case no further, because the Minister for Lands was bound by Act of Parliament to act upon the satisfaction or dissatisfaction of the Land Board. (W.N. xiv., p. 144.)

*Re John Cutler—Executors of John Stinson, Respondents.*—Cutler made an application for a conditional purchase of improved lands, and the Land Board appraised the improvements at £37 2s. 6d., which sum Cutler was ordered to pay the respondents. It appeared that the respondents, while occupation licensees of the land, sublet it to one Clarke who cleared the land for purposes of cultivation, and cultivated it for several seasons, and that Stinson and Clarke shared the profits of such cultivation and in such a manner that Clarke received from Stinson no payment in money for effecting such improvements.

It was also admitted that the improvements for which Cutler was required to pay were identical with those effected by Clarke under the agreement for subletting. Cutler appealed to the Land Appeal Court, and argued that the claim of the applicants being founded in matter contrary to the provisions of an Act of Parliament was not enforceable at law, and that the improvements having been effected by the applicant, or with their cognizance, in terms of an illegal contract to which they were a party, no course of action accrued to the applicants in respect thereof. The Land Appeal Court reduced the Board's valuation of the improvements to £22 5s. 6d., but held that the act of subletting was not such an illegality as would vitiate the contract at Common Law; and that even if the subletting was such an illegality as to vitiate the contract, a stranger, such as Cutler, was not entitled to raise the question of, and rely upon, such illegality. The Supreme Court (before which Court the matter came as a special case) held that while the Land Appeal Court was wrong in holding that the act of subletting was not such an illegality as would vitiate the contract at Common Law, they were right in holding that a stranger such as the appellant was not entitled to raise the question of, and to rely upon, the illegality. (*S.M. Herald*, 20th August, 1898.)

*Hill, Clark, & Co. v. Dalgety & Co.*—Before the coming into effect of the Rabbit Act of 1890, Dalgety and Co. erected an alleged rabbit-proof fence along the boundary between the pastoral holding of Gidgee and the pastoral holding of Pulpulla, these holdings being situated within a duly proclaimed rabbit-infested district. Dalgety & Co. were, and continued to be, the registered lessees of Gidgee pastoral holding. On 9th August, 1892, Dalgety & Co. made a demand for half cost of making the fence rabbit-proof upon Messrs. Josephson and Nisbet, who were at the time the registered owners of the Pulpulla holding, and on the 27th of the same month applied to the Land Board to assess such half cost. The Board found that the fence was not reasonably sufficient to exclude rabbits, and dismissed the case. An appeal was made by Dalgety & Co., and the Land Appeal Court, in March, 1893, sustained the appeal and returned the case to the Board for evidence whether any, and, if so, what, repairs or modification of the fence would make it rabbit-proof. In June, 1893, the Board took evidence and found that certain repairs and modifications would render the fence rabbit-proof.

On 26th July, 1893, the appeal came before the Land Appeal Court and was struck out of the list. No further proceedings were taken against Messrs. Josephson and Nisbet. In August, 1893, however, a demand was made against Josephson, who had become the sole registered owner of Pulpulla, but when the case came before the Board the application was withdrawn, on the application of Dalgety & Co.'s solicitors.

In September, 1894, demand was made on Hill, Clark, & Co., the then registered holders. The Land Board took evidence (the tenor of which was that the fence was erected before the commencement of the Rabbit Act, and that the repairs specified in the order of the Board had been effected on or before June, 1893), and dismissed the claim. Dalgety & Co. then appealed to the Land Appeal Court and that Court sustained the appeal.

A special case was then stated for the Supreme Court. That Court differed from the Land Appeal Court, and held that there was nothing expressed or implied in

in the Rabbit Act which transferred the liability to pay for the fence from one owner to another. The Court said that if any proceedings could be taken at all, they should be taken against the original owners, Messrs. Josephson and Nisbet. They would not say whether they could be taken now or not; but if they could not, it was Dalgety & Co.'s fault for not taking them at the proper time. (W.N. xv, p. 50.)

*Minister for Lands v. City of Melbourne Bank, Limited.*—Application having been made, in pursuance of section 9 of the Act of 1895, for a reappraisal of the rent of Coan Downs leasehold area, the Land Board, in July and August, 1896, determined the rent but deferred the question of the value and ownership of improvements claimed by the Crown. On 14th October, 1896, the Minister notified in the *Gazette* that the rent had been determined at six-tenths of a penny per acre, making in all £571 13s. 3d. On the 9th April, 1897, the Board held an investigation and appraised the value of the Crown improvements at £193 6s. 8d. and their annual value at £9 13s. 4d. Against the Board's decision the Bank appealed, and the Land Appeal Court sustained the appeal. A special case was stated for the Supreme Court, the question for decision being: Whether the Land Appeal Court was right in holding that, as the improvements were not in lands held under annual lease or occupation license within section 44 of the Crown Lands Act of 1899, the lessee was not liable to be charged rent for the use thereof; and whether the Land Appeal Court was right in holding that, as the rent of the leasehold area had been determined and gazetted, the rent of the improvements could not be afterwards appraised. The Supreme Court thought it unnecessary to answer the first question, and decided the second question in favour of the Bank. (W.N. xv, p. 49.)

#### *Information Bureau.*

Much useful work has been carried out in this branch of the Department during the past year, and the general public continue to show a large appreciation of the advantages afforded them by its establishment. In fact it has become a recognised centre from which all classes of information can be obtained regarding Crown lands available for settlement.

The leaflets that have been prepared by the Bureau giving in a concise form the salient characteristics of the main systems of alienation, &c., namely, homestead selection, conditional purchase, settlement lease and improvement lease, have proved of great assistance to intending settlers, and numerous requests for copies, which are issued free of charge, have been received.

*The Lands Department Gazette* is now issued bi-weekly to subscribers instead of weekly, as heretofore, thus increasing its sphere of usefulness, more especially to private land agents. At the close of the year there were 120 regular subscribers to this *Gazette*, as compared with 108 at the end of 1897, and in addition there are many intending settlers who subscribe for broken periods until some particular notification, setting apart Crown lands for settlement appears. Apart from its usefulness to the general public, the advantages to the Department are very considerable, owing to the avoidance of all extraneous matter, while at the same time the Departmental notifications are retained in a concise and compact form.

One edition of the pamphlet showing lands open for homestead selection and settlement lease throughout the Colony was published during the year, and another was in course of preparation when the year closed, and has since been published. These pamphlets, which are in considerable demand, are sold at a nominal cost of 6d., and give very full and complete particulars about homestead selection and settlement lease areas, being in fact almost complete reproductions of the original notifications published in the *Gazette*.

The preparation of monthly advertisement sheets and pamphlets has also been continued. These publications (which are descriptive of areas notified each month in the *Gazette* as available at an early date for homestead selection, settlement lease, improvement lease, occupation license, auction sale, &c., and afford a good medium for conveying to the public information respecting the latest movements in connection with Crown lands) are exhibited at all the more prominent Railway Stations, Crown Lands Offices, Post Offices, and District Survey Offices.

Advertisements have also been prepared every week for the Press respecting lands about to be set apart for homestead selection, settlement lease, and improvement lease

lease; and paragraphs have also been supplied to the leading Sydney papers giving such particulars, as it was thought would prove interesting to the public, of the progress of land settlement as evidenced by the applications received each week on the regular Lands Office day.

The correspondence carried out in this branch during the past year shows a slight increase over that of the previous year, the number of letters despatched during the two years being respectively 2,053 and 1,965.

Every effort is made to insure prompt replies to all inquiries, and the information given is set forth as clearly and fully as possible.

*Inquiry Branch.*—This division of the Bureau acts mainly as a medium through which solicitors, Banks, private land agents, and financial companies investigate matters relating to the titles of holders of Crown lands prior to their acceptance as security for loans or as a preliminary to the transfer of these holdings, so that the parties interested may be assured that no forfeiture is impending, or that no other defects exist which might in any way affect the title.

Small fees are charged for supplying particulars of this kind, which realised in 1898 the sum of £346 9s. 6d., as compared with £358 8s. 6d. in 1897, and £326 12s. 3d. in 1896.

The inquiry papers lodged during the year were 5,010 in number, and for supplying answers to 1,794 of these, fees were charged as above-mentioned. The balance of these inquiries, namely, 3,216, which had reference chiefly to matters then under Departmental consideration, were answered free of charge. In addition a large number of personal inquiries were answered verbally, and advice was given as to the various methods of procedure prescribed by the Crown Lands Acts.

*The Map Sales Branch.*—The work of the staff consists mainly in receiving lithographs of the various maps published by the Department, such as those of counties, towns, parishes, &c., and in issuing the necessary supplies to Crown Land Agents, District Survey Offices, and other departments. In addition to this, sales of lithographs to the general public are also attended to, and this class of work necessarily involves a large number of explanations as to the information shown on these maps.

As mentioned in the report for 1897, the work of stocktaking was commenced towards the end of that year. This involved, in the first place, the counting of every lithograph in stock, amounting to 182,217, and also the preparation of the necessary books for the introduction of a new system of keeping an account of the lithographs received, issued, and sold. This system, it may be mentioned, has now been in use for more than twelve months with very satisfactory results as regards accuracy and economy of time.

On 31st December, 1897, there were 182,217 lithographs in stock, the sale price being £15,671 3s. 6d., and on 31st December, 1898, the stock had increased to 200,573, of which the value was £17,409 1s. 1d.

During 1897, 55,173 lithographs were received into stock, and 36,817 issued. Of these latter 17,802 were required for the Department's own purposes, 6,902 were issued to other departments, 270 were given to members of Parliament, 3,896 were cancelled, being obsolete, and 7,945 were sold, realising £531 1s. 4d.

The supervision of the issue to Crown Land Agents for sale purposes of Crown Land Acts, pamphlets, and parchment forms used in connection with the transfer of conditional purchases, was undertaken by the branch during the year. The parchment forms sold by Crown Land Agents amounted to 7,491, realising £936 7s. 6d., and 326 Crown Lands Acts and pamphlets were also disposed of, the receipts being £29 7s. 9d.

#### *Rabbit Branch.*

Although there has been a marked increase in the prevalence of the rabbit pest in some parts of the Central Division, and even in a few spots in the Eastern Division, the periodical reports furnished by the various Rabbit Inspectors throughout the Colony prove beyond all doubt that rabbits generally have been less in evidence during the year 1898 than at any previous period since the introduction of legislation for their suppression.

The Queensland Government having decided, early in the year, that it was not desirable to incur further expense in erecting any extensions of the rabbit-proof fence, from Mungindi to the Namoi River, it at once became evident that any steps for the continuation of that barrier southerly, to the rabbit-proof fence on the Wingadee boundary, and easterly to the vicinity of Narrabri, would have to be undertaken by this Government, aided, perhaps, by the monetary co-operation of those landowners whose properties would be benefitted by its erection.

Efforts were speedily made to induce the Government to proceed with the proposed extension; and reports having been obtained from the local Field-staff as to the best general scheme for the extension of this fence, it was decided, in response to the representations of pastoralists and others interested, that the extension to Wingadee and Narrabri, should be taken in hand as soon as the amount of the contribution to be provided by private individuals, towards the erection of a barrier fence from Mungindi to Narrabri had reach a total of £2,000, and endeavours are now being made to thoroughly canvass the district with a view to obtain the sum required.

During the period under review, the duty of rabbit destruction has been made simultaneous and compulsory within the boundaries of the population area of Deniliquin, and the sheep district of Forbes; in addition to which, applications of a more or less representative character, urging the enforcement of the compulsory destruction clauses of the Rabbit Act, in other parts of the Colony, are now under consideration.

Notwithstanding the opposition with which proposals of this nature are frequently received, it has been found that most satisfactory results have invariably attended the enforced destruction of rabbits, and that, too, apparently without involving any cases of hardship to individuals, or serious friction between the Crown and its tenants.

As the result of inquiries instituted by the District Surveyors, some 1,726 miles of rabbit-proof fencing, not shown on the new Colony map have since been charted, thus bringing up the verified total length of rabbit-proof fencing erected in the Colony to 19,006 miles.

Proposals to extend the area of the rabbit-infested districts continue to be received, but owing to local opposition and other causes the question of their consideration has necessarily been postponed.

The 41st section of the Rabbit Act makes provision for the issue of licenses to keep live rabbits, and the requisite authority to do so was granted to the persons mentioned in the following Schedule:—

Name.	Place.	Period.
F. Tidswell, M.D., D.P.H...	Biological and Bacteriological Laboratories of the Board of Health.	12 months.
J. McGarvie Smith ...	Denison-street, Woollahra ... ..	..
Eugene Rougier, M.D. ...	"The Hermitage," Double Bay ... ..	..
John E. Cory ... ..	Berrigal, Moree ... ..	..

#### *Labour Settlements.*

*Wilberforce.*—The condition of affairs at this settlement is practically unchanged since the date of my last report. Owing to the continuance of unfavourable seasons many of the settlers have been unable to obtain any adequate return for their labours from their land, and have been compelled to apply to the Board of Control for permission to leave the settlement from time to time, and to seek in Sydney and elsewhere, employment at their respective trades, in order to provide means to sustain their wives and families and to effect improvement on their allotments.

With the advent of more propitious seasons, the judicious investment of their outside earnings in the further cultivation of their land, and the purchase of farming implements and stock, a more prosperous condition of affairs may reasonably be looked for.

*Bega.*

*Bega.*—Many members of this settlement (like the less-favourably circumstanced settlers at Wilberforce) have found it difficult to maintain themselves and families; but it is satisfactory to report that, in spite of every drawback, each settler has been able to maintain himself without seeking employment outside the settlement to supplement his means of livelihood. Notwithstanding the disadvantages of flood and drought, each settler has managed to make a living, and the eagerness with which old residents in the neighbourhood apply for enrolment as members when any vacancy occurs is sufficient to warrant the opinion that the settlement offers a fair field to the industrious labourer, irrespective of good or bad seasons, and that the portions are large enough to support any family the head of which is possessed of energy and perseverance, with the necessary ability to use his land to the best advantage.

The probationary stages of both of these settlements may now, however, be considered to have been safely passed.

#### *Animals Infectious Diseases Act.*

There was a small increase during the year in the number of persons who desired to avail themselves of the provisions of the Animals Infectious Diseases Act, with the result that twenty licenses (eight under section 6 and twelve under section 7) were in force on the 31st of December, 1898.

Ten of these licenses were granted for the purpose of enabling the holders to inoculate sheep and cattle against anthrax, the firm of McGarvie Smith and Gunn alone having successfully vaccinated 1,196,156 sheep and 7,109 head of cattle during the year.

The possible advent of Tick or Texas Fever is responsible for the issue of four licenses (two under section 6 and two under section 7) to Mr. J. D. Stewart, Veterinary Surgeon to the Stock Branch of the Department of Mines and Agriculture, and Mr. A. A. Devlin, Stock Inspector of Armidale, while the remaining six were distributed among the following members of the medical profession, solely for experimental purposes, viz. :—

To Frank Tidswell, Government Bacteriologist, M.D., D.P.H., two licenses, sections 6 and 7.

Eugene Rougier, M.D., two licenses, sections 6 and 7.

William Frederick Litchfield, M.B., one license, section 6.

W. H. Goode, M.A., M.B., one license, section 6.

During the latter part of the year an application was received from the recently-appointed Macleay Bacteriologist to the Linnean Society in this city for permission to introduce into this Colony, and to inoculate certain birds and animals with, numerous bacteria, including those of bubonic plague, rinderpest, and other diseases previously unknown in Australasia.

Owing to the alarming reports that were constantly being received by cable respecting the terrible effects of these diseases on human and animal life in various parts of the world, it was felt that the introduction of the bacteria of deadly diseases hitherto unknown in the Colony should not be permitted, and that the investigation of such diseases should be left to the countries where they exist, or limited to places or institutions properly equipped and organised for such investigations.

In view of all the circumstances the application was refused, and Mr. Secretary Carruthers, in coming to that decision, expressed the opinion that it would be "an act of criminal recklessness for the Government in any way to authorise the introduction into this Colony, even for experimental purposes, of bacteria of dread diseases hitherto unknown in Australasia; and that the law should be at once amended to rigorously prohibit, under severe penalties of imprisonment (without mere fines as options), the introduction of bacteria of such diseases."

The necessary steps were at once taken to prepare a Bill to amend the Animals Infectious Diseases Act in the direction indicated by the Minister, but owing to the almost immediate prorogation of Parliament the consideration of the measure had necessarily to remain in abeyance.

The

*Revenue.*

The amount paid to the Treasury during 1898 totalled the sum of £2,002,415, being £110,508, in excess of the receipts for 1897. An increase has accrued under the following heads of revenue:—

	1897.	1898.	Increase.
	£	£	£
Auction Sales ... ..	63,513	105,149	41,636
Newcastle Pasturage Reserve ... ..	1,454	1,770	316
Improvement Purchases .. ..	1,598	1,981	383
Conditional Purchases { Deposits ... ..	31,715	38,913	7,198
{ Instalments ... ..	903,673	906,390	2,717
{ Balances ... ..	67,027	93,374	31,347
Homestead Selections (improvements) ... ..	1,580	3,348	1,768
Total Increase Land Sales ... ..	...	.....	£85,365
Annual Leases ... ..	44,292	49,130	4,838
Scrub Leases ... ..	455	747	292
Improvement Leases (rents) ... ..	3,860	7,009	3,149
Homestead Selections (rents) ... ..	10,394	13,772	3,378
Settlement Leases... ..	20,351	31,620	11,269
Artesian Well Leases ... ..	836	1,176	340
Quit Rents... ..	188	269	81
Total Increase Pastoral Occupation ... ..	...	.....	£23,347
Church and School Lands ... ..	.....	9,111	9,111
Licenses to cut timber ... ..	2,512	12,806	10,294
Fees on preparation Title Deeds ... ..	2,533	2,623	90
Fees on transfers of Runs, &c. ... ..	935	957	22
Survey Fees ... ..	22,340	32,876	9,536
Special Leases ... ..	17,633	20,622	2,989
Total Increase Miscellaneous Receipts ... ..	...	.....	£22,931
Grand Total Increases ... ..	...	.....	£140,754

Receipts under the following heads of revenue have, however, fallen off as shown hereunder:—

	1897.	1898.	Decrease.	
	£	£	£	£
Brought forward ... ..	.....	.....	.....	£140,754
Miscellaneous Purchases ... ..	7,398	2,715	4,683	
Interest on land conditionally purchased ... ..	76,257	75,803	454	
Pastoral Leases (runs) ... ..	245,223	244,120	1,103	
Conditional Leases ... ..	160,586	159,135	1,451	
Occupation Licenses ... ..	109,395	109,066	329	
Homestead Leases ... ..	56,341	55,288	1,053	
Snow and Inferior Leases ... ..	1,090	696	394	
All other receipts .. ..	37,728	16,949	20,779	
				30,246
				£110,508

It is pointed out that the increase includes receipts from timber licenses for the whole of 1898, while the revenue for 1897, under this head, included receipts for one quarter of that year only, the Forest Branch having been transferred from the Department of Mines to this Department from the 1st October, 1897.

The average revenue derived from this service per month was £837 6s. 8d. in 1897, and £1,067 3s. 4d. in 1898—an average increase of £229 16s. 8d. per month.

It may be added that the increase also includes amounts received on account of Church and School Lands, which were not shown in last year's returns as such payments did not form part of the Consolidated Revenue until 1898.

It is gratifying to observe that, in spite of adverse seasons, the revenue has been buoyant and in excess of each of the preceding three years.

*Expenditure.*

The total expenditure for all services amounted to £327,071 18s. 3d., *i.e.*:—

For services paid from Consolidated Revenue ... ..	£287,563	5	0
"    "    Loan Votes ... ..	39,508	13	3
	£327,071	18	3

In 1897 the expenditure was £361,345 16s. 1d., showing a decrease of £34,273 17s. 10d. this year. Of the total expenditure in 1898 the sum of £14,599 7s. 8d. was for services performed in 1897 and previous years, the main outstanding accounts being for surveys effected during those years. Omitting

Omitting the special services, for which £18,221 6s. 1d. was paid during the year, the cost of the Department has been £269,341 18s. 11d., as against £275,077 16s. 6d. for 1897, a decrease of £5,735 17s. 7d. Notwithstanding this expenses have been greater than in 1897, as in that year salaries for one quarter only for the staff of the Forest Branch, for one month for the officers of the Church and School Branch, and for a proportion only of the twenty-eight land agents transferred from the votes of the Justice Department were taken into account. An expenditure, £6,483 9s., therefore, became necessary, which was increased by other items to £9,010 12s. This additional expenditure has, however, been counterbalanced by a proportionate reduction in amounts paid for travelling and legal expenses.

The payments out of Loan Votes were considerably less in 1898 than in the preceding year. Expenditure in connection with the clearing of West Bogan scrub lands, the draining of Terragong swamp, and the thinning of forests was £31,824 less than in 1897. (*See* Schedule II.)

Schedule III gives a comparative statement of details of expenditure for the years 1897 and 1898.

The number of accounts registered was 9,813, and 16,422 separate payments were made by cheque.

Schedule IV shows the total payments for salaries to officers in the various branches of the Department.

Schedule V indicates that the numerical strength of the staff, on the 31st December, 1898, was 668, as against 689 on the same date in the preceding year.

The summary, hereunder, shows the vacancies created in the Department by the retirement, resignation, dismissal, or death of officers, and also indicates the number of new appointments, reappointments, and transfers of officers to other Departments.

Appointments	...	...	...	16 New appointments.
				7 Reappointments.
				13 Transfers to other Departments.
				—
Total	...	...	...	36
Retirements, resignations, transfers of officers to other Departments, &c.	}	4	Retirements under the Act.	
		7	Transfers to other Departments (including three instances of removal of Police Officers who were Acting Foresters).	
		9	Resignations.	
		13	Services dispensed with.	
		2	Dismissals.	
		1	Death.	
Total	...	...	...	36

Schedule VI shows the amounts paid in connection with Local Land Board meetings; the total amount being £10,775 6s. 3d., as against £11,842 11s. 9d. in 1897.

Schedule VII gives a comparative statement of revenue and expenditure for the year under review. It shows a reduction of  $1\frac{1}{4}$  per cent. in expenditure as compared with the preceding year.

#### *Inspection of Accounts.*

During the year the accounts were subjected to an independent audit by an Inspector of Public Accounts.

#### *Land Appeal Court Report.*

During the year 1898 the Court heard and disposed of 396 cases, comprising 250 appeals and 146 references. Of these cases 340 were dealt with in Sydney, and 56 in the country. The Court held sittings in Sydney on fourteen different occasions, and in the country as follows:—Dubbo, 2; Wagga Wagga, 2; and Tamworth, 1.

During 1898 the Land Appeal Court was asked to state special cases for the decision of the Supreme Court in 19 instances, 7 of which were subsequently withdrawn, and in 2 others the Court declined to state a case, as no point of law was involved. Ten cases were duly stated and forwarded to the Supreme Court, with the result that the ruling of the Land Appeal Court was confirmed by the Supreme Court in six instances, and reversed in one. The remaining three cases are still before the higher Court. Those cases are Nos. 5,226, *in re* Nestram, 5,227, *in re* Nestram, and 5,320, *in re* Buckley. *Forest*

*Forest Branch.*

This report comprises the first complete year's operations of the Forest Branch under this Department since the year 1889.

A measure to better regulate forest working, which also includes provisions for the creation of permanent forests, the issue of grazing and exclusive licenses, and the regulation of penalties for offences has been prepared for presentation to Parliament.

The activity in coastal timber operations, mentioned in the preceding report, continued throughout the year, and was especially noticeable in the pile, girder, and sleeper trades, piles and girders being the principal items of export to other colonies. There was also during the year evidence of a rising demand for some of our ornamental or brush varieties, many inquiries having been made for supplies of rosewood (*Dysoxylon Fraserianum*), black bean (*Castanos permum australe*), and silky oak (*Grevillea robusta*).

Inquiry made during the year showed the necessity for increasing the staff engaged in the supervision of forest operations, and the difficulty has been met by the appointment of seven (7) Assistant Foresters, who have taken up duty in the principal timber districts, three (3) being located in the coast and four (4) in the inland districts.

The practice which permitted the payment of royalties on timber held in depôts to be deferred until removal of the timber, has been found unsatisfactory in many ways, as the outstanding balances under the system frequently amounted to very large sums. This has been modified by limiting the period for which payments on such timber may be deferred to three (3) months, and the modification has already resulted in a large reduction of the outstanding balances.

The views of a number of experienced officials on the subject of cypress pine forests (*Callitris calcarata and verrucosa*), and their improvement by thinning, were collected during the year, and have been condensed for publication in a pamphlet, the information in which will doubtless be of much value and assistance in future.

A departure from previous practice was inaugurated this season in connection with the distribution of shrubs and forest trees for planting, a guarantee as to *bonâ fides* being now required before delivery, while subsequent reports as to growth and progress of such trees, &c., have to be furnished. In this way the Department will be enabled to collect valuable information as to the varieties best suited to different localities.

There were 148 prosecutions for offences, under which 112 convictions were secured, and penalties amounting to £108 7s. 6d. were inflicted, while the proceeds from sales of confiscated timber amounted to £264 10s. 11d.

A small vote for the establishment of a reserve plantation of marram grass was obtained, the site for which has been selected at Cook Park, Sans Souci, and preparation is being made to plant it this winter.

*Office Work and Records.*—This work has been kept up to date, there being no arrears of current work at the close of the year. A rearrangement of records on the report of forest lands is a necessary work that might be attended to when assistance is available.

The number of papers registered in the branch was 5,204, which with 693 foreign papers dealt with makes a total of 5,897. The number of letters issued, exclusive of circulars and forms, was 2,615.

The Forest Branch Library has been remodelled and catalogued. It comprises 172 volumes, also 50 special articles and 32 sets of reports on forest working in other countries, the whole being of great value for reference purposes.

*Forestry Museum.*—No additions have been made to the stock of samples. The carpenter has been fully employed in preparing specimens for exhibition, export, and other purposes, and in constructing requirements for the Gosford Nursery. During the year the Department issued certificates upon 500,000 superficial feet of timber for export. This was done upon the recommendation of the timber expert, and after examination and branding by that officer.

The



The following table gives the distribution of samples of timber for the year :—

Description of Samples.	Local Distribution.	London.	Germany.	India.	New Zealand.	Total.
General Specimens ... ..	150	105	56	65	106	482

*Forest Improvement—Thinning.*—The State Forest Thinning Works closed early in the year, the actual expenditure for the period being £4,236 14s. 9d. These works have not since been renewed, and with the exception of some £3,000 retained for certain clearing up work to be undertaken in winter, the Vote for this class of work is exhausted. The class of forests treated were principally *Euc. rostrata* and *Callitris calcarata* and *verrucosa*, the profuse growth of which renders the destruction of a large proportion of the immature trees necessary, in order that the saplings left may mature. In carrying out this work the weakest and least promising plants are selected for destruction, and the standard of the forests thereby greatly improved.

The following table shows the total area of forests improved under this Vote with the periods and cost of same :—

Period.	Class of work.	Name of Forest.	Particulars of Thinning.	Area in acres.	Average cost per acre.
<b>REDGUM FORESTS (<i>Euc. rostrata</i>).</b>					
Half-year ending 30 June, 1895 ...	Contract .....	Koondrook .....	Thinned only .....	16,499	£ s. d. 0 5 3
1 July, 1895, to 30 June, 1897 .....	Day labour .....	Moama .....	" " .....	4,500	0 3 9
Half-year ending 30 June, 1895 ...	Contract .....	Millewa .....	" and stacked .....	3,100	0 11 4
1 July, 1895, to 30 June, 1897 .....	Day labour .....	" .....	" only .....	10,475	0 6 3
1 June, 1895, to 30 June, 1897 ...	Day labour .....	" .....	" .....	15,348	0 9 0
1 July, 1897, to 30 June, 1898 .....	Day labour .....	" .....	{ 5,000 a. rethinned and stacked... 500 a. stacked and burnt off ... 1,021 a. thinned and stacked ... }	6,521	0 8 8
Half-year ending 30 June, 1895 ...	Contract .....	Gulpa Island .....	Thinned only .....	12,000	0 3 10
1 July, 1897, to 30 June, 1898 .....	Day labour .....	" .....	{ 9,200 a. rethinned and stacked... 1,000 a. stacked and burnt off ... }	10,200	0 8 1
1 July, 1895, to 30 June, 1897 ...	" .....	{ Moira .....	Thinned and stacked .....	9,250	0 8 7
		{ Campbell's Island .....	" " .....	5,000	0 13 9
		{ Mulwala .....	" " .....	4,460	0 12 5
		Total .....		97,353	0 7 6
<b>COASTAL FORESTS (<i>Eucalypts</i>).</b>					
Half-year ending 30 June, 1895 ...	Day labour .....	Tomago .....	Thinned, stacked, and burnt off ...	2,000	0 7 0
<b>PINE FORESTS (<i>Callitris calcarata</i> and <i>verrucosa</i>).</b>					
1894 ...	Day labour .....	Wahgunyah' .....	Thinned only .....	3,000	0 4 5
Half-year ending 30 June, 1895 ...	Contract .....	Gillenhah .....	Thinned, stacked, and burnt off ...	7,500	0 4 6
1 July, 1895, to 30 June, 1897 .....	" .....	" .....	" .....	4,275	0 3 6
Half-year ending 31 Dec., 1897 ...	Day labour .....	" .....	3,000 a. suckered and burnt off ...	3,000	0 0 9
1 July, 1895, to 30 June, 1897 .....	Contract .....	Buckenbong .....	Thinned, stacked, and burnt off ...	13,277	0 5 3
		{ Bynya .....	" .....	13,682	0 5 9
		{ Dulah .....	Thinned and stacked .....	17,242	0 7 0
Half-year ending 31 Dec., 1897 ...	Day labour .....	" .....	Suckered and burnt off .....	10,900	0 0 9
		{ Matong .....	Thinned and stacked .....	13,057	0 3 9
		{ Ganmain .....	" .....	15,494	0 4 4
1 July, 1895, to 30 June, 1897 .....	Contract .....	{ Piney Ridge .....	" .....	1,759	0 5 3
		{ 2637-8, Co. Hume .....	" and burnt off .....	870	0 6 0
		{ 2868, Co. Denison .....	" .....	400	0 6 0
		{ 18818, Co. Hume .....	" .....	448	0 6 0
Half-year ending 31 Dec., 1897 ...	Day labour .....	Colombo .....	" .....	10,480	0 3 7
		Total .....		115,384	0 4 5

*Planting.*—Beyond preparing the ground for a small extension to the Hogan's Brush plantation, in which it is intended this winter to plant out some 6,000 young cedars (*Cedrela australis*), no plantation work has been done on State forests. The usual planting of trees on Government parks, farms, and public lands under Trust was very much curtailed owing to the protracted drought experienced throughout the Colony, the actual number of trees planted on such sites being 20,918.

*Gosford State Forest Nursery.*—The permanent staff at this establishment now consists of the foreman, one labourer, and two youths, and it is found that, with occasional assistance, this is sufficient to carry on the work. During the year considerable alteration has been made in the system of working, affairs being now administered from the Head office, while actual nursery operations are confined to 10 out of 60 acres of the site.

The.

The following permanent improvements have been effected:—Re-brushing three bush-houses and entirely rebuilding a fourth; logging, draining, forming, and metalling 20 chains of roads of communication; laying on water by pipes and troughs to all the sheds; re-labelling 200 seed-bearing stocks; laying out lower grounds for planting to an ornamental design; fitting up seed-room and presses.

The present dry season limited the demand for plants, the following being the actual distribution:—

	Plants.
To Parks and Recreation Reserve Trusts ... ..	4,665
„ Hospital Committees ... ..	2,166
„ Progress Associations ... ..	1,287
„ Government Farms, Plantations, and Institutions ... ..	16,253
„ Cemetery Trusts ... ..	1,855
„ Pastoral Associations ... ..	350
„ Exchanges for Seeds, &c., ... ..	819
Total ... ..	27,395

Expenditure has been kept to the lowest possible limit compatible with efficient working, the cost for the period being—wages £259 4s. 7d., incidental £176 9s. 7d., total £435 14s. 2d. The number of plants raised during the year was about 30,000, the stock, including all varieties, on 31st December, 1898, being 146,000. The nursery is now in thorough working order, and all the plant in repair.

*Class and Area of Forest Reserves.*—On the 31st December, 1898, the total area of reserved forest land was 5,896,581 acres. These reserves are divided for operation into classes A, B, and C, the two first under fixed license fees, and the latter under license, subject to royalty on the quantity of timber felled. The totals of the areas under each class are as follow:—

Class A ... ..	2,845,071
Class B ... ..	148,799
Class C ... ..	2,902,711
Total ... ..	5,896,581

By comparison with the figures in preceding report, it is found that the total area of land reserved for forestry has been increased by 286,397 acres during the past year.

*Revenue and Expenditure.*—Total revenue for the year amounted to £10,952 9s. 1d., in comparison with £8,760 5s. 4d. for the preceding period. The expenditure under all heads amounted to £3,136 8s. 10d. The revenue for 1898 exceeded that of the preceding year by £2,192 3s. 9d., and the difference between revenue and expenditure for 1898 represented a surplus of £7,816 0s. 3d. The details of revenue and expenditure are as under:—

## REVENUE.

Particulars.	Amounts.			Totals.		
	£	s.	d.	£	s.	d.
Royalty—Class C, at per 100 sup. feet, 8,632,241 sup. feet	4,613	16	4	4,972	14	8
„ Under tree permit at per tree ... ..	240	12	10			
„ Miscellaneous ... ..	118	5	6			
Licenses—Forest reserves				1,616	10	0
„ Class C, with royalty ... ..	375	0	0			
„ Classes A and B, without royalty ... ..	823	0	0			
„ Wattle bark ... ..	236	5	0			
„ Sawmill sites ... ..	39	15	0			
„ Block licenses ... ..	142	10	0			
Licenses—Crown lands				3,452	7	0
„ Cedar, 591 issued ... ..	333	0	0			
„ Quarry, 506 issued ... ..	285	10	0			
„ Woodcutters, 9,257 issued ... ..	2,338	5	0			
„ Fuel, 3,257 issued ... ..	495	12	0			
Miscellaneous revenue—Rent of prickly-pear leases	537	19	0	910	17	5
„ Sales of confiscated material ... ..	264	10	11			
„ Penalties ... ..	108	7	6			
Total ... ..	.....			10,952	9	1

## EXPENDITURE.

Salaries	...	...	...	...	...	...	...	...	£2,276	0	5
Travelling expenses	...	...	...	...	...	...	...	...	276	5	6
Gosford Nursery	...	...	...	...	...	...	...	...	435	14	2
Contingencies	...	...	...	...	...	...	...	...	148	8	9
Total	...	...	...	...	...	...	...	...	£3,136	8	10

*Prickly-pear Extermination.*—Under the provisions of the Prickly-pear Act, during the year ending 31st December, 1898, tenders for leases were invited for fifty-three portions, embracing an area of 22,769 acres. Of these, twenty-eight lots, totalling 5,089 acres, let for terms varying from three to twenty-one years, realising an annual rental of £96 11s. 5d. The total area of Crown Lands to date held as leases under this Act is 36,515 acres, yielding an annual rental of £537 19s., or, roughly, £9 10s. per section of 640 acres. The results obtainable under these leases are highly satisfactory, inasmuch as the destruction of the pest is a condition of the lease, and while further expense is checked, a fair rental for the land is at the same time secured.

*Settled Districts.*—A large number of notices to eradicate pear were served upon private owners, resulting in many instances in the complete extermination of the pest, while in all cases (with few exceptions) satisfactory endeavours to cope with it were made.

*Outlying Districts.*—In these localities, particularly the north-west, little progress has been made in pear destruction, and it is feared such work is practically at a standstill, and the pear rapidly spreading. Supervision in these districts is incomplete, and the law difficult to enforce, the holdings being large and intersected, in many instances, by Crown reserves upon which no expenditure is incurred in eradicating the pest. Travelling stock and camping reserves and river beds are, in particular, sources for the growth of prickly-pear.

*Botanical Work.*—The botanical work of the Department is undertaken by the Government Botanist, who, although largely occupied with other duties, is considerably interested in forestry matters. The botanical exploration of the Colony, which is being conducted by Mr. Maiden, is a very important work from a forestry point of view, and the notes taken are frequently of great value and assistance in subsequent identification of species, and in arriving at a decision as to the disposal of lands set apart for forest purposes.

During the year a large number of plants, forwarded by officials and correspondents, were identified, and a review of the naming of the stocks at Gosford Nursery was undertaken. Special reports were furnished on the following subjects:—“Musical instrument reeds and their occurrence in Australia”; “The blackbutt of the Tenterfield district (*Eucalyptus pilularis*)”; “On the suitability of certain hardwoods for fruit-cases”; “On the Otford Plantation”; “On timbers proposed for exhibit at the Paris Exhibition”; “On reputed efficacy of certain trees for renovating worn out lands”; and “On the general question of forest thinning.” The germinating power of seeds purchased by the Department was also tested by the Botanist.

*Auction Sales.*

*Town Lands.*—During the year 4,416 lots, comprising an aggregate area of 1,783 acres 0 roods  $22\frac{1}{5}$  perches, were offered for sale, of which 749 lots, containing 299 acres 3 roods  $13\frac{9}{10}$  perches, were sold, and the sum of £9,810 15s. 3d. (an average of £32 14s.  $4\frac{3}{4}$ d. per acre) was realised.

*Suburban Lands.*—1,592 lots were offered, containing an area of 5,622 acres 1 rood  $23\frac{3}{4}$  perches. 273 lots were sold, comprising 935 acres 3 roods  $18\frac{1}{2}$  perches and realising £6,285 19s. 6d., or an average of £6 14s. 4d. per acre.

*Country Lands.*—2,382 lots were offered, containing in all 176,770 acres 1 rood 30 perches; 651 lots were sold, comprising 50,556 acres 1 rood  $6\frac{1}{4}$  perches. The amount realised was £85,540 8s. 11d., or £1 7s.  $7\frac{3}{4}$ d. per acre.

From Schedule XXXI it will be seen that the total number of lots offered for sale by auction during 1898, and comprising all classes of land, was 8,390, while the area so offered amounted to 184,175 acres 3 roods  $36\frac{3}{4}$  perches.

The total number of lots sold was 1,673, comprising an area of 51,791 acres 3 roods  $38\frac{3}{4}$  perches, and realising a total sum of £101,637 3s. 8d.

Transactions in connection with sales of this class in 1897 and 1898 are compared in the following Schedule :—

	Year.	No. of lots offered.	Area offered.			No. of lots sold.	Area sold.			Amount realised.			Average price per acre.		
			a.	r.	p.		a.	r.	p.	£	s.	d.	£	s.	d.
Town ...	1897	3,190	1,272	1	21	722	289	1	20	10,327	13	1	35	13	$9\frac{1}{2}$
	1898	4,416	1,783	0	$22\frac{1}{5}$	749	299	3	$13\frac{1}{5}$	9,810	15	3	32	14	$4\frac{3}{4}$
Suburban ...	1897	1,330	6,764	1	$11\frac{1}{2}$	358	1,600	3	24	6,772	10	1	4	4	$7\frac{1}{4}$
	1898	1,592	5,622	1	$23\frac{3}{4}$	278	935	3	$18\frac{1}{2}$	6,285	19	6	6	14	4
Country ...	1897	1,059	47,038	2	$36\frac{1}{4}$	423	21,820	1	$19\frac{1}{2}$	37,716	11	11	1	14	$6\frac{3}{4}$
	1898	2,382	176,770	1	30	651	50,556	1	$6\frac{1}{4}$	85,540	8	11	1	7	$7\frac{3}{4}$

It will be seen that about  $16\frac{3}{4}$  per cent. of Town Lands,  $16\frac{1}{2}$  per cent. of Suburban Lands, and  $23\frac{1}{2}$  per cent. of Country Lands were sold out of the areas offered in 1898, as compared with 23 per cent., 24 per cent., and 46 per cent. respectively in 1897.

It is also shown by the above Schedule that the revenue derived from Auction Sales during 1898 (£101,637 3s. 8d.) is nearly double the amount (£54,816 15s. 1d.) which was derived from the same source in 1897. This increase in revenue has been obtained entirely from sales of Country Land. Revenue derived from Town and Suburban land is somewhat less than last year. Particulars of areas offered and sold are given in Schedule XXXI.

#### *After Auction Selections.*

The number of applications of this kind received last year was 720. Of these, 60 were either refused or withdrawn, while 643 applications, comprising 838 lots, were granted.

The aggregate area sold in this manner was 1,958 acres 0 roods  $20\frac{1}{4}$  perches, the revenue realised therefrom being £12,966 17s. 2d. The average prices obtained per acre were as follow :—For Town Lands, £16 11s.  $6\frac{1}{4}$ d.; for Suburban Lands, £5 4s.  $11\frac{1}{4}$ d.; and for Country Lands within Population Areas, £5 19s.  $0\frac{1}{4}$ d. Additional particulars with respect to these sales will be found in Schedule XXXII.

#### *Forfeiture of Auction Purchases.*

The number of lots forfeited during the year for non-payment of balance of purchase money within the prescribed period was 135, comprising a total area of 262 acres 2 roods 16 perches. The deposits paid in connection therewith, amounting to £741 18s. 4d., were forfeited to the Crown. For further particulars, see Schedule XXXIII.

When Crown Land is purchased at auction by persons entitled to the improvements existing thereon, it is customary to add the value of such improvements to the upset price of the land, for the protection of the owner, and to remit it subsequently. In this manner a sum of £507 3s. 9d. was refunded and other payments which had been made in excess to the amount of £91 12s. 0d. were also refunded during the year.

*Homestead*

*Homestead Selections.*

The demand for holdings of this class has been maintained, applications being more numerous during the year under review than in the preceding one. Schedule XIX shews that 1,051 applications were received during the year ending 31st December, 1898, for a total area of 461,646 acres 2 roods 7 perches, as against 896 last year for an area of 367,290 acres 2 roods 15 perches.

During the same period the Land Boards dealt with 1,070 applications, comprising 460,502 acres 1 rood 25 perches, of which 802 applications were confirmed for an area of 311,606 acres 2 roods 37 perches, and 268 were disallowed or withdrawn.

From Schedule XXII it will be seen that the number of Homestead Selections applied for up to the 31st December, 1898, was 3,699, including an area of 1,493,867 acres 2 roods 3 perches. After deducting 1,004 disallowed, &c., comprising an area of 456,639 acres 3 roods 26 perches, the number in existence at the close of the year (exclusive of conversions of Conditional Purchases and Conditional Leases into Homestead Selections) was 2,695, containing an area of 1,037,227 acres 3 roods 17 perches.

From Schedule LXXXI it will be seen that 928 blocks, containing an aggregate area of 377,503 acres 1 rood 11 perches, were notified during the year as being set apart for Homestead Selection.

During the year 11 applications were made to convert Conditional Purchases and Conditional Leases into Homestead Selections. These applications included 18 Conditional Purchases and 3 Conditional Leases, the area represented being 5,154 acres. The total number of Conditional Purchases and Conditional Leases converted in this manner from the 1st June, 1895 (the date on which the Crown Lands Act of 1895 came into operation), to the 31st December 1898, is 120 (under 54 applications) the area comprised being 26,053 acres 3 roods 30 perches. (*Vide* Schedule XXIV.)

One hundred and one Selections containing an area of 25,726 acres 16 perches were forfeited during the year on account of non-fulfilment of the prescribed conditions (*vide* Schedule XXI) and forfeiture was waived in 125 instances.

Information is given in Schedule XXIII respecting the notification and disposal of Homestead Selection Areas since the passing of the Crown Lands Act of 1895. From the schedule it will be seen that 4,528 blocks, containing 1,454,398 acres 3 roods 20½ perches, had been set apart for Homestead Selection up to 31st December, 1898. As, however, 456 blocks, containing 150,471 acres 3 roods 23 perches did not become available during the year, the actual area available for selection up to the end of the year was only 1,300,513 acres 2 roods 37½ perches, comprised within 4,072 blocks. Of this area, 2,665 blocks, comprising an area of 988,992 acres 2 roods 24 perches were selected, or 76 per cent. of the area available. The capital value represented by the land selected is £1,313,904 15s. 11d.

The table hereunder (compiled from Schedule XXIII) shows transactions in each of the Land Board Districts.

Land Board District.	Quantity of land available.			Area selected.			Area unselected on 31st December, 1897.			Capital value represented by land selected.					
	No. of Blocks.	Area.		No. of Blocks.	Area.		No. of Blocks.	Area.							
		a.	r.	p.		a.	r.	p.		£	s.	d.			
Armidale .....	172	48,835	1	34	148	40,222	2	24	24	8,612	3	10	45,520	8	5
Bourke .....	122	28,030	2	17	53	17,411	1	33	69	10,619	0	19	20,252	1	0
Dubbo .....	239	103,746	0	27	227	102,260	1	5	12	1,485	3	22	43,182	1	1
Forbes .....	197	152,143	3	0	196	151,446	3	0	1	697	0	0	155,836	1	8
Goulburn .....	308	58,005	3	34	237	43,559	2	9	71	14,446	1	25	65,296	11	1
Grafton .....	289	71,845	0	0	80	17,069	0	0	209	54,776	0	0	20,231	8	9
Hay .....	458	284,673	3	12	272	150,228	2	0	186	134,445	1	12	193,999	13	9
Maitland .....	443	68,739	0	27	234	36,672	0	24	209	32,067	0	3	42,858	8	8
Morec .....	23	24,957	1	20	16	16,790	1	20	7	8,167	0	0	17,857	14	5
Orange .....	147	20,758	0	33½	110	17,310	3	36	37	3,487	0	37½	26,255	19	4
Sydney .....	609	31,265	3	13	125	4,871	3	23	484	26,393	3	30	6,751	1	10
Tamworth .....	246	70,928	2	0	189	60,447	3	0	57	10,280	3	0	107,422	0	0
Wagga .....	819	336,543	3	20	778	330,501	1	5	41	6,042	2	15	563,411	5	11
Totals.....	4,072	1,300,513	2	37½	2,665	988,992	2	24	1,407	311,521	0	13½	1,313,904	15	11

Conditional Purchases.

Transactions in connection with this class of holding were more numerous this year than last. The area applied for during 1898 was 298,137 acres 2 roods 11½ perches under 1,591 applications; whilst, in 1897, 241,789 acres 1 rood 4½ perches were applied for under 1,306 applications.

Schedule VIII and subjoined summary show that, of the applications received, 844 were for Original Conditional Purchases, 725 were for Additional, and 22 were for Non-residential Conditional Purchases.

Year.	Section 23. (O.C.P.)			Section 42. (A.C.P.)			Section 47. (N.R.C.P.)			Special Areas.			Total.												
	No.	Area.	Deposit.	No.	Area.	Deposit.	No.	Area.	Deposit.	No.	Area.	Deposit.	No.	Area.	Deposit.										
	a.	r.	p.	£	s.	d.	a.	r.	p.	£	s.	d.	a.	r.	p.	£	s.	d.							
1885	2430	772,718	3 0	77,272	17 0	2639	344,053	3 20	34,405	10 4	302	47,806	3 0	9,251	1 0	6	742	0 0	140	8 0	5377	1,165,351	1 20	121,069	16 4
1886	2660	579,539	2 22	57,954	0 1	2987	330,279	3 2	33,023	0 4	355	43,686	2 37	8,850	5 0	78	9,690	2 0	2,121	17 6	6090	963,196	2 27	101,794	2 11
1887	2300	529,628	2 14	52,962	17 5	2185	231,912	2 5	23,191	5 3	186	20,073	3 12	4,014	16 0	98	11,359	1 0	2,501	12 3	4769	793,004	0 31	82,670	10 11
1888	2474	560,109	3 23	56,010	19 11	2334	247,639	0 16	24,763	18 4	283	26,139	0 22	5,227	17 0	273	31,311	0 17	7,155	9 0	5364	865,199	0 38	93,158	4 3
1889	2722	533,213	0 0	53,321	3 0	2634	283,215	0 20	28,320	15 3	271	26,660	3 0	5,532	3 0	528	60,070	2 29	12,680	5 0	6205	903,159	2 9	99,854	6 3
1890	3252	879,058	3 3	87,907	13 8	4061	600,839	2 16	60,119	2 2	230	28,163	1 33	5,635	10 6	98	205,515	1 28	40,316	1 4	8526	1,713,577	1 0	193,978	12 8
1891	2243	536,570	1 30	53,656	19 5	2541	430,069	3 38	43,007	11 5	127	12,887	0 13	2,571	9 11	1243	273,836	3 1	154,948	17 9	6154	1,303,414	1 2	159,184	13 6
1892	1535	314,920	1 24	31,492	2 9	1828	323,557	0 26	32,355	10 1	105	9,284	1 3	1,922	3 8	928	168,637	2 6	32,087	15 3	4396	816,399	1 19	97,857	11 9
1893	1156	197,092	2 15	19,709	7 2	1101	174,163	1 32	17,416	11 7	57	4,536	2 0	912	2 0	1079	158,012	3 37	31,320	2 10	3393	533,805	2 4	69,353	3 7
1894	830	132,238	3 30	13,223	13 4	858	170,802	0 24	17,080	4 4	49	3,424	0 0	684	16 0	880	107,889	3 36	21,450	3 4	2617	414,355	0 10	52,439	2 0
1895	631	102,365	0 0	10,236	10 0	643	94,218	3 0	9,421	13 0	19	1,253	2 0	250	14 0	458	55,593	3 12	10,322	19 9	1751	253,431	0 12	30,231	19 6
1896	526	71,747	0 0	7,174	14 0	403	83,474	2 36	8,403	11 9	19	1,079	3 0	215	19 0	331	43,148	2 1	8,134	12 0	1279	199,449	3 37	23,923	16 9
1897	521	69,492	2 11	6,949	6 6	407	126,503	3 0	12,651	1 7	21	1,823	0 0	364	11 0	357	43,964	3 33	7,780	10 9	1306	241,789	1 4	27,745	9 10
1898	603	73,358	0 0	7,335	16 0	565	165,315	0 0	16,531	13 0	22	2,003	1 0	400	13 0	401	57,461	1 11	10,557	4 2	1591	298,137	2 11	34,825	6 2

Particulars relating to the number of applications received during the year for land within Special Areas, and for ordinary lands, also respecting the number and area of Conditional Purchases applied for from 1862 up to the present time, are furnished in Schedule IX.

Of the applications made during the year, 707 were confirmed for an area of 149,052 acres 3 roods 28 perches, and 288 applications were disallowed.

Including the applications made prior to 1st January, 1898, the total number confirmed during the year was 1,093, for an area of 205,128 acres and 37 perches, and 369 were disallowed. Further details are given in Schedule X.

The Incomplete Conditional Purchases in existence at the end of the year numbered 150,697, comprising an area of 20,243,738 acres 0 roods 15 perches, and the number of Conditional Purchases for which deeds of grant had been issued was 25,522, representing an area of 3,059,191 acres 0 roods 33 perches. (Vide schedule XVIII.)

Three hundred and fifty-six Conditional Purchases were forfeited in 1898, representing an area of 43,990 acres 1 rood and 36½ perches, as against 254 Conditional Purchases, containing an area of 35,768 acres 3 roods and 4½ perches in 1897.

It will be seen from Schedules XV and XVI that of the total forfeitures, 144 were due to non-payment of balances, interest, or instalments of purchase money, and 212 to non-fulfilment of the required conditions.

Under the provisions of the Crown Lands Act Amendment Act of 1891, forfeiture was conditionally waived in 176 instances, and absolutely waived in 130.

Extensions of time for payment of instalments were granted to the holders of 1,272 Conditional Purchases, the total area of the holdings involved being 211,560 acres 2 roods 13 perches.

The provisions of section 28, Crown Lands Act of 1895, under which resident Conditional Purchasers can obtain suspension of payment of instalments for twelve months, were not taken advantage of to the same extent as in 1897. Applications were granted with respect to 322 Conditional Purchases, containing 65,043 acres 1 rood 7 perches, and 164 applications were refused, as compared with 704 applications granted, and 142 refused in 1897.

It

It is satisfactory to note that, notwithstanding the severe drought which prevailed recently, the transactions under the Conditional Purchasers' Relief Act of 1896, were not nearly as numerous in 1898 as in the preceding year. Three hundred and eighty-six applications were granted in connection with 987 Conditional Purchases, the difference between the original amount of annual instalments payable and the reduced amount being £2,819 9s. 4d. In 1897, 1,252 applications were granted with respect to 3,418 purchases, involving a difference of £9,844 4s. 3d. between amount of instalments payable and amount as reduced. For further particulars see Schedule XII.

	Number of Applications.	Number of Conditional Purchases.	Original Amount of Annual Instalment.	Reduced Amount of Annual Instalment.	Difference between Original and Reduced Amount.
			£ s. d.	£ s. d.	£ s. d.
Ordinary Conditional Purchases ...	323	917	6,522 13 8	4,014 15 4	2,507 18 4
Special Area Conditional Purchases..	63	70	1,203 3 3	891 12 3	311 11 0
Totals... ..	386	987	7,725 16 11	4,906 7 7	2,819 9 4

Schedule XIV affords full information with respect to transfers received and dealt with during the year. The number received was 8,868, and 9,254 were dealt with, representing 17,557 Conditional Purchases in all. This number, however, includes purchases which were transferred more than once during the year. The number of purchases actually transferred was 11,457, containing 1,972,208 acres 3 roods 11 perches.

The number of transfers on which stamp duty was paid was 3,465, the revenue derived therefrom being £7,457 13s.

Nine Conditional Purchases, containing  $1,096\frac{1}{4}$  acres and three Conditional Leases, containing 1,305 acres, were validated under the provisions of the 44th section of the Crown Lands Act of 1895 during the year. Details are given in Schedule XVII.

Information is given in Schedule LXXXVIII, with respect to the number of Instructions issued to, and reports received from Conditional Purchase Inspectors. The total number of Instructions issued was 11,397, and 12,529 reports were received.

Since December, 1885, the following areas have been resumed from Conditional Purchases and Conditional Leases, on account of the auriferous character of the land, viz. :—3,461 acres 1 rood  $13\frac{3}{4}$  perches, affecting 20 Conditional Purchases, and 10,061 acres 1 rood from 19 Conditional Leases.

#### *Special Areas.*

The number of Special Areas proclaimed during the year was 179, including an area of 60,894 acres 2 roods 25 perches, as against 233, containing 62,626 acres 3 roods 33 perches, proclaimed in 1897. Of the Special Areas proclaimed 141 represented 57,375 acres 19 perches of Country Land, while 38 included 3,519 acres 2 roods 6 perches of land within Population or Suburban Areas. Further details are given in Schedule LXXX.

It will be seen from Schedule XI that out of a total available area of 135,010 acres 2 roods  $2\frac{3}{4}$  perches of lands in Suburban or Population Areas, 103,098 acres 2 roods  $15\frac{3}{4}$  perches have been selected, and that from an available area of Country Land amounting to 935,797 acres 3 roods 35 perches not less than 847,921 acres 2 roods 6 perches have been selected. The area which remained available for selection on 31st December, 1897, was 119,789 acres 1 rood 16 perches.

The

The appended summary taken from Schedule XI shows the transactions in the several Land Board Districts since 1st January, 1885:—

Land Board District.	Class of Land.	Quantity of Land available.		Area selected.		Area unselected.	
		a.	r. p.	a.	r. p.	a.	r. p.
Armidale ... ..	Suburban or Population...	3,996	1 17	3,317	0 31	679	0 26
	Country ... ..	29,199	0 0	25,891	0 0	3,308	0 0
Bourke ... ..	Suburban or Population...	40	0 0	40	0 0	.....	.....
	Country ... ..	9,817	1 0	2,202	1 0	7,615	0 0
Dubbo ... ..	Suburban or Population...	5,971	0 29	5,015	2 19	955	2 10
	Country ... ..	17,831	1 0	16,891	2 0	939	3 0
Forbes ... ..	Suburban or Population...	19,128	0 17	17,193	1 25	1,934	2 32
	Country ... ..	127,752	0 28	125,086	0 28	2,666	0 0
Goulburn ... ..	Suburban or Population...	44,508	2 2	36,035	3 27	8,472	2 15
	Country ... ..	68,017	1 30	63,171	3 20	4,845	2 10
Grafton ... ..	Suburban or Population...	4,830	2 18 $\frac{3}{4}$	2,813	2 18 $\frac{3}{4}$	2,017	0 0
	Country ... ..	46,241	0 20	38,616	1 20	7,624	3 0
Hay ... ..	Suburban or Population...	10,046	1 0	9,234	0 0	812	1 0
	Country ... ..	124,320	3 39	115,519	0 39	8,801	3 0
Maitland ... ..	Suburban or Population...	9,092	2 8	7,124	1 32	1,968	0 16
	Country ... ..	12,482	2 18	11,312	3 18	1,169	3 0
Moree ... ..	Suburban or Population...	1,344	3 20	1,014	2 20	330	1 0
	Country ... ..	24,681	3 13	19,946	3 13	4,735	0 0
Orange ... ..	Suburban or Population...	11,969	3 20	9,808	1 17	2,161	2 3
	Country ... ..	56,482	3 30	53,905	1 30	2,577	2 0
Sydney ... ..	Suburban or Population...	5,462	1 9	2,289	1 0	3,173	0 9
	Country ... ..	9,012	0 0	5,721	3 0	3,290	1 0
Tamworth ... ..	Suburban or Population...	16,549	1 1	7,743	3 26	8,805	1 15
	Country ... ..	102,305	2 14	83,383	0 35	18,922	1 19
Wagga Wagga ... ..	Suburban or Population...	2,070	2 21	1,468	1 0	602	1 21
	Country ... ..	307,653	3 3	286,273	0 3	21,380	3 0
Total ... ..	Suburban or Population...	135,010	2 2 $\frac{3}{4}$	103,098	2 15 $\frac{3}{4}$	31,911	3 27
	Country ... ..	935,797	3 35	847,921	2 6	87,876	1 29
Grand Total ... ..	.....	1,070,808	1 37 $\frac{3}{4}$	951,020	0 21 $\frac{3}{4}$	119,788	1 16

With respect to appraisement of special areas under the provisions of section 36 of the Crown Lands Act of 1895, it may be stated that the total area covered by the applications to appraise was 597,011 acres 2 roods 17 $\frac{1}{2}$  perches, and values have been finally determined with respect to 579,794 acres 0 roods and 18 $\frac{1}{2}$  perches. The capital value of the latter area prior to appraisement was £1,157,494 3s. 1d.; but the value, as determined by appraisement, is only £817,967 4s. 6d., involving a reduction in capital value of £339,526 18s. 7d., and a proportionate diminution in the amount of the annual instalments payable. It may be added that prior to appraisement the annual instalments in connection with 579,794 acres and 18 $\frac{1}{2}$  perches amounted to £57,874 14s. 2d., while under recently appraised values they will only amount to £40,898 7s. 2d., showing an annual loss of £16,976 7s.

The appraisements of conditional purchases within special areas have been practically completed, with the exception of a few in the Wagga Wagga Land Board District.

The appended summary will serve to show the transactions in each of the Land Board Districts:—

SUMMARY.

Land Board District.	Total Number of Applications Received.	Area.		Total Number of applications dealt with by L.L.B. to 31st December 1896.	Cases in which Values have been Finally Determined.												
					Area.	Number of Conditional Purchases.	Amount of Purchase Money Represented at Original Price.		Amount of Purchase Money Represented after Appraisement.		Amount of Annual Instalments Represented at Original Rate.		Amount of Annual Instalments Represented after Appraisement.				
							a.	r. p.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	
Armidale ... ..	111	a. 18,171	r. p. 1 0	111	a. 18,171	r. p. 1 0	114	a. 17,533	r. p. 1 0	£ 33,990	s. d. 12 7 $\frac{1}{2}$	£ 24,716	s. d. 6 0 $\frac{1}{2}$	£ 1,699	s. d. 10 7	£ 1,235	s. d. 16 2
Bourke ... ..	5	a. 1,202	r. p. 1 0	5	a. 1,202	r. p. 1 0	5	a. 1,202	r. p. 1 0	£ 2,229	s. d. 7 6	£ 1,996	s. d. 7 6	£ 111	s. d. 9 4	£ 99	s. d. 16 4
Dubbo ... ..	46	a. 11,299	r. p. 0 0	46	a. 11,299	r. p. 0 0	40	a. 10,726	r. p. 0 0	£ 19,724	s. d. 7 9	£ 15,708	s. d. 12 9	£ 936	s. d. 4 5	£ 755	s. d. 8 8
Forbes ... ..	341	a. 96,787	r. p. 2 19	341	a. 96,787	r. p. 2 19	378	a. 95,205	r. p. 1 19	£ 171,645	s. d. 6 2	£ 116,681	s. d. 9 4	£ 8,582	s. d. 5 5	£ 5,834	s. d. 1 6
Goulburn ... ..	369	a. 53,059	r. p. 2 0	369	a. 53,059	r. p. 2 0	367	a. 52,753	r. p. 3 33	£ 120,761	s. d. 7 5	£ 98,809	s. d. 3 11	£ 6,038	s. d. 1 4	£ 4,940	s. d. 9 4
Grafton ... ..	191	a. 20,530	r. p. 0 20	191	a. 20,530	r. p. 0 20	220	a. 20,530	r. p. 0 20	£ 46,510	s. d. 0 8	£ 31,812	s. d. 10 5	£ 2,325	s. d. 10 0	£ 1,590	s. d. 12 6
Hay ... ..	272	a. 102,632	r. p. 0 0	272	a. 102,632	r. p. 0 0	249	a. 93,719	r. p. 2 0	£ 176,125	s. d. 12 7	£ 127,410	s. d. 8 0	£ 8,806	s. d. 5 8	£ 6,370	s. d. 10 5
Maitland ... ..	67	a. 8,666	r. p. 0 0	67	a. 8,666	r. p. 0 0	70	a. 7,319	r. p. 1 30	£ 15,555	s. d. 5 8	£ 14,459	s. d. 1 9	£ 777	s. d. 15 4	£ 722	s. d. 19 0
Moree ... ..	60	a. 16,180	r. p. 3 0	60	a. 16,180	r. p. 3 0	59	a. 15,697	r. p. 2 20	£ 25,409	s. d. 15 6	£ 23,157	s. d. 11 8	£ 1,270	s. d. 9 9 $\frac{1}{2}$	£ 1,157	s. d. 17 7
Orange ... ..	204	a. 40,754	r. p. 1 30	204	a. 40,754	r. p. 1 30	218	a. 37,441	r. p. 1 14	£ 71,403	s. d. 18 3	£ 61,579	s. d. 13 7	£ 3,570	s. d. 5 11	£ 3,078	s. d. 19 8
Sydney ... ..	36	a. 2,912	r. p. 1 30	36	a. 2,912	r. p. 1 30	36	a. 2,912	r. p. 1 30	£ 6,346	s. d. 2 6	£ 4,647	s. d. 10 1	£ 317	s. d. 6 2	£ 232	s. d. 7 6
Tamworth ... ..	166	a. 27,356	r. p. 0 30	166	a. 27,356	r. p. 0 30	160	a. 26,595	r. p. 0 10	£ 58,395	s. d. 3 9	£ 52,326	s. d. 5 5	£ 2,919	s. d. 15 1	£ 2,616	s. d. 6 3
Wagga Wagga ... ..	855	a. 197,460	r. p. 0 8 $\frac{1}{2}$	844	a. 195,727	r. p. 3 8 $\frac{1}{2}$	837	a. 193,056	r. p. 3 2 $\frac{1}{2}$	£ 409,395	s. d. 2 9	£ 244,662	s. d. 4 1	£ 20,469	s. d. 15 2	£ 12,233	s. d. 2 3
Totals ... ..	2,723	a. 597,011	r. p. 2 17 $\frac{1}{2}$	2,712	a. 595,279	r. p. 1 17 $\frac{1}{2}$	2,803	a. 579,794	r. p. 0 18 $\frac{1}{2}$	£ 1,157,494	s. d. 3 1 $\frac{1}{2}$	£ 817,967	s. d. 4 6 $\frac{1}{2}$	£ 57,874	s. d. 14 2 $\frac{1}{2}$	£ 40,898	s. d. 7



### *Improvement Purchases.*

Applications under section 46 of the Crown Land Act of 1884 were not as numerous in 1898 as in the previous year, but the average price realised was greater. The number received during 1898 was 158, of which 58 were approved and 31 were refused. The area alienated comprised 54 acres 2 roods 22 perches, representing 134 lots, and the price realised was £1,612 18s. 9d. In 1897 the applications received numbered 192. The area sold amounted to 92 acres and 17 $\frac{1}{4}$  perches, while the price realised was £1,543 3s. Details will be found in Schedule XXXIV.

### *Special Purchases.*

Special purchase applications are of the following kinds:—For rescission of water frontage reservations (section 12, Act of 1861, and section 63, Act of 1884); for permission to reclaim and purchase land (section 64, Act of 1884); for the purchase of small, isolated areas, &c. (section 66, Act of 1884); for permission to close and purchase unnecessary roads, and also for the granting of Crown lands in lieu of land resumed for roads (the Public Roads Act of 1897). It may, however, be pointed out that previously to the passing of the last-named Act, the two latter classes of "Special Purchases" were dealt with under section 67 of the Act of 1884, and section 42 of the Act of 1889, respectively.

The number of applications received during the year was 164, of which 1 was under section 63, Act of 1884; 13 were under section 64, Act of 1884; 19 under section 66, Act of 1884; and 131 under the Public Roads Act of 1897.

Under the last-named sections an area of 262 acres 2 roods 30 $\frac{1}{4}$  perches was alienated, the revenue realised being £2,965 16s. 4d. In the previous year the area alienated was 1,145 acres and 16 perches, the purchase money received being £7,398 16s. 7d.

Under section 42 of the Act of 1889, 35 cases were disposed of, the area dealt with being 89 acres 1 rood 37 perches.

Transactions under the above-named sections during 1898 are summarised hereunder, and further particulars are given in Schedule XXXV:—

	Area sold.			Purchase money.		
	a.	r.	p.	£	s.	d.
Section 63, Act 1884...	3	3	10	1,957	1	6
"  64,  "  ...	50	2	2 $\frac{1}{2}$	343	5	3
"  66,  "  ...	183	0	16 $\frac{3}{4}$	595	6	6
Public Roads Act of 1897	25	1	1	70	3	1
Section 42, Act of 1889	89	1	37	2,965	16	4
	352	0	27 $\frac{1}{4}$	2,965	16	4

### *Surrenders and Exchanges.*

Although applications for surrenders and exchanges were not as numerous in 1898 as in the previous year, the amount of business transacted under this heading has been well maintained. This is evidenced by the fact that 85 cases, representing an area of 279,248 acres 2 roods 29 perches, were finally completed, and the surrenders accepted by the Governor-in-Council.

Further information on this subject will be found in Schedule XXXVI, from which it will be seen that 127 applications were received, 78 were refused or withdrawn, and 330 were outstanding at the end of the year. In the previous year 181 applications were received, 67 were refused or withdrawn, and 366 were outstanding at the close of it.

Among the more important exchanges (as far as the area involved is concerned), and in connection with which the approval of the Governor and Executive Council was obtained during the year, those within the following pastoral holdings may be mentioned, viz.:—Moonagee, 13,983 acres; Borambil, 9,121 acres; Cowl

Cowl Cowl, 15,927 acres; Wargam, 13,156 acres; Toganmain, 34,505 acres; Yallaroi, 9,396 acres; Bando, 17,660 acres; Drildool, 8,684 acres; and Brookong, 15,715 acres.

With reference to the subsequent disposal of surrendered lands, it may be remarked that, if they are not within a leasehold area, the necessary steps are at once taken to have the areas made available for settlement, or, if too limited in extent for this purpose, they are added to adjoining selections, in accordance with the provisions of the Crown Lands Acts.

#### *Deeds of Grant.*

As there were only 2,099 deeds issued in 1897, for an area of 262,391 acres 1 rood  $16\frac{1}{2}\frac{1}{0}$  perches, it will be seen that there was a decided increase in 1898 in the number prepared, viz.:—3,447 for an area of 542,518 acres and  $10\frac{1}{2}\frac{1}{0}$  perches. A fair proportion of these deeds related to land alienated by way of exchange, and it has already been pointed out in previous reports that the investigation of titles to lands surrendered involves much work of an exceedingly difficult and complicated character.

#### *Volunteer Land Order Applications.*

Two applications of this kind were received during the year for land in the Albury and Tamworth Land Districts respectively. Including these, and also the applications lodged prior to 1898, but not dealt with, the transactions during the year were as follow:—One application refused, 2 approved, and 4 (representing an area of 200 acres) finally dealt with.

#### *Settlement Leases.*

Schedule LXXXII shows that settlement lease areas containing 426 farms were notified during the year, the area embraced being 1,208,687 acres 3 roods 20 perches, as compared with 367 farms notified in 1897, which contained 1,046,999 acres.

Five hundred and thirty-one applications for leases were received, representing an area of 1,447,279 acres 2 roods 20 perches, and an annual rental of £19,278 14s. 5d. Two hundred and sixty-eight applications were confirmed for an area of 721,324 acres and 20 perches, and 185 were disallowed, while 102 applications were outstanding at the end of the year. (For details see Schedule LV.)

The total number of leases executed since the passing of the Crown Lands Act of 1895, and current at the end of 1898, was 682, embracing an area of 1,858,367 $\frac{1}{4}$  acres. The rental payable on this area was £22,364 15s. 8d., or an average of nearly 3d. per acre. It may be added that there were 427 leases current at the end of 1897, covering 1,174,207 acres. (For details see Schedule LVI.)

Three leases containing an area of 8,420 acres, and upon which a rental of £93 10s. was payable, were declared null and void during the year, and 9 leases containing 38,340 $\frac{1}{4}$  acres, representing a rental of £402 4s. 6d., were forfeited. (See Schedule LVII.)

Seven transfers of settlement leases were received prior to 1898, and 36 during that year, making a total of 43, of which 32 were finally dealt with during the year, leaving 11 outstanding at the close of it.

Information is given in Schedule LVIII with respect to the notification and disposal of settlement lease areas since the passing of the Crown Lands Act of 1895. It will be seen therefrom that up to the 31st December, 1898, an area of 4,292,666 acres 0 roods 20 perches, comprising 1,380 farms, had been set apart for settlement lease. Of this area, however, only 1,108 farms, containing 3,421,412 acres 2 roods 20 perches, became available before the close of the year, and of these 822 farms, embracing 2,254,640 acres 1 rood 20 perches, had been selected, showing that 66 per cent. of the area available had been applied for. The capital value of the land selected was £2,241,465 11s. 4d., and the average rental per acre, 2·98 pence.

The

The Summary hereunder, extracted from Schedule LVIII, shows transactions in each Land Board District :—

Land Board District.	Quantity of Land Available.			Area Selected.		Area unselected on the 31st Dec., 1898.		Capital value represented by land selected.				
	No. of Farms.	Area Available.		No. of Farms.	Area.	No. of Farms.	Area.					
		a.	r. p.		a.	r. p.		a.	r. p.	£	s.	d.
Armidale.....	35	137,906	3 0	22	76,916	0 0	13	60,990	3 0	47,024	14	1
Bourke .....	33	130,400	0 0	25	93,191	0 0	8	37,209	0 0	71,033	4	2
Dubbo .....	262	732,205	3 0	228	592,143	3 0	34	140,062	0 0	631,674	16	6
Forbes .....	138	399,878	3 0	113	278,369	3 0	25	121,509	0 0	225,393	6	0
Goulburn .....	29	53,862	0 0	3	5,449	0 0	26	53,413	0 0	1,287	0	0
Hay .....	66	216,982	0 20	41	103,587	3 20	25	113,394	1 0	118,625	3	10
Maitland .....	16	29,569	1 0	1	2,280	0 0	15	27,289	1 0	1,140	0	0
Moree .....	257	847,129	3 0	217	647,190	3 0	40	199,939	0 0	649,199	4	8
Orange .....	17	31,956	0 0	4	7,467	0 0	13	24,489	0 0	3,681	16	6
Sydney .....	3	6,730	0 0	...	.....	.....	3	6,730	0 0	.....	.....	.....
Tamworth .....	218	752,908	0 0	148	404,498	0 0	70	348,410	0 0	451,743	0	0
Wagga.....	34	76,884	1 0	20	43,547	1 0	14	33,337	0 0	40,663	5	7
Totals .....	1,108	3,421,412	2 20	822	2,254,640	1 20	286	1,166,772	1 0	2,241,465	11	4

#### Annual Leases.

The number of annual leases in existence on 31st December, 1898, was 10,555, embracing an area of 6,490,522 acres 1 rood 7 $\frac{1}{4}$  perches, producing an annual rental of £42,965 19s. 5d. (*Vide* Schedule LXXI.)

Table hereunder shows the number, area, and rental of the leases in existence in each Division of the Colony at the end of 1898 :—

Division.	No.	Area.		Rental.	
		a.	r. p.	£	s. d.
Eastern ... ..	9,322	5,268,355	1 9 $\frac{1}{2}$	34,306	12 7
Central ... ..	1,155	1,154,893	1 38	8,102	18 1
Western ... ..	78	67,273	2 0	556	8 9
Totals .....	10,555	6,490,522	1 7 $\frac{1}{4}$	42,965	19 5

From Schedule LXX it will be seen that the number of leases lapsed during the year was 1,120, containing an area of 697,183 acres and 17 perches, the rental derivable therefrom being £4,605 14s. 10d. Thirty-one leases were cancelled, the area being 16,885 acres 3 roods, and the rental £108 0s. 3d.

Two thousand two hundred and sixteen applications were disposed of during the year, of which 1,610 were granted and 401 were either disallowed or withdrawn. Some of these applications were lodged prior to 1898. The area leased in connection with the applications granted was 889,172 $\frac{1}{2}$  acres, representing an annual rental of £6,316 19s. 1d. (*Vide* Schedule LXVII.)

The area offered for lease by auction or tender included 59,596 acres, of which 15,102 acres 2 roods were sold, realising an annual rental of £202 14s. 4d. (Schedule LXIX.)

The Table hereunder, compiled from Schedules LXVIII and LXIX, gives the number of applications made, the area applied for, and the area leased by auction and tender during the past five years :—

Year.	Applications made.	Area applied for.		Area leased by auction.	
		a.	r. p.	a.	r. p.
1894 ... ..	1,779	1,018,615	0 0	11,042	0 0
1895 ... ..	2,444	1,458,627	2 0	6,929	3 0
1896 ... ..	1,928	1,072,830	0 35 $\frac{1}{2}$	8,689	2 0
1897 ... ..	2,322	1,473,680	1 24	33,232	1 0
1898 ... ..	2,216	1,339,757	0 0	15,102	2 0

In comparing the transactions last year under this head with those of the preceding year, a slight decrease is apparent in the number of applications made and the area applied for.

*Conditional Leases.*

Nine hundred and forty-nine applications were received in 1898 for an area of 367,440 acres 2 roods 2 perches.

From Schedule XXV, and the summary hereunder, which has been compiled from it, it will be seen that the number of applications lodged and the area applied for last year were greater than during the two preceding years, also that there has been a proportionate increase in the rental derived.

Year.	Number.	Area.		Deposits.	
		a.	r. p.	£	s. d.
1885 ... ..	3,816*	2,547,045	0 15*	21,225	7 6
1886 ... ..	2,500	1,207,953	0 8	10,066	5 6
1887 ... ..	2,228	1,242,380	0 0	10,353	3 4
1888 ... ..	2,623	1,424,753	1 25	11,872	18 11
1889 ... ..	3,470	1,569,949	3 30	13,082	18 4
1890 ... ..	5,466	3,056,774	2 26	25,489	7 2
1891 ... ..	3,952	2,177,810	0 15	18,140	17 10
1892 ... ..	2,692	1,171,971	1 18	9,769	5 1
1893 ... ..	1,800	715,611	0 34	5,943	8 4
1894 ... ..	1,338	528,612	2 30	4,409	9 10
1895 ... ..	1,120	478,301	3 20	3,985	1 8
1896 ... ..	736	335,101	1 30	2,783	7 5
1897 ... ..	713	298,819	0 0	2,498	11 9
1898 ... ..	949	367,440	2 2	3,069	13 4

\* This includes 1,994 applications, made under 54th section of the Act of 1884, representing an area of 1,193,617 acres 0 roods 30 perches.

Seven hundred and sixty-nine applications were dealt with last year, of which 518 were confirmed for an area of 207,574 acres 1 rood 20 perches, and 251 were disallowed. The latter represented an area of 114,710 acres 3 roods 30 perches. Fuller details are given in Schedule XXVI.

The number of transfers passed in 1898 was 3,039, under which 2,063 leases, containing a total area of 1,395,130 acres 2 roods 3 perches, were transferred. (*Vide* Schedule XXVII.)

Two hundred and twelve conversions of conditional leases into conditional purchases took place last year, under the provisions of section 25 of the Crown Lands Act of 1889. Of these leases, 144 were wholly, and the remainder partly, converted. The total area converted in this manner embraced 104,730½ acres, which prior to conversion returned a rental of £1,495 1s. 3d. For particulars see Schedule XXIX.

The rents recommended by the Land Board were approved by the Minister in 518 cases, and no references were made to the Land Appeal Court.

Extension of time for payment of rent on conditional leases was granted in 245 cases, the amount involved being £2,303. Forfeitures incurred for breach of conditions were provisionally waived in 151 cases, and absolutely waived in 94 cases. The fees called for to cover cost of provisional waiver amounted to £111 6s.

During last year 482 conditional leases were gazetted as approved, representing an area of 184,281 acres 2 roods, and a rental of £2,024 12s. 1d. The total number of

of gazetted leases current at the end of the year was 22,114, embracing an aggregate area of 12,607,091 acres 1 rood  $24\frac{3}{4}$  perches, and producing an annual rental of £150,119 15s. 2d. Further information will be found in Schedule XXX.

The number of conditional leases gazetted as forfeited last year amounted to 626, representing an area of 229,573 acres 2 roods 5 perches, and a rental of £2,615 15s. (See Schedule XXVII.)

An area of 10,061 acres and 1 rood has, since December, 1885, been excised from 19 conditional leases, and cancelled on account of the land having been found to be auriferous.

#### *Pastoral Leases.*

The number of pastoral leases current on the 31st December, 1898, was 692, representing an area of 52,912,506 acres, and an annual rental of £248,020 14s. Three hundred and eighty-four of these leases were situated in the Central Division, and 308 in the Western. (See Schedule XXXVIII.)

Schedule hereunder shows the area leased in each Division, and the rental returned:—

No. of Leases.	Division of Colony.	Area.	Rent.	
		acres.	£	s. d.
384	Central ... ..	10,835,754	110,904	6 11
308	Western ... ..	42,076,752	137,116	7 1
692		52,912,506	248,020	14 0

Four pastoral leases were forfeited during the year, all being situated in the Central Division. (See Schedule XLVI.)

The area withdrawn from pastoral lease for public purposes in 1898 was 643,900 acres. This area was excised from 87 leaseholds, and refunds to lessees of rent paid in advance upon the area withdrawn amounted to £5,378 17s. 2d. (Schedule XXXIX.)

The number of pastoral leases transferred during the year was 67, of which 44 were in the Central and 23 in the Western Division. (Schedule XL.)

During the year the rentals of 18 pastoral leases were reappraised under the provisions of section 29 of the Crown Lands Act of 1889. The area comprised in these leases was 2,225,941 acres, which, prior to reappraisal, returned a rental of £5,255 10s. 1d. The total rentals, as redetermined, amounted to £4,625 11s. 1d., or an average rate per acre of  $\frac{49}{100}$ ths of a penny, as against the original rate of  $\frac{56}{100}$ ths. (See Schedule XLIII.)

Eleven applications (comprising an area of 1,203,321 acres) were made during the year under section 8 of the Crown Lands Act of 1895 for the attachment of resumed areas to their respective leaseholds. Four applications, containing 715,757 acres, were approved, and 4, containing 305,136 acres, were either refused or withdrawn; while 12 applications, covering 1,691,956 acres, were outstanding at the close of the year. For additional particulars see Schedule XLI.

The names and numbers of the pastoral leases which expired during 1898 are given in Schedule XLVIII, and particulars respecting those which will expire in 1899 will be found in Schedule XLVII.

In order to meet the demand for land for closer settlement, 289,800 acres were withdrawn from pastoral lease during the year under the provisions of sections 3 and 6 of the Crown Lands Act of 1895, the whole of this area being situated in the Central Division. Preliminary notification of the intention to withdraw was gazetted with respect to 5 other holdings, all situated in the Central Division. Further information respecting the area withdrawn, and the names of holdings from which it is proposed to withdraw land, is given in Schedule XLIX.

It may be stated that the pastoral leasehold of Ungaree (No. 133) was during the year subdivided into two pastoral holdings, respectively numbered and named No. 755, "Ungaree" (32,400 acres), and No. 756, "Ungaree West" (3,100 acres).

*Occupation*

*Occupation Licenses.*

The number of licenses in force during 1898 was 1807, embracing an area of 37,267,354 acres, while the fees payable annually thereon amounted to a total of £106,125 7s. 10d.

The Table hereunder shows that the licenses current in 1898 were more numerous than in the preceding year, and also indicates an increase both in area and rental:—

Current on 31st December, 1897.				Current on 31st December, 1898.			
Division.	No.	Area.	Rent.	Division.	No.	Area.	Rent.
		acres.	£ s. d.			acres.	£ s. d.
Eastern .....	432	5,206,420	11,423 10 3	Eastern .....	502	5,877,510	15,532 17 10
Eastern (preferential)...	305	3,535,612	16,052 3 3	Eastern (preferential)	309	3,553,936	15,807 12 1
Central .....	541	5,140,851	27,784 10 5	Central .....	538	5,233,325	26,604 14 2
Central (preferential) ...	239	3,534,796	23,499 6 0	Central (preferential) ..	269	4,376,272	28,479 16 4
Western .....	196	19,542,767	21,770 19 5	Western .....	189	18,226,261	19,700 7 5
Total .....	1,713	36,960,446	100,529 9 4	Total .....	1,807	37,267,354	106,125 7 10

Two hundred and forty-five licenses, embracing an area of 3,176,176 acres, were offered for sale by auction or tender, of which 121, containing 1,693,506 acres, were sold. The number and area sold in 1897 was considerably less, viz., 64 licenses, containing 863,680 acres. (*Vide* Schedule XLII.)

The number of preferential occupation licenses which were not renewed in 1898 was 24, of which 6 are situated in the Eastern Division, 17 in the Central, and 1 in the Western Division, whilst the number of ordinary occupation licenses was 53, of which 21 were situated in the Eastern Division, 25 in the Central, and 7 in the Western. (*Vide* Schedule XLVI.)

Transfers were made during the year of 32 preferential and 89 ordinary occupation licenses. (Schedule XL.)

An area of 383,995 acres was withdrawn from pastoral lease for settlement under the provisions of sections 3 and 6 of the Crown Lands Act of 1895.

The lessees having in many instances availed themselves of the right to hold the land temporarily under preferential occupation license pending selection, an appraisalment was made under which the license fees payable annually amounted to a total of £2,317 12s. 1d.

In Schedule XLIV will be found the distinguishing number of each license, its area, the annual fee payable in connection with it, and the name of the pastoral holding from which it was withdrawn.

Certain unrenewed occupation licenses and preferential occupation licenses were reinstated last year. Of the former, 6 were situated in the Eastern Division, 15 in the Central, and 6 in the Western, while of the latter 6 were in the Eastern, 7 in the Central, and 1 in the Western Division.

Withdrawals for purposes of alienation, reservation, &c., were made from 420 licenses, the area withdrawn being 1,628,142 acres, necessitating refund to licensees of rent, paid in advance, amounting to £7,008 17s. 7d. (Schedule XXXIX.)

With respect to 14 resumed areas, the license fees were reappraised and gazetted under the provisions of the 81st section of the Crown Lands Act of 1884. For further particulars see Schedule XLV.

Information respecting the attachment of resumed areas to leasehold areas is given in this report under the heading "Pastoral Leases," and also in Schedule XLI.

The areas and rentals of certain preferential occupation licenses (formerly held under pastoral lease in the Central Division) were reappraised, and detailed information respecting them is given in Schedule LI.

*Homestead*

*Homestead Leases.*

At the close of last year, 1,237 homestead leases were in existence, comprising an area of 10,456,668 acres, and returning a rental of £53,916 12s. 4d.

Of these leases, 802 are situated in the Land Board District of Bourke. They contain an aggregate area of 6,902,172 acres, and yield a rental of £33,833 9s. 8d., the average rate per acre being  $1\frac{17}{100}$ d. The district of Hay has 312 leases, containing 2,508,399 acres, and returning £11,620 14s. 9d. rent, or an average rate per acre of  $1\frac{11}{100}$ d., while Moree has 123 leases, comprising 1,046,097 acres, with a rental of £8,412 7s. 11d., or an average rate per acre of  $1\frac{93}{100}$ d. (*Vide* Schedule LIV.)

Applications for homestead leases were not as numerous last year as in the preceding one. Seventy-eight applications were received in 1897, and 50 in 1898.

The Table hereunder shows the number of applications received each year since 1885, together with the area applied for, and the amount received each year by way of deposit. Further details are given in Schedule LI:—

Year.	No. of Applications.	Area applied for.	Deposits lodged.
		acres.	£ s. d.
1885	391	3,823,235	15,880 2 11
1886	121	1,141,963	4,758 3 7
1887	128	1,198,286	4,992 17 2
1888	141	1,332,691	5,511 15 7
1889	238	2,187,837	9,113 19 9
1890	310	2,620,959	10,920 13 3
1891	191	1,515,629	6,278 2 1
1892	176	1,214,447	5,648 16 6
1893	135	870,044	3,582 10 4
1894	110	692,515	2,885 9 7
1895	106	613,723	2,557 3 7
1896	89	605,146	2,521 8 10
1897	78	494,680	2,055 4 11
1898	50	353,842	1,492 17 6

Fifty homestead leases were granted during the year, comprising a total area of 362,047 acres, and returning a rental of £1,033 6s. 2d. These figures are somewhat under those of the previous year, in which the number of leases granted was 61, the area embraced being 419,840 acres, and the annual rental £1,246 18s. 11d. The average rental per acre of the area leased in 1898 was  $\frac{68}{100}$ d.

Six applications were either refused or permitted to be withdrawn, and 22 were outstanding at the close of the year. (See Schedule LII.)

Eighteen leases, comprising an area of 105,845 acres, and returning a rental of £392 9s. 11d., were forfeited during the year. (See Schedule LIII.)

An area of 935,459 acres, included in 122 leases, was reappraised under the provisions of section 29 of the Crown Lands Act of 1889. The rental payable on this area, prior to reappraisal, amounted in the aggregate to £5,680 11s. 11d.

The rental as reappraised amounts to £4,799 15s. 10d., about 16 per cent. less than the original amount. The original rent amounted to an average of about  $1\frac{45}{100}$ d. per acre, whilst the rent as reappraised was at the rate of  $1\frac{23}{100}$ d. For additional details respecting reappraisal, see table hereunder.

TABLE showing details respecting homestead leases reappraised under section 29 of the Crown Lands Act of 1889:—

Land Board District.	Number of Leases appraised.	Area.	Rental according to original rate.	Rentals as reappraised.
		acres.	£ s. d.	£ s. d.
Bourke ... ..	43	282,660	1,657 8 9	1,312 11 6
Hay ... ..	60	506,304	2,709 0 10	2,305 9 3
Moree ... ..	19	146,495	1,314 2 4	1,181 14 10
	122	935,459	5,680 11 11	4,799 15 10

Average rate per acre ... ..  $1\frac{45}{100}$ d. ... ..  $1\frac{23}{100}$ d.

During the year 183 transfers of homestead leases were completed.

*Special*

*Special Leases.*

In 1898, 743 applications for special leases were received, being a very decided advance on the number received in each of the two preceding years respectively, 514 having been received in 1897, and 275 in 1896. 424 applications were outstanding on 31st December, 1897; the number to be dealt with during the year under review was therefore 1,167. Of these 591 were dealt with, 275 being granted, and 316 declined, lapsed, &c. The leases granted comprise an area of 15,776 acres 1 rood and  $1\frac{3}{4}$  perches, and return an annual rental of £2,308 8s. 7d. The number of applications on which action was not completed in 1898 was 604. Additional information is given in Schedule LX.

A larger number of special leases were forfeited last year than during the preceding one. Thirty-nine leases were forfeited in 1898, comprising 1,171 acres and 25 perches, and yielding a rental of £480 11s. 7d., as against 28 leases, containing 1,015 acres 1 rood  $36\frac{1}{2}$  perches, with a rental of £271 12s. For further details, see Schedule LXI.

A larger number of leases were current at the close of last year than at the end of 1897. The number, inclusive of those which terminated by effluxion of time on the 31st December, 1898, was 992, containing 39,364 acres 1 rood 28 perches, and returning a rental of £17,271 7s. 2d., as against 804 leases current at the close of 1897, containing 25,695 acres 1 rood, with a rental of £16,332 0s. 2d. Seventy-nine leases expired by effluxion of time during the year, comprising an area of 1,540 acres 0 roods  $3\frac{3}{4}$  perches. (Additional details will be found in Schedules LXII and LXIII.)

Special leases are granted under the provisions of sections 89, 90, and 92, of the Crown Lands Act of 1884, and section 46 of the Crown Lands Act of 1895, for the various purposes specified hereunder:—

## Under section 89—

Floating docks, jetties, piers, and wharfs below high-water mark.

## Under section 90—

Accommodation house.	Gravel (to obtain).	Residence.
Accommodation paddock.	Grazing.	Saw-mills.
Agriculture.	Graving dock.	Sericulture.
Bakery.	Guano (to obtain).	Shells (to obtain).
Ballast (to obtain).	Inn.	Ships (building or repairing).
Bathing places.	Irrigation.	Skin-drying and packing.
Bee and Poultry Farm.	Landing-places.	Slaughter-houses.
Boats (building and repairing)	Lime-kilns.	Smelting-works.
Boiling-down works.	Limestone (to obtain).	Smithy.
Brick earth (to obtain).	Loam (to obtain).	Stables and accommodation paddocks.
Brick-kiln.	Machinery (erection of).	Store.
Bridges.	Mail stations in sparsely-populated districts.	Storage purposes.
Cricket.	Night-soil depôt.	Sugar-cane growing.
Dairying.	Nursery garden.	Tanks.
Dams.	Patent slip.	Tannerics.
Drainage.	Pipe-line.	Tobacco growing.
Engineering works.	Pig and poultry farm.	Vegetable garden.
Eucalyptus (cultivation of).	Public recreation and Show Ground.	Village settlement.
Explosives (sites for storage of).	Punt-houses.	Wattle-growing.
Factory.	Quarries.	Well.
Ferries.	Railway station and depôt.	Wharfs (above high-water mark).
Fisheries.	Recreation.	Wool-washing establishments.
Freezing works.		Working mineral springs.

## Under section 92—

Irrigation works and tramway purposes.

## Under section 46, Crown Lands Act of 1895—

Business purposes.

Erection of buildings.

*Artesian Well Leases.*

One artesian well lease was granted in 1898, comprising 10,240 acres, and returning a rental of £12 16s. The number of these leases, which were current on 31st December, 1898, was 37, representing an area of 378,547 acres and a rental of £1,023 16s. 7d.

*Improvement Leases.*

These leases are either sold at auction or let by tender. The tenures under which they are held are of considerable length and the rents are exceedingly moderate, in proportion to the areas leased. They are, however, subject to stringent conditions with respect to the improvements to be effected by lessees.

During



During the year 113 leases, comprising 786,773 acres 0 rood 1 perch, and yielding a rental of £2,040 19s. 2d., were sold at auction; while 61 leases, representing an area of 259,844 acres and a rental of £1,787 16s. 10d., were disposed of by tender. (*Vide* Schedule LIX, Part A.)

Schedule LIX, Part B, shows that on the 31st December, 1898, 413 leases were current, including an area of 3,823,950 acres 3 roods, and producing a rental of £7,654 3s. 6d., or an average of 48d. per acre; also, that 13 leases, containing 128,658 acres, were either forfeited or declared void during the year, the total rental involved being £210 6s. 3d.

#### *Scrub Leases.*

More applications for leases of this kind were received last year than during the preceding one. Forty-seven applications were received in 1898 for an area of 659,488 acres, as against 36 applications and an area of 554,690½ acres in 1897. Thirty-six applications, for an area of 892,796 acres, were outstanding on 31st December, 1897, making a total of 83 applications to be dealt with during the year. Seventeen of these were granted, representing an area of 205,396 acres and a rental of £635 2s. 2d., while 19 were either disallowed or withdrawn.

No leases expired during the year, but 2 were forfeited, their combined areas amounting to 12,740 acres, and their rentals to £39 7s. 6d. Fifty-five leases were in force at the close of the year, embracing 423,557½ acres, and returning an annual rental of £943 0s. 11d. (*Vide* Schedule LXIV.)

#### *Leases of Inferior Lands.*

Six leases were granted during the year, the combined areas and rentals thereof being, respectively, 18,010 acres and £12 10s. Five leases were forfeited, their areas amounting to 62,205 acres and rentals to £46 11s. 6d.; and 38 leases, representing an area of 378,580 acres and an annual rental of £300 13s. 3d., were current at the end of the year. (*Vide* Schedule LXV.)

#### *Residential Leases.*

One hundred and eleven applications were received in 1898, which, with 117 outstanding on 31st December, 1897, left a total of 228 leases to be dealt with for an aggregate area of 1,639 acres 2 roods 26 perches. Twenty-six applications were disallowed or withdrawn, while 69 were granted for an area of 869 acres 2 roods 25 perches, at a rental of £104 10s. 4d.

Ten leases were forfeited, their aggregate areas amounting to 108 acres 1 rood 24 perches, and their rentals to £13 19s. 5d.

The leases current at the close of the year numbered 272, the area embraced by them amounting to 3,046 acres 2 roods 36 perches, and the rental payable in connection therewith being £412 15s. 10d. (*Vide* Schedule LXVI.)

#### *Snow Leases.*

From Schedule LXVIII it will be seen that no leases of this description were granted during the year; but 2 were declared forfeited, the area affected being 5,230 acres, and the rental £46 1s. 11d.

The number of these leases current on 31st December, 1898, was 19, containing an area of 89,767 acres, and yielding an annual rental of £782 19s. 7d.

#### *Dedications, Reserves, Resumptions.*

The total number of reserves from sale for various purposes notified during the year was 1,273, comprising an area of 1,232,410 acres, while the revocations of similar reserves numbered 2,173, and affected an area of 3,391,032 acres. (Schedules LXXV and LXXVI.)

Two hundred and twenty-one reserves from lease and license, annual lease, &c., were notified in 1898, comprising a total area of 443,698 acres.

The revocations of reserves of this class numbered 343, and affected an area of 297,479 acres. (Schedule LXXVII and LXXVIII.)

During

During the year 119 dedications for religious and public purposes were made, within which were included 16,779 acres 2 roods 28 perches. Particulars respecting the objects of these dedications are given in Schedule LXXIX.

An area of 2,128 acres 2 roods  $1\frac{3}{4}$  perches was resumed during the year under the provisions of section 105 of the Act of 1884, section 41 of 1889, and section 7 of the Public Trusts Act of 1897. The area resumed under these sections in 1897 was 403 acres 1 rood 17 perches. Additional particulars appear in Schedule LXXIV.

#### *Newcastle Pasturage Reserve.*

There are 519 holdings under the Newcastle Pasturage Reserve Act on which purchase money is being paid by instalments. Balances on 18 purchases were paid during the year, bringing the total number of completed purchases up to 337, the purchase money represented being £20,388 3s. 3d. (*Vide* Schedule LXXIII.)

#### *Cases of trespass on Crown Lands.*

Cases of this class were not as numerous last year as in 1897. Two hundred and ninety-one cases were reported by the Crown Lands bailiff during 1898, as against 403 cases in 1897. The number of cases outstanding at the end of 1897 was 345, making a total of 636 requiring action in 1898, of which 308 cases were dealt with in various ways, leaving a balance at the close of the year of 328 incomplete cases.

#### *Applications for permission to ringbark.*

One hundred and seventy applications were received during the year, embracing an area of 1,262,111 acres. The fees lodged with these applications amounted to £464. Of the applications received prior to 1898, 59 were granted, while of 170 applications received during the year 92 were also granted, making a total of 151 applications, and including a total area of 1,284,917 acres. Sixteen applications were disallowed during the year, and 65 were outstanding at the close thereof. (*See* Schedule LXXXIX for further particulars.)

#### *Permissive occupancies.*

At the close of the year 615 permission occupancies were current, comprising an area of 98,767 acres 3 roods 11 perches, returning a rental of £1,404 5s. 10d. (*Vide* Schedule LXXII.)

#### *Cases dealt with by Local Land Boards.*

During the year 16,468 cases were dealt with by the Local Land Boards, of which 995 cases were adjourned. Hereunder is a comparative statement showing the number of cases considered and adjourned, respectively, and the number of days occupied in sittings of Boards during the past six years, while additional information on this subject will be found in Schedule LXXXVII.

1893 ...	...	30,910 cases dealt with ;	2,830 cases adjourned ;	1,419 $\frac{1}{2}$ days occupied.
1894 ...	...	25,988	2,055	1,438
1895 ...	...	21,436	1,970	1,236 $\frac{1}{2}$
1896 ...	..	22,067	2,308	1,697
1897 ...	...	17,597	1,355	1,266
1898 ...	...	16,468	995	1,169 $\frac{1}{2}$

#### *Correspondence.*

The number of documents received and registered in the Head Office during the year was 124,385, showing a decrease of 3,726 in comparison with the number registered in 1897. (Schedule XC.)

During

During the year 172,759 printed and manuscript letters, schedules, parcels, &c., were despatched, while 1,691 telegrams were sent and 104 circulars were issued. (Schedule XCI.)

The number of letters and circulars received at the various Land Board Offices during 1898 was 108,244, as against 112,004 received in 1897, while 112,243 letters, parcels, &c., were despatched. Further particulars are given in Schedule XCII.

#### *Church and School Lands.*

Part "A," Schedule LXXXIV, shows that 303 Pastoral Leases granted under the Church and School Lands Dedication Act of 1880, were current on the 31st December, 1898, comprising an area of 226,330 acres 2 roods 26 perches, and returning a rental of £5,599 13s. 7d.

Part "B" of Schedule LXXXIV shows that on the date above named 300 Agricultural Leases were current embracing an area of 9,811 acres 3 roods 34 perches, and producing revenue to the amount of £1,676 18s.

Three applications for Mineral Leases comprising an area of 171 acres 1 rood were lodged during the year. Two applications were outstanding from the previous year, leaving a total number of 5 to be dealt with during 1898. One of these was granted for an area of 60 acres at a rental of £15. Fourteen leases were cancelled during the year, containing 905 acres, and twelve leases, including 504 acres 0 roods 1 perch, and returning a rental of £142 18s. 8d., were current at the close of the year. (See Part "A" of Schedule LXXXV.)

One application for a Gold Lease was received during the year, and nine applications were outstanding at the end of the preceding year. The number to be dealt with in 1898 was therefore 10. Six applications were granted and 2 were declined, leaving 2 on which action had not been completed. The 6 leases granted contained 71 acres 3 roods 26 perches, and the annual rental payable on them amounted to £72. Twenty-six leases were cancelled, comprising an area of 171 acres 3 roods 30 perches, and 3 leases containing 4 acres expired during the year.

Eighty-three Gold Leases were current on 31st December, 1898, including an area of 530 acres 3 roods 29 perches, and yielding a rental of £598 16s. (For further information see Part "B," Schedule LXXXV.)

Forty-four leases granted for building and similar purposes for specified periods were current on 31st December, 1898, covering an area of 27 acres 1 rood 20 $\frac{3}{4}$  perches, and producing a rental of £554 15s. (See Schedule LXXXVI.)

Several leases of a miscellaneous character were current at the end of 1897. Only one of these, however, was in existence at the close of 1898, containing an area of 1 acre 1 rood 28 perches, with a rental of 15s. per annum.

It may be mentioned that the lands formerly known as the Church and School Lands became, by the passing of the Church and School Lands Act of 1897, vested in Her Majesty the Queen, free from all trusts and provisions affecting the same, but subject to the provisions of the Crown Lands Act of 1884, the Mining Act of 1874, and of any Acts amending them; the lands in question to be dealt with under the said Acts as Crown lands.

The Church and School Land Act of 1897 provided, *inter alia*, that any lessee might, within six months of the passing thereof, apply for permission to convert his lease into one or other of the following holdings under the Crown Lands Acts, viz. :—a Homestead Selection, a Settlement, Special, or Improvement Lease, or a Special Purchase. It further provided that lessees under the Church and School Lands Mining Act could apply to convert their leases into leases under the Crown Lands Mining Act, 1874.

The residue of any lease, which has been only partly converted, may be dealt with under the provisions of the Crown Lands Acts. Any leases not so converted will still be subject to the provisions of the Church and School Lands Alienation Act of 1880 until their expiration or determination in any other manner, when they will be also available under the Crown Lands Act.

One hundred and eighty-three applications were received for the conversion of 394 leases of agricultural and pastoral lands, comprising a total area of 127,749 acres 1 rood 6 perches, but have not yet been finally dealt with.

The following tabulated statement shows the number of applications received for conversion in the various land districts and the class of holdings applied for.

SCHEDULE showing the number of applications received to convert Church and School Lands Leases into holdings under the Crown Lands Acts, the number of leases sought to be converted, and the total area applied for.

Nature of Holding applied for.	Number of Applications.	Number of Leases embraced in Applications.	Area applied for under each Holding.	
<b>GOULBURN LAND BOARD.</b>				
Homestead selection... ..	17	26	a. 4,845	r. p. 1 8
Settlement lease ... ..	1	3	1,216	3 16
Special purchase ... ..	1	2	3	3 6
Totals ... ..	19	31	6,065	3 30
<b>MAITLAND LAND BOARD.</b>				
Homestead selection... ..	61	129	26,881	1 33
Settlement lease ... ..	21	43	39,898	0 0
Improvement lease ... ..	1	4	7,758	0 0
Special lease ... ..	1	1	370	0 0
Totals ... ..	84	177	74,907	1 33
<b>ORANGE LAND BOARD.</b>				
Homestead selection... ..	55	106	11,454	1 19
Settlement lease ... ..	3	8	5,123	2 34
Improvement lease ... ..	11	61	30,179	2 39
Special lease ... ..	3	3	11	3 10
Totals ... ..	72	178	46,769	2 22
<b>METROPOLITAN LAND BOARD.</b>				
Special purchase ... ..	6	7	2	1 35
<b>GRAND TOTALS.</b>				
Homestead selections ... ..	133	261	43,181	0 20
Settlement leases ... ..	25	54	46,238	2 10
Improvement leases ... ..	13	65	37,937	2 39
Special leases... ..	5	6	385	2 16
Special purchases ... ..	7	8	6	1 1
Totals ... ..	183	394	127,749	1 6

Nine applications were received by the Department of Mines for conversion of mining leases, issued under the Church and School Lands Mining Act, into holdings under the Crown Lands Mining Act, 1874.

*Cost of Survey.*

Information as to cost of various classes of measurements effected during the year by licensed surveyors, paid under a system of fees, will be found in Schedule XCIV.

*Chief Surveyor.*

The report of the Chief Surveyor and Director of Trigonometrical Survey is appended hereto.

WM. HOUSTON,  
Under Secretary.

SCHEDULE I.  
REVENUE and Receipts for 1898.

Sales—	£	s	d.	£	s	d.
Auction Sales (including payments on account of sales in previous years) .....	105,149	0	0			
Newcastle Pasturage Reserve Sales .....	1,770	0	0			
Improvement Purchases, &c. ....	1,981	0	0			
Deposits, &c., on Conditional Purchases .....	38,913	0	0			
Instalments (including interest) on Conditional Purchases.....	906,390	0	0			
Balances on Conditional Purchases .....	98,374	0	0			
Homestead Selections (Improvements) .....	3,348	0	0			
Miscellaneous Purchases .....	2,715	0	0			
Total, Land Sales .....				1,158,640	0	0
Interest on Land Conditionally Purchased.....				75,803	0	0
Pastoral Occupation—						
Pastoral Leases (Runs) ..	244,120	0	0			
Conditional Leases .....	159,135	0	0			
Annual Leases.....	49,130	0	0			
Occupation Licenses .....	109,066	0	0			
Homestead Leases .....	55,288	0	0			
Snow Leases .....	514	0	0			
Inferior Leases .....	182	0	0			
Scrub Leases .....	747	0	0			
Improvement Leases (Rents) .....	7,009	0	0			
Homestead Selections (Rents) .....	13,772	0	0			
Settlement Leases .....	31,620	0	0			
Artesian Well Leases .....	1,176	0	0			
Quit Rents .....	269	0	0			
Total, Pastoral Occupation .....				672,028	0	0
Church and School Lands .....				9,111	0	0
Miscellaneous—						
Licenses to cut Timber .....	12,806	0	0			
Fees on Transfer of Runs, &c. ....	957	0	0			
Fees on Preparation and Enrolment of Title Deeds .....	2,623	0	0			
Survey Fees .....	32,876	0	0			
Special Leases .....	20,622	0	0			
All other Receipts .....	16,949	0	0			
Total, Miscellaneous .....				86,833	0	0
Total.....				£2,002,415	0	0

SCHEDULE II.  
EXPENDITURE for all Services during 1898.

Heads of Services, &c.	Services of 1895 and previous years.	1896 Services	1897 Services.	1898 Services.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<b>SERVICES IN CONNECTION WITH THE ADMINISTRATION OF THE LAND LAWS</b>					
Salaries—Permanent Staff			111 12 5	156,065 19 6	156,177 11 11
Do Temporary Employees			67 15 6	2,842 0 8	2,909 16 2
Travelling Expenses (including Equipment and Forage Allowances)			1,586 17 8	23,691 7 3	25,278 4 11
General Expenses	6 5 3	80 6 1	451 18 8	4,017 2 3	5,105 12 3
Appraisal and Inspection Fees	2 12 6	1 1 0	218 9 3	549 7 11	771 10 8
Fees for attendance at Local Land Courts			362 13 0	4,005 3 0	4,367 16 0
Rent			154 9 0	508 7 0	662 16 0
Legal Expenses and special inquiries under Crown Lands Acts			827 16 7	2,434 19 0	3,262 15 7
Compensation Claims (excluding payments for Parks, Cemeteries, and Roads)				760 1 9	760 1 9
Roads under Roads Act of 1897—Compensation, &c			Cr. 268 4 7	3,736 7 7	3,468 3 0
Preparation of Deeds			52 19 0	1,000 3 0	1,053 2 0
Stamp Duties			6 10 0	120 2 0	126 12 0
Wages and Provisions for Surveyors' Labourers			941 17 0	11,180 6 9	12,122 3 9
Plans and Tracings ..		115 14 6	353 15 5	3,662 16 6	4,132 6 5
Lithography			72 15 6	181 5 10	254 1 4
Instruments, Materials, and Books			23 4 0	367 8 0	396 12 0
Survey Fees	2 15 5	37 15 9	6,097 17 6	33,993 3 3	40,131 11 11
Photo lithography (performed at Government Printing Office)			344 11 9	565 17 3	910 9 0
Land Appeal Court—Salaries and Contingencies			236 14 0	6,036 4 3	6,272 18 3
Expenses of removal of Officers			230 19 0	846 15 0	1,077 14 0
Fees, &c., Court of Claims .....				100 0 0	100 0 0
Total Services in connection with the Administration of the Land Laws .....	£ 11 13 2	184 17 4	11,880 10 8	257,264 17 9	269,341 18 11
<b>SPECIAL SERVICES.</b>					
Public Cemeteries—Fencing, clearing, and acquisition of sites for			Cr. 24 6 6	1,600 0 4	1,665 13 10
Public Parks and Recreation Reserves—For acquisition of sites for, and improvements, &c.			27 4 6	12,841 10 10	12,868 15 4
Rabbit proof Fencing			5 13 2	98 4 9	103 17 11
Gosford Nursery (exclusive of salaries and wages)				170 13 2	170 13 2
Church and School Lands—Salaries and Contingencies			5 1 4	882 4 6	887 5 10
Steam Mail Service, Pacific Islands*			1,000 0 0	1,525 0 0	2,525 0 0
Total, Special Services .....			1,013 12 6	17,207 13 7	18,221 6 1
Total Expenditure from Consolidated Revenue Votes, &c. ....	£ 11 13 2	184 17 4	12,894 3 2	274,472 11 4	287,563 5 0

\* In connection with the government of Norfolk Island.

## SCHEDULE II.—continued.

Heads of Services, &c	Services of 1895 and previous years	1896 Services	1897 Services.	1898 Services.	Total.
	£ s d	£ s d	£ s d	£ s d	
OTHER SERVICES PAID FOR FROM LOAN VOTES					
Scrub clearing—West Bogan Scrub			51 13 6	28 303 7 5	28,355 0 11
Do Stock Routes			1,446 13 6	3,939 18 4	5,386 11 10
Hay Irrigation Works			7 8 0	351 16 10	359 4 10
Terragong Swamp Drainage			32 0 0	113 15 9	145 15 9
Thinning out Forest Reserves			Cr 29 1 0	4,799 3 3	4,770 2 3
Clearing and improving Crown Lands				461 17 8	461 17 8
Total paid from Loan Votes			1,508 14 0	37,999 19 3	39,508 13 3
Grand Total	£ 11 13 2	184 17 4	14,402 17 2	312,472 10 7	327,071 18 3

## SCHEDULE III.

## COMPARATIVE Statement of the Expenditure in 1897 and 1898 respectively.

Head of Service.	1897	1898.	Increase.	Decrease.
SERVICES IN CONNECTION WITH THE ADMINISTRATION OF THE LAND LAWS.				
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries	152,603 19 1	159,087 8 1	*6,483 9 0	.....
Travelling Expenses, Equipment and Forage Allowances	29,106 4 10	25,278 4 11	.....	3,827 19 11
General Expenses	5,907 1 7	5,105 12 3	.....	801 9 4
Appraisal and Inspection Fees	1,351 12 10	771 10 8	.....	580 2 2
Fees for Attendance at Local Land Courts	5,089 19 7	4,367 16 0	.....	722 3 7
Rents	886 9 4	662 16 0	.....	223 13 4
Legal Expenses and special inquiries under Crown Lands Acts	5,687 15 6	3,262 15 7	.....	2,424 19 11
Compensation Claims (excluding payments for Public Parks, Cemeteries, and Roads under Roads Act)	151 12 6	760 1 9	608 9 3	.....
Roads under Roads Act—Compensation, &c.	2,747 8 0	3,468 3 0	720 15 0	.....
Preparation of Deeds	690 16 1	1,053 2 0	362 5 11	.....
Stamp Duties	4,438 0 0	126 12 0	.....	4,311 8 0
Wages and Provisions for Surveyors' Labourers	12,919 3 1	12,122 3 9	.....	796 19 4
Plans and Tracings by Contract	3,785 16 11	4,132 6 5	346 9 6	.....
Lithography	450 3 9	254 1 4	.....	196 2 5
Instruments, Materials, and Books	264 4 11	396 12 0	132 7 1	.....
Survey Fees	40,077 16 1	40,131 11 11	53 15 10	.....
Photo-lithography (performed at Government Printing Office)	1,119 2 0	910 9 0	.....	208 13 0
Land Appeal Court (including Salaries, Travelling Expenses, &c)	6,069 17 7	6,272 18 3	203 0 8	.....
Expenses of removal of Officers	1,730 12 10	1,077 14 0	.....	652 18 10
Fees, &c.—Court of Claims	.....	100 0 0	100 0 0	.....
Total Services in connection with the Administration of the Land Laws	£ 275,077 16 6	269,341 18 11	9,010 12 3	14,746 9 10
SPECIAL SERVICES				
Public Cemeteries—Fencing, clearing, and acquisition of sites for	1,624 12 6	1,605 13 10	41 1 4	.....
Public Parks and Recreation Reserves—For acquisition of sites for, and improvements, &c.	8,576 10 11	12,868 15 4	4,292 4 5	.....
Rabbit proof Fencing	631 10 0	103 17 11	.....	527 12 1
Labour Settlements	172 17 9	.....	.....	172 17 9
Gosford Nursery (exclusive of salaries and wages)	.....	170 13 2	170 13 2	.....
Church and School Lands—Salaries and Contingencies	929 10 11	887 5 10	.....	42 5 1
Steam Mail Service, Pacific Islands	.....	2,525 0 0	2,525 0 0	.....
Total, Special Services	£ 11,935 2 1	18,221 6 1	7,028 18 11	742 14 11
Total Expenditure from Consolidated Revenue Votes, &c	£ 287,012 18 7	287,563 5 0	16,039 11 2	15,489 4 9
OTHER SERVICES PAID FOR FROM LOAN VOTES.				
Dubbo Land Board Office Building—Erection of	190 0 0	.....	.....	190 0 0
Hay do do do	2,069 17 0	.....	.....	2,069 17 0
Maitland do do do	1,129 18 10	.....	.....	1,129 18 10
Scrub clearing—West Bogan Scrub	48 529 9 6	28,355 0 11	.....	20,234 8 7
Do Stock Routes	8,214 2 8	5,386 11 10	.....	2,827 10 10
Hay Irrigation Works	8,849 4 2	389 4 10	.....	8,459 19 4
Terragong Swamp Drainage	1,929 1 9	145 15 9	.....	1,783 6 0
Thinning out Forest Reserves	3,331 3 7	4,770 2 3	1,438 18 8	.....
Clearing and improving Crown Lands	.....	461 17 8	461 17 8	.....
Total Expenditure from Loan Votes	£ 74,332 17 6	39,508 13 3	1,900 16 4	36,725 0 7
Totals	£ 361,345 16 1	327,071 18 3	17,940 7 6	52,214 5 4
Deduct Increase				17,940 7 6
Net Decrease				£ 34,273 17 10

\* Due to the transfer of the Forest Branch from the Department of Mines and of 28 Crown Lands Agent's salaries from the Department of Justice. In p Duties on Conditional Purchases and Leases for 1898 paid by transfer at the Treasury of collections by Crown Land Agents.

SCHEDULE IV.  
SALARIES paid in the year 1898.

	Permanent			Temporary.			Total.		
	£	s	d.	£	s	d.	£	s	d.
<b>ADMINISTRATIVE BRANCH.</b>									
Head Office Staff .....	31,911	0	5	238	10	1	32,149	10	6
Local Land Boards .....	20,601	12	10	143	1	9	20,744	14	7
Land Agents and Assistants .....	9,809	6	1	.....	.....	.....	9,809	6	1
Inspectors of Conditional Purchases .....	9,125	0	0	215	7	3	9,340	7	3
Forest Branch .....	1,936	11	8	605	11	0	2,542	2	8
Messengers and others .....	4,031	15	8	26	17	1	4,058	12	9
	77,415	6	8	1,229	7	2	78,644	13	10
<b>SURVEY BRANCH.</b>									
Head Office Staff .....	30,655	10	10	844	18	6	31,500	9	4
District Survey Offices .....	33,021	10	6	574	0	6	33,595	11	0
Salaried Surveyors .....	10,922	18	4	.....	.....	.....	10,922	18	4
Assistant Surveyors .....	1,499	5	3	.....	.....	.....	1,499	5	3
Field Assistants .....	313	0	4	.....	.....	.....	313	0	4
	76,412	5	3	1,418	19	0	77,831	4	3
<b>TRIGONOMETRICAL SURVEY BRANCH.</b>									
Field Staff .....	1,354	3	4	50	0	0	1,404	3	4
Office Staff .....	995	16	8	211	10	0	1,207	6	8
	2,350	0	0	261	10	0	2,611	10	0
<b>TOTAL</b> .....	156,177	11	11	2,909	16	2	159,087	8	1
<b>LAND APPEAL COURT.</b>									
President and Commissioners .....	4,000	0	0	.....	.....	.....	*4,000	0	0
Registrar, Clerks, and Messenger .....	1,019	0	0	.....	.....	.....	1,019	0	0
	5,019	0	0	.....	.....	.....	5,019	0	0
<b>CHURCH AND SCHOOL LANDS.</b>									
Clerks and Ranger .....	600	0	0	127	15	0	727	15	0
<b>WEST BOGAN SCRUB.</b>									
Inspector .....	.....	.....	.....	225	0	0	†225	0	0
<b>GRAND TOTAL</b> .....	161,796	11	11	3,262	11	2	165,059	3	1

\* Salaries of President and Commissioners (£4,000) paid from Special Appropriation, under Act 55 Vic No 24  
† Salary paid from Loan Vote, £100,000, 59 Vic. No 6.

SCHEDULE V.

STATEMENT showing the Strength of the Staff and Annual Rate of Salaries as on the 31st December, 1897, and 31st December, 1898.

Branches	Numbers		Salaries.	
	31st Dec, 1897	31st Dec, 1898	31st Dec, 1897.	31st Dec, 1898.
Administrative Branch (Head Office) .....	166	168	£ 33,324	£ 32,800
Survey Branch (Head Office) .....	138	131	30,601	29,310
Trigonometrical Branch .....	8	8	2,275	2,325
Local Land Boards .....	131	133	30,344	30,962
District Survey Offices .....	179	174	46,892	47,011
Land Agents and Clerks .....	34	35	10,015	9,990
Land Appeal Court .....	7	7	5,019	5,019
Church and School Lands .....	3	3	600	600
Forest Branch .....	23	9	2,783	1,925
<b>Totals</b> .....	689	668	161,853	159,972

SCHEDULE VI.

STATEMENT of Travelling Expenses and Fees paid in connection with Local Land Board Meetings during the year 1898.

District.	Particulars	Amount.	Total.
Armidale .....	Chairman's and clerk's travelling expenses .....	£ 389 14 8	£ 875 10 5
	Members' travelling expenses .....	170 15 6	
	Members' fees .....	283 10 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses ..	31 10 3	
Bourke .....	Chairman's and clerk's travelling expenses .....	362 5 11	779 6 2
	Members' travelling expenses .....	79 11 9	
	Members' fees .....	284 11 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses ..	52 17 6	
Dubbo .....	Chairman's and clerk's travelling expenses .....	190 10 6	712 5 8
	Members' travelling expenses .....	67 8 11	
	Members' fees .....	276 13 6	
	Fees and travelling expenses of surveyors, inspectors, and witnesses ..	177 12 9	
Forbes .....	Chairman's and clerk's travelling expenses .....	438 1 0	1,041 6 0
	Members' travelling expenses .....	45 8 9	
	Members' fees .....	438 18 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses ..	113 13 3	

## SCHEDULE VI.—continued.

District.	Particulars.	Amount.	Total.
		£ s. d.	£ s. d.
Goulburn .....	Chairman's and clerk's travelling expenses .....	572 1 3	1,186 14 9
	Members' travelling expenses .....	178 8 0	
	Members' fees .....	414 15 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	21 10 6	
Grafton .....	Chairman's and clerk's travelling expenses .....	350 16 3	635 14 11
	Members' travelling expenses .....	66 2 0	
	Members' fees .....	196 7 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	22 9 8	
Hay .....	Chairman's and clerk's travelling expenses .....	403 16 9	794 5 9
	Members' travelling expenses .....	27 18 0	
	Members' fees .....	343 2 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	19 9 0	
Maitland.....	Chairman's and clerk's travelling expenses .....	299 8 11	695 7 2
	Members' travelling expenses .....	135 0 6	
	Members' fees .....	213 3 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	47 14 9	
Moree .....	Chairman's and clerk's travelling expenses .....	251 18 9	498 9 2
	Members' travelling expenses .....	72 6 0	
	Members' fees .....	141 15 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	32 9 5	
Orange .....	Chairman's and clerk's travelling expenses .....	344 3 1	960 8 4
	Members' travelling expenses .....	122 9 7	
	Members' fees .....	428 8 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	65 7 8	
Sydney .....	Chairman's and clerk's travelling expenses .....	96 17 0	365 17 9
	Members' travelling expenses .....	14 12 2	
	Members' fees .....	228 18 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	25 10 7	
Tamworth .....	Chairman's and clerk's travelling expenses .....	300 10 2	861 16 6
	Members' travelling expenses .....	146 11 6	
	Members' fees .....	308 14 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	106 0 10	
Wagga Wagga .....	Chairman's and clerk's travelling expenses .....	424 7 10	1,368 3 8
	Members' travelling expenses .....	84 12 2	
	Members' fees .....	639 9 0	
	Fees and travelling expenses of surveyors, inspectors, and witnesses .....	219 14 8	
	Grand Total .....		£10,775 6 3

## SUMMARY.

Chairmen's and clerks' travelling expenses .....	£	s.	d.
Members' travelling expenses .....	4,424	12	1
Members' fees .....	1,211	4	10
Fees and travelling expenses of surveyors, inspectors, and witnesses .....	4,198	3	6
	941	5	10
	£10,775	6	3

## SCHEDULE VII.

STATEMENT of Revenue and Expenditure for the years 1886 to 1898 inclusive, showing the percentage of the latter to Revenue.

Year.	Total Expenditure.	*Extraordinary Expenses deducted.	Net Expenditure.	Decrease as compared with 1886.	Revenue.	Percentage of Net Expenditure to Revenue.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£	per cent.
1886 .....	555,873 5 10		555,873 5 10		1,599,714	34·00
1887 .....	684,312 1 7	175,269 13 8	509,042 7 11	46,830 17 11	2,323,681	21·00
1888 .....	472,336 8 2	96,355 14 4	375,980 13 10	179,892 12 0	2,154,409	17·00
1889 .....	399,754 10 4	41,407 19 1	358,346 11 3	197,526 14 7	2,067,385	17·00
1890 .....	421,242 14 9	33,719 17 5	387,522 17 4	168,350 8 6	2,165,528	17·00
1891 .....	435,156 2 9	26,778 1 6	408,378 1 3	147,495 4 7	2,197,090	18·00
1892 .....	410,842 0 8	43,023 17 5	367,818 3 3	188,055 2 7	2,154,717	17·00
1893 .....	379,531 10 11	57,346 2 0	322,185 8 11	233,687 16 11	2,147,144	15·00
1894 .....	336,835 19 2	34,866 19 11	301,968 19 3	253,904 6 7	2,075,885	14·54
1895 .....	320,308 7 9	30,397 8 4	289,910 19 5	265,962 6 8	1,960,605	14·78
1896 .....	341,049 6 11	56,388 1 1	284,661 5 10	271,212 0 0	1,882,857	15·11
1897 .....	361,345 16 1	96,012 19 5	265,332 16 8	290,540 9 2	1,891,907	14·02
1898 .....	327,071 18 3	70,607 9 5	256,464 8 10	299,408 17 0	2,002,415	12·80
	£ 5,445,660 3 2	762,174 3 7	4,683,485 19 7		26,623,337	

\* Includes expenditure mainly in connection with the administration of the Forest Branch, the Rabbit Branch, Roads under Public Roads Acts, Public Parks and Recreation Reserves, Labour Settlements, Land Appeal Court, and works paid from Loan Votes, not incurred in 1886.

## Extraordinary Expenses to be deducted from Expenditure for 1898 (Schedule VII).

	£	s.	d.
Special Services (see Return II) .....	18,221	6	1
Other Services (Loans) .....	39,568	13	3
Roads under Roads Act .....	3,468	3	0
Land Appeal Court .....	6,272	18	3
Forest Branch—Salaries and Contingencies (including Gosford Nursery).....	3,136	8	10
	£70,607	9	5



SCHEDULE VIII.

RETURN showing the Number and Area of Conditional Purchases applied for during 1898, with the amount of Deposits and Survey Fees received.

Local Land Board District and Land District.	Class of Land.	Section 26.				Section 42.				Section 47.				Total in each Class.																											
		No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.																								
		a.	r.	p.	£	s.	d.	£	s.	d.	a.	r.	p.	£	s.	d.	£	s.	d.																						
<b>Armidale—</b>																																									
Armidale .....	Ordinary lands	34	2,431	2	0	263	3	0	159	2	6	18	2,278	1	0	227	16	6	59	18	4	52	4,909	3	0	490	19	6	219	0	10										
	Special areas..	7	263	3	23	59	9	6	24	18	4	14	478	0	0	86	0	0	38	2	9	21	741	3	23	145	9	6	63	1	1										
Glen Innes .....	Ordinary lands	10	826	0	0	82	12	0	47	10	0	11	701	0	0	70	2	0	28	13	9	21	1,527	0	0	152	14	0	76	3	9										
	Special areas...	1	71	2	0	10	14	6	4	17	6	1	58	0	0	11	12	0	3	7	6	2	129	2	0	22	6	6	8	5	0										
Inverell .....	Ordinary lands	24	2,352	0	0	235	4	0	123	17	6	24	2,504	0	0	250	8	0	64	5	8	48	4,856	0	0	485	12	0	188	3	2										
	Special areas...	5	295	3	0	51	11	6	22	10	0	1	80	0	0	16	0	0	3	15	0	6	375	3	0	67	11	6	26	5	0										
Tenterfield .....	Ordinary lands	21	2,005	0	0	200	10	0	104	2	6	6	386	0	0	33	12	0	17	17	5	27	2,391	0	0	239	2	0	121	19	11										
	Special areas...	7	249	0	17	41	16	2	24	10	6	9	225	1	12	39	19	6	20	8	2	16	474	1	29	81	15	8	44	18	8										
Walcha .....	Ordinary lands	12	757	3	0	75	15	6	54	0	0	2	85	0	0	8	10	0	6	1	11	14	842	3	0	84	5	6	60	1	11										
	Total .....	121	9,452	2	0	1,020	16	2	565	8	10	86	6,795	2	12	749	0	0	242	10	6	207	16,248	0	12	1,769	16	2	807	19	4										
<b>Dubbo—</b>																																									
Coonamble.....	Ordinary lands	16	3,529	0	0	352	18	0	101	12	6	8	6,758	2	0	675	17	0	61	2	7	1	320	0	0	64	0	0	8	0	0	25	10,607	2	0	1,092	15	0	170	15	1
Dubbo .....	Ordinary lands	27	3,976	1	0	397	12	6	148	10	0	34	12,246	0	0	1,224	12	6	178	16	1	61	16,222	1	0	1,622	5	0	327	6	1										
	Special areas...	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	200	0	0	35	0	0	7	17	6	2	200	0	0	35	0	0	7	17	6										
Nyngan .....	Ordinary lands	6	445	0	0	44	10	0	29	2	6	15	4,035	2	0	403	11	0	72	2	4	21	4,480	2	0	448	1	0	101	4	10										
	Special areas...	1	20	2	24	10	6	6	3	1	0	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	20	2	24	10	6	6	3	1	0										
Warren .....	Ordinary lands	5	715	2	0	71	11	0	28	0	0	10	9,346	1	0	934	12	6	50	0	1	15	10,061	3	0	1,006	3	6	78	0	1										
	Special areas...	4	261	2	0	85	16	3	17	5	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	261	2	0	85	16	3	17	5	0										
	Total .....	59	8,947	3	24	962	14	3	327	11	0	69	32,586	1	0	3,273	13	0	369	18	7	1	320	0	0	64	0	0	8	0	0	129	41,854	0	24	4,300	7	3	705	9	7
<b>Forbes—</b>																																									
Barmedman .....	Ordinary lands	2	135	0	0	13	10	0	9	7	6	6	7,705	2	0	770	11	0	59	8	10	8	7,840	2	0	784	1	0	68	16	4										
	Special areas...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	320	0	0	36	0	0	9	0	0	2	320	0	0	36	0	0	9	0	0										
Barmedman East	Ordinary lands	1	201	0	0	20	2	0	6	12	6	4	788	1	0	78	16	6	19	6	4	5	989	1	0	98	18	6	25	18	10										
Condobolin .....	Ordinary lands	1	160	0	0	16	0	0	6	0	0	4	3,446	2	0	344	13	0	11	3	2	5	3,606	2	0	360	13	0	17	3	2										
	Special areas...	1	82	0	0	12	6	0	5	2	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	3,606	2	0	360	13	0	17	3	2										
Forbes .....	Ordinary lands	1	80	0	0	8	0	0	5	0	0	16	7,704	0	0	770	8	0	81	0	4	1	82	0	0	12	6	0	5	2	6										
	Special areas...	2	167	3	0	28	11	6	7	9	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	7,784	0	0	778	8	0	86	0	4										
Grenfell .....	Ordinary lands	2	1,026	0	0	102	12	0	19	5	0	9	1,551	1	0	155	2	6	40	8	4	3	330	1	0	52	19	0	12	1	1										
	Special areas...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	62	1	0	9	6	9	4	12	6	11	2,577	1	0	257	14	6	59	13	4										
Parkes .....	Ordinary lands	6	709	3	0	70	19	6	32	5	0	17	2,971	3	0	297	5	0	70	17	6	1	62	1	0	9	6	9	4	12	6										
	Special areas...	12	564	1	0	101	7	0	45	19	0	11	898	0	20	144	0	3	31	18	9	23	3,681	2	0	368	4	6	103	2	6										
	Total .....	28	3,125	3	0	373	8	0	137	0	8	71	25,610	0	20	2,630	10	6	332	7	8	99	28,735	3	20	3,003	18	6	469	8	4										
<b>Goulburn—</b>																																									
Bega .....	Ordinary lands	3	200	0	0	20	0	0	13	15	0	5	230	0	0	23	0	0	15	13	2	1	50	0	0	10	0	0	4	5	0	9	480	0	0	53	0	0	33	13	2
	Special areas...	1	42	1	0	6	6	9	4	2	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	42	1	0	6	6	9	4	2	6										
Bombala .....	Ordinary lands	7	1,100	0	0	110	0	0	41	7	6	7	497	3	0	49	15	6	19	12	6	14	1,597	3	0	159	15	6	61	0	0										
	Special areas...	3	577	0	0	89	1	0	18	17	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	577	0	0	89	1	0	18	17	6										
Boorowa .....	Ordinary lands	8	956	2	0	95	13	0	43	17	6	5	600	3	0	60	1	6	18	16	11	1	320	0	0	64	0	0	8	0	0	14	1,877	1	0	219	14	6	70	14	5
	Special areas...	3	397	1	10	86	13	0	16	12	6	3	217	0	0	38	15	3	10	15	9	6	614	1	10	125	8	3	27	8	3										
Braidwood.....	Ordinary lands	5	280	0	0	28	0	0	21	10	0	3	375	0	0	37	10	0	12	3	9	8	655	0	0	65	10	0	33	13	9										
	Special areas...	4	27	0	16	13	3	5	6	6	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	27	0	16	13	3	5	6	6	8										

SCHEDULE VIII—continued.

Local Land Board District and Land District.	Class of Land.	Section 26.				Section 42.				Section 47.				Total in each Class.			
		No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.
			a. r. p.	£ s. d.	£ s. d.		a. r. p.	£ s. d.	£ s. d.		a. r. p.	£ s. d.	£ s. d.		a. r. p.	£ s. d.	£ s. d.
Goulburn—contd.	Ordinary lands	35	2,931 0 0	293 2 0	168 17 6	14	713 0 0	71 6 0	43 12 7	...	.....	.....	49	3,644 0 0	364 8 0	212 10 1	
Cooma .....	Special areas...	5	158 2 23	39 1 10	11 15 8	6	419 1 0	73 17 4	21 2 0	...	.....	.....	11	577 3 23	112 19 2	32 17 8	
Eden .....	Ordinary lands	13	586 3 0	58 13 6	53 15 0	2	130 0 0	13 0 0	5 5 0	1	50 0 0	10 0 0	4 5 0	16	766 3 0	81 13 6	63 5 0
Goulburn .....	Ordinary lands	14	1,127 3 0	112 15 6	65 15 0	4	240 0 0	24 0 0	9 0 0	...	.....	.....	18	1,367 3 0	136 15 6	74 15 0	
Gunning .....	Ordinary lands	2	255 3 0	25 11 6	11 0 0	1	65 0 0	6 10 0	3 9 5	...	.....	.....	3	320 3 0	32 1 6	14 9 5	
	Special areas...	2	134 2 0	15 18 0	9 7 6	1	.....	.....	.....	...	.....	.....	2	134 2 0	15 18 0	9 7 6	
Moruya .....	Ordinary lands	1	80 0 0	8 0 0	5 0 0	1	67 2 0	6 15 0	3 11 3	...	.....	.....	2	147 2 0	14 15 0	8 11 3	
	Special areas...	1	18 3 30	3 15 9	2 18 0	...	.....	.....	.....	...	.....	.....	1	18 3 30	3 15 9	2 18 0	
Moss Vale .....	Ordinary lands	2	165 0 0	16 10 0	9 12 6	3	197 2 0	19 15 6	7 2 6	1	46 0 0	9 4 0	4 5 0	6	408 2 0	45 9 6	21 0 0
Queanbeyan .....	Ordinary lands	8	455 0 0	45 10 0	35 2 6	2	90 0 0	9 0 0	6 3 9	2	80 0 0	16 0 0	8 0 0	12	625 0 0	70 10 0	49 6 3
Yass .....	Ordinary lands	4	220 0 0	22 0 0	17 5 0	4	594 2 0	59 9 0	10 17 6	...	.....	.....	8	814 2 0	81 9 0	28 2 6	
	Special areas...	1	.....	.....	.....	1	62 2 0	9 7 6	3 9 5	...	.....	.....	1	62 2 0	9 7 6	3 9 5	
Young .....	Ordinary lands	1	40 0 0	4 0 0	4 0 0	7	2,722 2 0	272 5 0	27 18 9	...	.....	.....	8	2,762 2 0	276 5 0	31 18 9	
	Special areas...	5	582 1 19	89 17 0	22 12 6	3	347 0 0	56 6 0	12 7 7	...	.....	.....	8	929 1 19	146 3 0	35 0 1	
	Total .....	127	10,335 3 18	1,183 12 3	583 10 4	71	7,569 1 0	830 13 7	231 1 10	6	546 0 0	109 4 0	23 15 0	204	18,451 0 18	2,123 9 10	843 7 2
Grafton—	Ordinary lands	22	1,281 2 0	128 3 0	96 10 0	5	265 0 0	26 10 0	13 0 8	...	.....	.....	27	1,546 2 0	154 13 0	109 10 10	
Bellingen .....	Special areas...	2	119 0 0	17 17 0	9 0 0	2	97 1 0	14 11 9	6 7 6	...	.....	.....	4	216 1 0	32 8 9	15 7 6	
Casino .....	Ordinary lands	2	87 3 0	8 15 6	8 5 0	5	1,219 0 0	121 18 0	11 10 8	...	.....	.....	7	1,306 3 0	130 13 6	19 15 8	
	Special areas...	7	322 3 26	81 19 10	24 14 0	...	.....	.....	.....	...	.....	.....	7	322 3 26	81 19 10	24 14 0	
Grafton .....	Ordinary lands	8	620 2 2	62 1 0	37 17 6	2	150 1 0	15 0 6	3 13 2	2	90 0 0	18 0 0	8 5 0	12	860 3 0	95 1 6	49 15 8
	Special areas...	2	288 1 10	47 9 0	10 4 0	...	.....	.....	.....	...	.....	.....	2	288 1 10	47 9 0	10 4 0	
Kempsey .....	Ordinary lands	4	280 0 0	28 0 0	18 15 0	2	140 0 0	14 0 0	7 2 6	...	.....	.....	6	420 0 0	42 0 0	25 17 6	
	Special areas...	3	49 1 19	19 15 0	8 0 0	...	.....	.....	.....	...	.....	.....	3	49 1 19	19 15 0	8 0 0	
Lismore .....	Ordinary lands	5	336 0 0	33 12 0	23 10 0	9	690 0 0	69 0 0	31 17 6	...	.....	.....	14	1,026 0 0	102 12 0	55 7 6	
	Special areas...	18	542 1 26½	184 6 2	49 4 4	2	145 0 0	21 15 0	8 10 8	...	.....	.....	20	687 1 26½	206 1 2	57 15 0	
Murwillumbah...	Ordinary lands	6	470 0 0	47 0 0	29 7 6	6	1,075 0 0	107 10 0	17 5 0	...	.....	.....	12	1,545 0 0	154 10 0	46 12 6	
	Special areas...	9	154 0 21	41 2 10	21 10 4	3	8 3 20	3 11 0	2 5 0	...	.....	.....	12	163 0 1	44 13 10	23 15 4	
Port Macquarie...	Ordinary lands	6	280 0 0	28 0 0	25 0 0	...	.....	.....	.....	...	.....	.....	6	280 0 0	28 0 0	25 0 0	
	Special areas...	1	.....	.....	.....	1	100 0 0	15 0 0	3 18 9	...	.....	.....	1	100 0 0	15 0 0	3 18 9	
	Total .....	94	4,831 3 22½	728 1 4	361 17 8	37	3,890 1 20	408 16 3	105 11 5	2	90 0 0	18 0 0	8 5 0	133	8,812 1 2½	1,154 17 7	475 14 1
Hay—	Ordinary lands	1	160 0 0	16 0 0	6 0 0	2	644 2 0	64 9 0	.....	...	.....	.....	3	804 2 0	80 9 0	6 0 0	
Balranald South..	Special areas...	1	.....	.....	.....	1	59 0 0	8 17 0	3 7 6	...	.....	.....	1	59 0 0	8 17 0	3 7 6	
	Ordinary lands	1	72 0 0	7 4 0	4 17 6	10	2,459 0 0	245 18 0	28 19 5	...	.....	.....	11	2,531 0 0	253 2 0	33 16 11	
Deniliquin .....	Special areas...	4	2,560 0 0	512 0 0	43 0 0	10	3,543 3 39	698 0 5	66 2 8	...	.....	.....	14	6,103 3 39	1,210 0 5	109 2 8	
Hay .....	Ordinary lands	8	3,117 0 0	311 14 0	66 12 6	6	2,842 2 0	284 5 0	34 2 6	...	.....	.....	14	5,959 2 0	595 19 0	100 15 0	
Hillston .....	Ordinary lands	4	660 0 0	66 0 0	24 5 0	5	629 0 0	62 18 0	20 14 5	...	.....	.....	9	1,289 0 0	128 18 0	44 19 5	
	Total .....	18	6,569 0 0	912 18 0	144 15 0	34	10,177 3 39	1,364 7 5	153 6 6	...	.....	.....	52	16,746 3 39	2,277 5 5	298 1 6	

SCHEDULE VIII—continued.

Local Land Board District and Land District.	Class of Land.	Section 26.				Section 42.				Section 47.				Total in each Class.			
		No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.
			a. r. p.	£ s. d.	£ s. d.		a. r. p.	£ s. d.	£ s. d.		a. r. p.	£ s. d.	£ s. d.		a. r. p.	£ s. d.	£ s. d.
Maitland—	Ordinary lands	8	832 1 0	83 4 6	41 5 0	6	1,146 2 0	114 13 0	23 14 5	...	.....	.....	.....	14	1,978 3 0	197 17 6	64 19 5
	Special areas...	1	220 0 0	33 0 0	6 15 0	...	.....	.....	.....	...	.....	.....	.....	1	220 0 0	33 0 0	6 15 0
	Ordinary lands	4	165 0 0	16 10 0	16 2 6	...	.....	.....	.....	1	60 0 0	10 0 0	4 5 0	5	215 0 0	26 10 0	20 7 6
	Special areas...	1	27 1 13	5 9 4	3 8 0	...	.....	.....	.....	...	.....	.....	.....	1	27 1 13	5 9 4	3 8 0
	Ordinary lands	4	160 0 0	16 0 0	16 0 0	...	.....	.....	.....	...	.....	.....	.....	4	160 0 0	16 0 0	16 0 0
	Special areas...	1	13 2 10	3 7 10	2 8 0	1	63 1 0	15 16 3	3 9 5	...	.....	.....	.....	2	76 3 10	19 4 1	5 17 5
	Ordinary lands	2	118 0 0	11 16 0	9 0 0	2	89 3 0	8 19 6	6 3 9	...	.....	.....	.....	4	207 8 0	20 15 6	15 3 9
	Special areas...	3	164 0 0	26 12 0	13 2 6	1	40 0 0	8 0 0	3 0 0	...	.....	.....	.....	4	204 0 0	34 12 0	16 2 6
	Ordinary lands	...	.....	.....	.....	1	40 0 0	4 0 0	3 0 0	...	.....	.....	.....	1	40 0 0	4 0 0	3 0 0
	Special areas...	1	13 2 20	2 5 6	2 6 0	...	.....	.....	.....	1	40 0 0	8 0 0	4 0 0	1	13 2 20	2 5 6	2 6 0
	Ordinary lands	12	2,127 0 0	212 14 0	73 0 0	9	2,633 1 0	263 6 6	47 1 5	1	40 0 0	8 0 0	4 0 0	22	4,800 1 0	484 0 6	124 1 5
	Ordinary lands	4	310 0 0	31 0 0	19 7 6	1	50 0 0	5 0 0	4 5 0	...	.....	.....	.....	5	360 0 0	36 0 0	23 12 6
	Ordinary lands	2	90 0 0	9 0 0	8 5 0	1	100 0 0	10 0 0	3 18 9	...	.....	.....	.....	3	190 0 0	19 0 0	12 3 9
	Ordinary lands	15	800 2 0	80 1 0	65 0 0	5	200 0 0	20 0 0	12 0 0	...	.....	.....	.....	20	1,000 2 0	100 1 0	77 0 0
	Special areas...	3	213 1 0	31 19 9	14 10 0	1	66 2 0	9 19 6	3 11 3	...	.....	.....	.....	4	279 3 0	41 19 3	18 1 3
Ordinary lands	4	197 0 0	19 14 0	17 0 0	2	80 0 0	8 0 0	6 0 0	1	40 0 0	8 0 0	4 0 0	7	317 0 0	35 14 0	27 0 0	
Total .....	65	5,451 2 3	532 13 11	307 9 6	30	4,509 1 0	467 14 9	116 4 0	3	130 0 0	26 0 0	12 5 0	98	10,090 3 3	1,076 8 8	435 18 6	
Moree—																	
Ordinary lands	5	1,042 2 0	104 5 0	31 5 0	11	3,289 1 0	328 18 6	53 3 3	...	.....	.....	.....	16	4,331 3 0	433 3 6	84 8 3	
Ordinary lands	4	789 2 0	78 19 0	25 17 6	31	29,139 0 0	2,913 18 0	259 0 11	...	.....	.....	.....	35	29,928 2 0	2,992 17 0	284 18 5	
Ordinary lands	8	1,220 0 0	122 0 0	44 5 0	12	4,173 3 0	417 8 0	33 0 0	...	.....	.....	.....	20	5,393 3 0	539 8 0	77 5 0	
Ordinary lands	19	7,515 0 0	751 10 0	159 17 6	6	1,189 1 0	118 18 6	29 3 2	1	100 0 0	20 0 0	5 5 0	26	8,804 1 0	890 8 6	194 5 8	
Total .....	36	10,567 0 0	1,056 14 0	261 5 0	60	37,791 1 0	3,779 3 0	374 7 4	1	100 0 0	20 0 0	5 5 0	97	48,458 1 0	4,855 17 0	640 17 4	
Orange—																	
Ordinary lands	8	500 0 0	50 0 0	35 15 0	7	962 0 0	96 4 0	28 4 5	1	48 1 0	9 13 0	4 5 0	16	1,510 1 0	155 17 0	68 4 5	
Ordinary lands	5	310 0 0	31 0 0	23 10 0	1	40 0 0	4 0 0	3 0 0	...	.....	.....	.....	6	350 0 0	35 0 0	25 10 0	
Special areas...	13	80 0 15	20 1 11	18 16 8	5	132 1 23	21 13 4	9 0 0	...	.....	.....	.....	18	212 1 38	41 15 3	27 16 8	
Ordinary lands	3	140 0 0	14 0 0	12 10 0	4	533 1 0	53 6 6	16 11 11	...	.....	.....	.....	7	673 1 0	67 6 6	29 1 11	
Special areas...	6	756 0 0	136 12 9	31 13 6	2	331 3 0	58 1 0	9 3 10	...	.....	.....	.....	8	1,087 3 0	194 13 9	40 17 4	
Ordinary lands	8	406 0 0	40 12 0	34 7 6	2	90 0 0	9 0 0	5 17 9	...	.....	.....	.....	10	496 0 0	49 12 0	40 5 3	
Special areas...	...	.....	.....	.....	1	40 0 0	6 0 0	3 0 0	...	.....	.....	.....	1	40 0 0	6 0 0	3 0 0	
Ordinary lands	5	954 2 0	95 9 0	30 10 0	5	809 3 0	80 19 6	11 10 8	...	.....	.....	.....	10	1,764 1 0	176 8 6	42 0 8	
Special areas...	9	2,335 0 0	350 5 0	65 12 6	2	132 2 0	19 17 6	7 2 6	...	.....	.....	.....	11	2,467 2 0	370 2 6	72 15 0	
Ordinary lands	25	2,179 0 0	217 18 0	121 2 6	17	2,019 2 0	201 19 0	48 18 7	...	.....	.....	.....	42	4,198 2 0	419 17 0	170 1 1	
Special areas...	...	.....	.....	.....	1	46 0 0	5 15 0	3 3 9	...	.....	.....	.....	1	46 0 0	5 15 0	3 3 9	
Ordinary lands	14	915 0 0	91 10 0	63 12 6	14	1,154 2 0	115 9 0	41 9 5	1	250 0 0	50 0 0	7 2 6	29	2,319 2 0	256 19 0	112 4 5	
Ordinary lands	14	2,949 0 0	294 18 0	91 0 0	10	2,380 3 0	238 1 6	48 11 4	...	.....	.....	.....	24	5,329 3 0	532 19 6	139 11 4	
Special areas...	1	47 0 0	7 1 0	4 5 0	3	289 3 0	45 15 6	11 12 7	...	.....	.....	.....	4	336 3 0	52 16 6	15 17 7	
Total .....	111	11,571 2 15	1,349 7 8	531 15 2	74	8,962 0 23	956 1 10	247 6 9	2	298 1 0	59 13 0	11 7 6	187	20,831 3 38	2,365 2 6	790 9 5	

SCHEDULE VIII—continued.

Local Land Board District and Land District.	Class of Land.	Section 26.			Section 42.			Section 47.			Total in each Class.						
		No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.	No.	Area.	Deposit.	Survey Fee.				
Sydney—			a. r. p.	£ s. d.	£ s. d.	a. r. p.	£ s. d.	£ s. d.	a. r. p.	£ s. d.	£ s. d.	£ s. d.					
Milton .....	Ordinary lands	1	80 3 0	8 1 6	5 2 6	4	249 0 0	24 18 0	13 13 10	...	5	329 3 0	32 19 6	18 16 4			
Nowra .....	Ordinary lands	1	50 0 0	5 0 0	4 5 0	2	90 0 0	9 0 0	6 3 9	...	3	140 0 0	14 0 0	10 8 9			
Parramatta .....	Ordinary lands	...	.....	.....	.....	1	40 0 0	4 0 0	3 0 0	...	1	40 0 0	4 0 0	3 0 0			
Penrith .....	Ordinary lands	1	40 0 0	4 0 0	4 0 0	...	.....	.....	.....	4	164 0 0	32 16 0	15 1 11	5	204 0 0	36 16 0	19 1 11
Picton .....	Ordinary lands	3	160 0 0	16 0 0	13 0 0	1	40 0 0	4 0 0	3 0 0	...	4	200 0 0	20 0 0	16 0 0			
Windsor.....	Ordinary lands	3	160 0 0	16 0 0	13 0 0	2	163 0 0	16 6 0	7 8 2	2	135 0 0	27 0 0	9 5 0	7	458 0 0	59 6 0	29 13 2
	Special areas...	7	282 0 30	75 0 8	27 11 0	...	.....	.....	.....	7	282 0 30	75 0 8	27 11 0	7	282 0 30	75 0 8	27 11 0
	Total .....	16	772 3 30	124 2 2	66 18 6	10	582 0 0	58 4 0	33 5 9	6	299 0 0	59 16 0	24 6 11	32	1,653 3 30	242 2 2	124 11 2
Tamworth—																	
Coonabarrabran...	Ordinary lands	8	1,020 0 0	102 0 0	41 5 0	4	621 2 0	62 3 0	12 16 5	1	220 0 0	44 0 0	5 1 3	13	1,861 2 0	208 3 0	59 2 8
Gunnedah .....	Ordinary lands	8	1,705 0 0	170 10 0	51 15 0	17	8,122 0 0	812 4 0	102 8 3	...	25	9,827 0 0	982 14 0	154 3 3			
	Special areas...	8	608 0 31	155 1 1	26 18 4	6	1,418 3 0	279 9 0	26 5 1	...	14	2,026 3 31	434 10 1	53 3 5			
Murrurundi .....	Ordinary lands	5	498 1 0	49 16 6	25 15 0	4	1,313 3 0	131 7 6	8 6 11	...	9	1,812 0 0	181 4 0	34 1 11			
	Special areas...	2	322 3 36	57 11 5	9 0 0	1	41 0 0	6 3 0	3 1 11	...	3	363 3 36	63 14 5	12 1 11			
Narrabri .....	Ordinary lands	7	410 0 0	41 0 0	30 5 0	8	3,508 3 0	350 17 6	40 8 2	...	15	3,918 3 0	391 17 6	70 13 2			
	Special areas...	...	.....	.....	.....	3	1,270 0 0	190 10 0	19 17 7	...	3	1,270 0 0	190 10 0	19 17 7			
Tamworth .....	Ordinary lands	12	1,744 2 0	174 9 0	68 0 0	24	5,560 3 0	556 1 6	97 10 4	...	36	7,305 1 0	730 10 6	165 10 4			
	Special areas...	25	2,059 0 28	532 19 1	91 16 2	4	195 3 0	48 15 2	12 15 1	...	29	2,254 3 28	581 14 3	104 11 3			
	Total .....	75	8,368 0 15	1,283 7 1	344 14 6	71	22,052 1 0	2,437 10 8	323 9 9	1	220 0 0	44 0 0	5 1 3	147	30,640 1 15	3,764 17 9	673 5 6
Wagga Wagga—																	
Albury .....	Ordinary lands	7	1,420 0 0	142 0 0	45 7 6	7	2,234 1 0	223 8 6	27 0 1	...	14	3,654 1 0	365 8 6	72 7 7			
	Special areas...	3	355 1 0	85 15 0	16 10 0	...	.....	.....	.....	3	355 1 0	85 15 0	16 10 0				
Cootamundra .....	Ordinary lands	3	726 2 0	72 13 0	21 2 6	2	225 0 0	22 10 0	8 1 5	...	5	951 2 0	95 3 0	29 3 11			
	Special areas...	5	801 3 0	139 15 3	28 7 6	5	428 2 0	67 5 6	17 8 9	...	10	1,230 1 0	207 0 9	45 16 3			
do Central	Ordinary lands	...	.....	.....	.....	1	100 0 0	10 0 0	...	1	100 0 0	10 0 0	.....				
Corowa .....	Ordinary lands	1	142 0 0	14 4 0	5 17 6	8	3,451 1 0	345 2 6	46 12 1	...	9	3,593 1 0	359 6 6	52 9 7			
	Special areas...	10	4,724 3 0	800 16 2	97 19 3	13	5,187 0 0	960 19 2	83 9 1	...	23	9,911 3 0	1,761 15 4	181 8 4			
Gundagai .....	Ordinary lands	7	1,400 0 0	140 0 0	43 17 6	3	738 3 0	73 17 6	11 12 7	...	10	2,138 3 0	213 17 6	55 10 1			
Narrandera .....	Ordinary lands	6	1,911 0 0	191 2 0	47 7 6	10	3,965 0 0	396 10 0	57 2 8	...	16	5,876 0 0	587 12 0	104 10 2			
	Special areas...	1	115 3 0	17 7 3	5 10 0	2	155 3 0	23 7 3	7 2 6	...	3	271 2 0	40 14 6	12 12 6			
Tumbarumba ...	Ordinary lands	4	640 0 0	64 0 0	24 0 0	3	380 0 0	38 0 0	3 15 0	...	7	1,020 0 0	102 0 0	27 15 0			
	Special areas...	...	.....	.....	.....	2	240 0 0	36 0 0	8 5 0	...	2	240 0 0	36 0 0	8 5 0			
Tumbarumba N.	Ordinary lands	1	57 0 0	5 14 0	4 10 0	1	165 0 0	16 10 0	4 11 11	...	2	222 0 0	22 4 0	9 1 11			
Tumut .....	Ordinary lands	10	1,120 2 0	112 1 0	52 12 6	5	370 0 0	37 0 0	17 10 8	...	15	1,490 2 0	149 1 0	70 3 2			
Urana .....	Ordinary lands	2	640 0 0	64 0 0	14 7 6	5	2,054 0 0	205 8 0	30 19 0	...	7	2,694 0 0	269 8 0	45 6 6			
	Special areas...	2	680 0 0	120 0 0	16 7 6	8	2,168 2 10	326 19 0	43 3 8	...	10	2,848 2 10	446 19 0	59 11 2			
Wagga Wagga...	Ordinary lands	2	400 0 0	40 0 0	13 0 0	12	2,657 0 0	265 14 0	57 11 4	...	14	3,057 0 0	305 14 0	70 11 4			
	Special areas...	30	8,822 3 0	1,629 19 11	224 10 0	25	7,136 2 0	1,203 4 4	138 4 1	...	55	15,959 1 0	2,833 4 3	362 14 1			
	Total .....	94	23,957 1 0	3,639 7 7	661 6 9	112	31,656 2 10	4,251 15 9	562 9 10	...	206	55,613 3 10	7,891 3 4	1,223 16 7			

SUMMARY.

Total .....	{	Ordinary lands	603	73,358 0 0	7,335 16 0	3,172 7 6	565	165,315 0 0	16,531 13 0	2,417 2 11	22	2,003 1 0	400 13 0	103 5 8	1,190	240,676 1 0	24,268 2 0	5,692 16 1
	{	Special areas...	241	30,593 1 17½	5,881 6 5	1,121 5 5	160	27,868 0 4	4,675 17 9	674 17 0	...	401	57,461 1 11½	10,557 4 2	401	57,461 1 11½	10,557 4 2	1,796 2 5
Grand Total for the whole Colony...			844	103,951 1 17½	13,217 2 5	4,293 12 11	725	192,183 0 4	21,207 10 9	3,091 19 11	22	2,003 1 0	400 13 0	103 5 8	1,591	298,137 2 11½	34,825 6 2	7,488 18 6

SCHEDULE IX.

SUMMARY of Number and Area of Conditional Purchases applied for from the year 1862 to 1898 inclusive.

Years.	Applied for.			Years.	Applied for.		
	No.	Area.			No.	Area.	
1862 to 1869	27,994	a.	r. p.	1885	5,377	a.	r. p.
1870	4,471	2,161,390	2 2	1886	6,080	1,163,351	1 20
1871	4,751	329,318	1 2	1887	4,769	963,196	2 27
1872	8,281	358,682	2 8	1888	5,364	793,004	0 31
1873	13,417	749,586	3 0	1889	6,205	865,199	0 38
1874	14,510	1,391,719	0 0	1890	8,526	903,159	2 9
1875	14,517	1,586,282	0 0	1891	6,153	1,713,577	1 0
1876	12,654	1,756,678	0 0	1892	4,396	1,303,094	0 12
1877	12,009	1,984,212	0 0	1893	3,393	816,399	1 19
1878	12,602	1,699,816	0 0	1894	2,617	533,805	2 4
1879	7,540	1,588,247	3 18	1895	1,751	414,355	0 10½
1880	8,553	924,136	1 0	1896	1,279	253,431	0 12
1881	14,220	1,147,001	2 39	1897	1,306	199,449	3 37
1882	14,606	2,329,202	0 15	1898	1,591	241,789	1 4½
1883	10,674	2,392,217	2 35			293,137	2 11½
1884	10,657	1,617,712	0 7				
		1,453,937	0 33	Total	250,293	33,934,090	0 34½

SCHEDULE X.

RETURN showing the Number of Conditional Purchase Applications Confirmed or Disallowed during 1898.

Land Board District and Land District.	Class of Application.	Applications made during 1898.				Applications made prior to 1st January, 1898.				Total.			
		Confirmed.		Disallowed.		Confirmed.		Disallowed.		Confirmed.		Disallowed.	
ARMIDALE.		No.	a.	r.	p.	No.	a.	r.	p.	No.	a.	r.	p.
Armidale	Ordinary	16	1,604	2	0	6	270	0	0	4	765	0	0
	Additional	9	1,221	0	0	1	50	0	0	3	156	3	0
Do	Special area	6	239	3	2½	4	209	2	0	10	449	1	23
	Additional	11	254	2	0	1	40	0	0	4	171	3	0
Glen Innes	Ordinary	5	431	0	0	1	40	0	0	1	60	0	0
	Additional	7	545	3	0	3	309	1	0	15	526	1	0
Do	Special area	1	71	2	0	1	71	2	0	6	491	0	0
	Additional	1	58	0	0	1	58	0	0	10	855	0	0
Inverell	Ordinary	8	493	0	0	6	716	0	0	13	1,038	0	0
	Additional	9	1,330	0	0	4	400	0	0	13	1,335	0	0
Do	Special area	3	180	0	0	4	205	0	0	13	1,335	0	0
	Additional	3	180	0	0	4	205	0	0	3	180	0	0
Tenterfield	Ordinary	8	929	3	0	2	200	0	0	5	243	0	0
	Additional	1	40	0	0	4	231	0	0	13	1,172	3	0
Do	Special area	5	126	1	17	1	60	0	0	5	311	0	0
	Additional	4	127	3	30	3	45	1	34	5	126	1	17
Walcha	Ordinary	4	205	1	0	2	110	0	0	4	127	3	30
	Additional	1	45	0	0	1	115	3	0	4	205	1	0
		2	160	3	0	2	160	3	0	2	160	3	0
	SUMMARY.												
	Ordinary	41	3,693	2	0	17	1,330	0	0	15	1,613	0	0
	Additional	27	3,221	3	0	6	490	0	0	15	1,017	3	0
	Total	68	6,885	1	0	23	1,820	0	0	30	2,630	3	0
	Special area	15	617	3	0	1	60	0	0	4	209	2	0
	Additional	16	540	1	30	4	85	1	34	4	171	3	0
	Total	31	1,158	0	30	5	145	1	34	8	381	1	0
	Grand Total	99	8,043	1	30	28	1,965	1	34	38	3,012	0	0
										4	1,175	0	0
		137	11,055	1	30	32	3,140	1	34				
BOURKE.													
Brewarrina East	Ordinary	1	1,152	0	0	1	1,152	0	0	1	1,152	0	0
	Additional	1	120	0	0	1	120	0	0	1	120	0	0
	Total	2	1,272	0	0	2	1,272	0	0	2	1,272	0	0
DUBBO.													
Coonamble	Ordinary	2	329	0	0	8	2,140	0	0	5	873	0	0
	Additional	5	6,327	1	0	2	227	0	0	1	640	0	0
	Non residential	1	320	0	0	1	320	0	0	7	6,554	1	0
Dubbo	Ordinary	5	918	1	0	11	1,598	0	0	6	610	0	0
	Additional	5	1,243	2	0	4	1,560	0	0	19	5,542	1	0
Do	Special area	1	100	0	0	1	100	0	0	2	399	0	0
	Additional	1	100	0	0	1	100	0	0	24	6,785	3	0
Nyngan	Ordinary	1	75	0	0	5	370	0	0	1	260	0	0
	Additional	5	1,733	2	0	3	688	0	0	2	486	0	0
Warren	Ordinary	2	500	2	0	1	135	0	0	2	715	0	0
	Additional	3	3,210	2	0	3	726	1	0	2	860	0	0
Do	Special area	2	160	0	0	1	51	2	0	5	4,070	2	0
	Additional	2	160	0	0	1	51	2	0	2	160	0	0
	SUMMARY.												
	Ordinary	10	1,822	3	0	25	4,243	0	0	14	2,458	0	0
	Additional	19	12,514	3	0	10	2,974	1	0	23	6,629	1	0
	Non-residential	1	320	0	0	1	320	0	0	1	320	0	0
	Total	28	14,387	2	0	36	7,537	1	0	37	9,087	1	0
	Special area	2	160	0	0	1	51	2	0	3	784	0	0
	Additional	1	100	0	0	1	100	0	0	4	885	0	0
	Total	3	260	0	0	2	151	2	0	8	1,989	0	0
	Grand Total	31	14,597	2	0	38	7,688	3	0	65	23,424	3	0
		44	9,526	1	0	46	9,677	3	0				

SCHEDULE X—continued.

Land Board District and Land District.	Class of Application.	Applications made during 1898.				Applications made prior to 1st January, 1898.				Total.			
		Confirmed.		Disallowed.		Confirmed.		Disallowed.		Confirmed.		Disallowed.	
		No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.
<b>FORBES.</b>													
Barnedman .....	Ordinary ..	2	135 0 0			1	200 0 0			3	335 0 0		
Do .....	Special area	5	6,013 2 0			2	825 1 0			7	6,838 3 0		
Barnedman East .....	Ordinary ..	1	201 0 0	1	160 0 0	1	50 0 0			2	251 0 0	1	160 0 0
Condobolin .....	Ordinary ..	2	393 1 0	1	320 0 0	2	356 2 0			4	3,733 2 0		
Do .....	Special area	1	160 0 0			1	327 0 0			2	516 2 0		
Forbes .....	Ordinary ..	3	3,406 2 0			2	360 0 0			5	7,840 0 0		
Do .....	Special area	1	82 0 0			1	539 3 0			2	82 0 0		
Grenfell .....	Ordinary ..	15	7,480 0 0			3	103 0 0			18	7,072 0 0		
Do .....	Special area	2	167 3 0	1	162 2 0	2	1,026 0 0			5	1,355 2 0	1	162 2 0
Parkes .....	Ordinary ..	4	431 1 0	2	899 0 0	1	62 1 0	1	53 3 0	6	431 1 0	4	1,026 0 0
Do .....	Special area	3	438 3 0	2	235 0 0	1	60 0 0			6	62 1 0	1	53 3 0
Do .....	Special area	7	1,511 3 0	5	545 3 0	1	101 2 0	4	520 0 0	17	1,613 1 0	9	1,065 3 0
Do .....	Special area	12	564 1 0							12	564 1 0		
Do .....	Special area	6	193 0 20	2	660 0 0	2	613 2 0			8	806 2 20	2	660 0 0
<b>SUMMARY.</b>													
Ordinary ..	Original ..	7	934 3 0	4	1,261 0 0	5	666 2 0			12	1,601 1 0	4	1,261 0 0
Ordinary ..	Additional ..	30	19,236 1 0	9	1,764 3 0	6	1,613 3 0	5	754 0 0	42	20,850 0 0	14	2,518 3 0
Special area ..	Original ..	15	814 0 0			1	539 3 0			16	1,353 3 0		
Special area ..	Additional ..	7	353 0 20	4	982 2 0	6	778 3 0	1	53 3 0	13	1,131 3 20	5	1,036 1 0
Grand Total .....		65	21,338 0 20	17	4,008 1 0	18	3,508 3 0	6	807 3 0	83	24,936 3 20	23	4,816 0 0
<b>GOULBURN.</b>													
Bega .....	Ordinary ..	1	100 0 0	1	40 0 0	3	140 0 0			4	240 0 0	1	40 0 0
Do .....	Special area	2	112 0 0	2	98 0 0					2	112 0 0	2	98 0 0
Bombala .....	Ordinary ..	1	50 0 0							1	50 0 0		
Do .....	Special area	1	42 1 0							1	42 1 0		
Bombala .....	Ordinary ..	2	400 0 0	2	350 0 0					2	400 0 0	2	350 0 0
Do .....	Special area	3	255 0 0	2	102 3 0	1	180 0 0			4	435 0 0	2	102 3 0
Boorowa .....	Ordinary ..	2	527 0 0			3	160 0 0			5	687 0 0		
Do .....	Special area	1	76 3 0	4	489 2 0	2	180 0 0	1	80 0 0	3	256 3 0	5	569 2 0
Do .....	Special area	4	220 3 0	1	320 0 0	2	293 3 0	1	43 0 0	6	574 2 0	1	43 0 0
Braidwood .....	Ordinary ..	3	397 1 10			1	170 2 0			4	557 3 10		
Do .....	Special area	1	73 2 0	2	143 2 0	1	74 2 0			2	148 0 0	2	143 2 0
Cooma .....	Ordinary ..	2	160 0 0			1	100 0 0			3	260 0 0		
Do .....	Special area	3	21 0 5	1	195 0 0	2	90 0 0			2	90 0 0	1	195 0 0
Cooma .....	Ordinary ..	11	929 1 0	6	375 0 0	7	397 1 0	2	140 0 0	18	1,326 2 0	8	515 0 0
Do .....	Special area	5	237 0 0	2	90 0 0	7	757 0 0			12	594 0 0	2	90 0 0
Eden .....	Ordinary ..	2	148 3 10	2	7 3 13	3	212 3 0			5	361 2 10	2	7 3 13
Do .....	Special area	3	191 0 0	3	223 1 0	2	111 0 0			5	302 0 0	3	223 1 0
Goulburn .....	Ordinary ..	4	196 3 0	4	170 0 0	1	50 0 0			5	246 3 0	4	170 0 0
Do .....	Special area	1	40 0 0	1	90 0 0	1	40 0 0	1	50 0 0	2	80 0 0	2	140 0 0
Gunning .....	Ordinary ..	2	190 0 0	2	175 0 0	1	40 0 0	1	64 0 0	3	230 0 0	3	239 0 0
Do .....	Special area	1	120 0 0	1	40 0 0	3	125 2 0	1	40 0 0	4	245 2 0	2	80 0 0
Moruya .....	Ordinary ..	1	60 0 0	1	195 3 0	1	40 0 0			2	100 0 0	1	195 3 0
Do .....	Special area	1	49 0 0							1	49 0 0		
Moss Vale .....	Ordinary ..	1	80 0 0			2	80 0 0	4	480 0 0	2	50 0 0	4	480 0 0
Do .....	Special area	2	80 0 0			2	80 0 0			2	80 0 0		
Queanbeyan .....	Ordinary ..	1	18 3 30			1	80 0 0			1	18 3 30		
Do .....	Special area	2	117 2 0			2	213 1 0			4	360 3 0		
Queanbeyan .....	Ordinary ..	1	46 0 0							1	46 0 0		
Do .....	Special area	4	215 0 0	1	50 0 0			1	50 0 0	4	215 0 0	1	50 0 0
Yass .....	Ordinary ..	1	40 0 0	1	100 0 0	4	461 3 0	1	160 0 0	5	501 3 0	1	100 0 0
Do .....	Special area	1	354 2 0							1	354 2 0		
Young .....	Ordinary ..	1	62 0 0							1	62 0 0		
Do .....	Special area	1	40 0 0							1	40 0 0		
Young .....	Ordinary ..	2	1,131 1 0	2	1,131 1 0	2	407 3 0			4	1,539 0 0	2	1,131 1 0
Do .....	Special area	5	583 1 19			3	340 0 0	1	320 0 0	8	923 1 19	1	320 0 0
Do .....	Special area	2	223 2 0							2	223 2 0		
<b>SUMMARY.</b>													
Ordinary ..	Original ..	30	2,407 3 0	20	1,795 1 0	23	1,569 0 0	10	974 0 0	53	3,976 3 0	30	2,769 1 0
Ordinary ..	Additional ..	21	2,648 0 0	14	1,962 0 0	22	1,817 1 0	3	133 0 0	43	4,465 1 0	17	2,095 0 0
Ordinary ..	Non residential	2	96 0 0	2	360 0 0					2	96 0 0	2	360 0 0
Total .....		53	5,151 3 0	36	4,117 1 0	45	3,386 1 0	13	1,107 0 0	98	8,538 0 0	49	5,224 1 0
Special area ..	Original ..	18	1,787 2 34	2	7 3 13	11	875 3 9	1	320 0 0	29	2,663 2 3	3	327 3 13
Special area ..	Additional ..	7	550 2 0	5	371 3 0	3	185 2 0			10	736 0 0	5	371 3 0
Total .....		25	2,338 0 34	7	379 2 13	14	1,061 1 9	1	320 0 0	39	3,399 2 3	8	699 2 13
Grand Total .....		78	7,489 3 34	43	4,496 3 13	59	4,447 2 9	14	1,427 0 0	137	11,937 2 3	57	5,923 3 13

SCHEDULE X—continued.

Land Board District and Land District.	Class of Application.	Applications made during 1898.				Applications made prior to 1st January, 1898.				Total.			
		Confirmed.		Disallowed.		Confirmed.		Disallowed.		Confirmed.		Disallowed.	
		No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.
<b>GRAFTON.</b>													
Bellingden	Ordinary	12	730 0 0	3	163 3 0	10	466 0 0			22	1,196 0 0	3	163 3 0
		4	225 0 0	1	57 1 0					4	225 0 0	1	57 1 0
Do	Special area	2	123 0 0							2	123 0 0		
Casino	Ordinary	1	62 0 0							1	62 0 0		
Do	Special area	2	87 3 0			4	690 0 0	1	100 0 0	6	777 3 0	1	100 0 0
Grafton	Ordinary	3	1,069 0 0							3	1,069 0 0		
Do	Special area	3	120 0 0			5	237 3 30	1	11 3 30	8	357 3 30	1	11 3 30
Do	Special area	6	467 3 0	2	152 3 0	6	390 0 0	2	80 0 0	12	857 3 0	4	282 3 0
Do	Special area	2	150 1 0			1	40 0 0			3	190 1 0		
Do	Special area	2	90 0 0							2	90 0 0		
Kempsey	Ordinary	2	288 1 10							2	288 1 10		
Do	Special area	3	267 0 0			1	40 0 0			4	307 0 0		
Lismore	Ordinary	2	142 0 0			1	80 0 0			3	222 0 0		
Do	Special area	3	49 1 19							3	49 1 19		
Do	Special area	3	196 0 0			1	121 0 0			4	317 0 0		
Do	Special area	2	145 0 0	2	117 2 0					2	145 0 0	2	117 2 0
Murwillumbah	Ordinary	13	287 0 7 1/2	2	145 0 21	9	524 1 0	1	6 2 7	22	811 1 7 1/2	3	151 2 28
Do	Special area	1	72 2 0	1	72 2 0					1	72 2 0	1	72 2 0
Do	Special area	2	109 0 0	4	953 0 0	2	200 0 0			4	309 0 0	4	953 0 0
Port Macquarie	Ordinary	4	33 3 3 1/2	2	21 2 23	2	14 3 1	2	12 1 4	6	48 2 9 1/2	4	33 3 27
Do	Special area	1	2 2 0							1	2 2 0		
Do	Special area	2	80 0 0	1	80 0 0	1	40 2 0			3	120 2 0	1	80 0 0
Do	Special area	1	100 0 0							1	100 0 0		
<b>SUMMARY.</b>													
	Ordinary	33	1,937 2 0	10	1,354 2 0	25	1,947 2 0	3	180 0 0	55	3,885 0 0	13	1,534 2 0
		13	1,731 1 0	3	174 3 0	2	120 0 0			15	1,851 1 0	3	174 3 0
		2	90 0 0			1	73 3 0			3	163 3 0		
	Total	45	3,758 3 0	13	1,529 1 0	28	2,141 1 0	3	180 0 0	73	5,900 0 0	16	1,709 1 0
	Special area	27	906 2 5	4	166 3 4	16	776 3 31	4	30 3 1	43	1,683 1 36	8	197 2 5
		4	237 0 0	1	72 2 0	2	19 2 20			6	256 2 20	1	72 2 0
	Total	31	1,143 2 5	5	239 1 4	18	796 2 11	4	30 3 1	49	1,940 0 16	9	270 0 5
	Grand Total	76	4,902 1 5	18	1,768 2 4	46	2,787 3 11	7	210 3 1	122	7,840 0 16	25	1,979 1 5
<b>HAY.</b>													
Balranald South	Ordinary	2	644 2 0			1	150 0 0			1	150 0 0		
Do	Special area	1	59 0 0							2	644 2 0		
Deniliquin	Ordinary	1	72 0 0							1	59 0 0		
Do	Special area	5	1,500 3 0	3	152 0 0			1	480 2 0	5	1,500 3 0	4	632 2 0
Hay	Ordinary	1	640 0 0	2	1,280 0 0					1	640 0 0	2	1,280 0 0
Do	Special area	3	690 0 0	1	1,314 3 0			1	55 1 0	3	690 0 0	4	1,370 0 0
Hillston	Ordinary	5	2,360 0 0	1	160 0 0					5	2,360 0 0	1	160 0 0
Do	Special area	3	1,296 3 0			1	1,092 2 0			4	2,399 1 0		
Hillston	Ordinary	3	426 0 0							3	426 0 0		
Do	Special area	4	590 1 0	1	46 0 0	1	250 0 0			5	840 1 0	1	46 0 0
Do	Special area	28	8,279 1 0	10	2,952 3 0	3	1,492 2 0	2	535 3 0	31	9,771 3 0	12	3,488 2 0
<b>SUMMARY.</b>													
	Ordinary	9	2,838 0 0	1	160 0 0	1	150 0 0	1	480 2 0	10	3,008 0 0	2	640 2 0
		14	4,032 1 0	4	198 0 0	2	1,342 2 0			16	5,374 3 0	4	198 0 0
	Total	23	6,890 1 0	5	358 0 0	3	1,492 2 0	1	480 2 0	26	8,382 3 0	6	838 2 0
	Special area	1	640 0 0	2	1,280 0 0					1	640 0 0	2	1,280 0 0
		4	749 0 0	3	1,314 3 0			1	55 1 0	4	749 0 0	4	1,370 0 0
	Total	5	1,389 0 0	5	2,594 3 0			1	55 1 0	5	1,389 0 0	6	2,650 0 0
	Grand Total	28	8,279 1 0	10	2,952 3 0	3	1,492 2 0	2	535 3 0	31	9,771 3 0	12	3,488 2 0
<b>MAITLAND.</b>													
Cassilis	Ordinary	4	512 1 0	3	190 0 0			1	191 3 0	4	542 1 0	4	381 3 0
Do	Special area	4	1,066 2 0	1	100 0 0	2	140 0 0	1	120 0 0	6	1,146 2 0	2	220 0 0
Do	Special area	1	220 1 0							1	220 1 0		
Gosford	Ordinary	1	40 0 0							1	40 0 0		
Do	Special area	1	40 0 0			1	40 0 0			1	40 0 0		
Do	Special area	1	27 1 13			1	10 0 9			2	37 1 22		
Maitland	Ordinary	2	80 0 0							2	80 0 0		
Do	Special area	1	63 1 0							1	63 1 0		
Muswellbrook	Ordinary	1	40 0 0	1	78 0 0	1	130 0 0	1	40 0 0	2	170 0 0	2	118 0 0
Do	Special area	1	49 3 0	1	40 0 0					1	49 3 0	1	40 0 0
Do	Special area	3	164 0 0							3	164 0 0		
Do	Special area	1	40 0 0							1	40 0 0		
Paterson	Ordinary	1	40 0 0			1	100 0 0			2	140 0 0		
Raymond Terrace	Ordinary			1	13 2 20							1	13 2 20
Do	Special area	7	1,015 0 0	2	257 0 0	2	360 0 0	1	50 0 0	9	1,375 0 0	3	307 0 0
Do	Special area	4	1,513 1 0	3	875 0 0					4	1,513 1 0	3	875 0 0
Do	Special area	1	40 0 0							1	40 0 0		
Singleton	Ordinary	2	140 0 0	1	80 0 0					2	140 0 0	1	80 0 0
Do	Special area	1	50 0 0							1	50 0 0		
Stroud	Ordinary	1	40 0 0			2	120 0 0			3	160 0 0		
Do	Special area	10	530 1 0	1	40 0 0	1	50 0 0	2	607 0 0	13	690 1 0	3	647 0 0
Do	Special area	2	87 0 0	1	40 0 0	1	84 1 0			3	164 1 0	1	40 0 0
Do	Special area	2	140 2 0	1	72 3 0	1	45 1 0			3	185 3 0	1	72 3 0
Do	Special area	1	66 2 0							1	66 2 0		
Wollombi	Ordinary	4	213 3 0							4	213 3 0		
Do	Special area	2	99 0 0					1	100 0 0	2	99 0 0	1	100 0 0
<b>SUMMARY.</b>													
	Ordinary	32	2,641 1 0	9	653 2 20	8	770 0 0	5	888 3 0	40	3,411 1 0	14	1,547 1 20
		14	2,788 2 0	7	1,105 0 0	5	364 1 0	2	220 0 0	19	3,152 3 0	9	1,325 0 0
		1	40 0 0			2	90 0 0			3	130 0 0		
	Total	47	5,469 3 0	16	1,763 2 20	15	1,224 1 0	7	1,108 3 0	62	6,694 0 0	23	2,872 1 20
	Special area	7	552 0 13	1	72 3 0	2	55 1 9			9	607 1 22	1	72 3 0
		3	169 3 0							3	169 3 0		
	Total	10	721 3 13	1	72 3 0	2	55 1 9			12	777 0 22	1	72 3 0
	Grand Total	57	6,191 2 13	17	1,836 1 20	17	1,279 2 9	7	1,108 3 0	74	7,471 0 22	24	2,945 0 20

SCHEDULE X—continued.

Land Board District and Land District	Class of Application	Applications made during 1898				Applications made prior to 1st January, 1898				Total			
		Confirmed		Disallowed		Confirmed		Disallowed		Confirmed		Disallowed	
		No	a r p	No	a r p	No	a r p	No	a r p	No	a r p	No	a r p
<b>MOREE</b>													
Bingara	Ordinary	1	40 0 0							1	40 0 0		
		8	2,746 1 0	1	140 0 0	1	140 0 0			9	2,886 1 0	1	140 0 0
Moree	Ordinary	2	196 2 0							2	196 2 0		
		27	27,424 0 0	1	300 0 0	1	1,920 0 0	1	340 0 0	28	29,344 0 0	2	640 0 0
Do	Special area									1	372 0 0		
		4	2,400 0 0	5	1,585 0 0	2	900 0 0			6	3,300 0 0	5	1,555 0 0
Walgett	Ordinary									1	140 0 0	5	1,139 1 0
										1	100 0 0	1	100 0 0
		1	100 0 0	1	100 0 0	2	240 0 0			3	340 0 0	1	100 0 0
Warialda	Ordinary	4	1,865 3 0	4	2,038 0 0	3	146 0 0			7	2,011 3 0	4	2,038 0 0
<b>SUMMARY</b>													
	Ordinary	8	2,736 2 0	6	1,685 0 0	5	1,730 0 0	2	650 0 0	13	4,516 2 0	6	1,685 0 0
		39	32,036 0 0	10	3,307 1 0	6	2,316 0 0			45	34,332 0 0	12	3,971 1 0
				1	100 0 0					1	100 0 0		
	Total	47	34,772 2 0	17	5,092 1 0	11	4,126 0 0	2	650 0 0	58	38,898 2 0	19	5,742 1 0
	Special area					1	372 0 0			1	372 0 0		
	Grand Total	47	34,772 2 0	17	5,092 1 0	12	4,498 0 0	2	650 0 0	59	39,270 2 0	19	5,742 1 0
<b>ORANGE</b>													
Bathurst	Ordinary	1	40 0 0	2	140 0 0	4	261 1 0	2	100 0 0	5	301 1 0	4	240 0 0
		1	50 0 0	4	412 0 0					1	50 0 0	4	412 0 0
Carcoar	Ordinary	1	50 0 0	1	80 0 0	4	217 0 0			5	267 0 0	1	80 0 0
						2	80 0 0			2	80 0 0		
Do	Special area	10	50 3 7	1	7 1 0					10	57 3 7	1	7 1 0
		2	116 1 33	1	4 2 16					2	116 1 33	1	4 2 16
Cowra	Ordinary	1	40 0 0	1	40 0 0					1	40 0 0	1	40 0 0
		1	103 1 0	1	70 0 0					1	103 1 0	1	70 0 0
Do	Special area	4	424 2 0	2	331 2 0	1	10 0 0			5	434 2 0	2	331 2 0
		2	331 3 0							2	331 3 0		
Lithgow	Ordinary	3	185 0 0	1	40 0 0	2	175 0 0	1	200 0 0	5	360 0 0	2	240 0 0
		1	53 0 0							1	53 0 0		
Molong	Ordinary	1	200 0 0	4	819 2 0	3	1,169 1 0	2	226 2 0	9	1,369 1 0	6	1,106 0 0
						7	765 2 0			7	765 2 0		
Do	Special area	6	1,612 0 0	2	523 0 0	4	474 0 0	1	238 0 0	10	2,086 0 0	3	761 0 0
		1	66 1 0	1	66 1 0	1	65 2 0			2	131 3 0	1	66 1 0
Mudgee	Ordinary	4	230 1 0	4	303 0 0	5	370 2 0	1	40 0 0	9	1,070 3 0	5	343 0 0
		4	470 0 0	1	60 0 0	2	205 0 0			6	675 0 0	1	60 0 0
Do	Special area			1	46 1 0					1	46 1 0		
Orange	Ordinary					1	65 3 0			1	65 3 0		
		2	138 2 0	1	70 0 0	3	499 0 0			5	637 2 0	1	75 0 0
Rylstone	Ordinary	3	249 3 0	4	290 0 0	3	204 1 0			6	454 0 0	4	290 0 0
		2	104 0 0			2	476 0 0			4	580 0 0		
Wellington	Ordinary	1	556 0 0			1	90 0 0			2	646 0 0		
		1	44 1 0							1	44 1 0		
Do	Special area	1	121 3 0	1	121 3 0					1	121 3 0	1	121 3 0
<b>SUMMARY</b>													
	Ordinary	15	957 3 0	14	1,557 2 0	23	3,668 0 0	6	566 2 0	43	4,625 3 0	20	2,124 0 0
		11	1,432 0 0	10	832 0 0	16	1,411 2 0			27	2,893 2 0	10	832 0 0
	Total	26	2,439 3 0	24	2,389 2 0	44	5,079 2 0	6	566 2 0	70	7,519 1 0	30	2,956 0 0
	Special area	21	2,131 2 7	5	861 3 3	5	434 0 0	1	233 0 0	26	2,615 2 7	6	1,099 3 0
		6	636 0 33	4	238 2 16	1	65 2 0			7	701 2 33	4	238 2 16
	Total	27	2,767 3 0	9	1,100 1 16	6	549 2 0	1	233 0 0	33	3,317 1 0	10	1,338 1 16
	Grand Total	53	5,207 2 0	33	3,489 3 16	50	5,629 0 0	7	804 2 0	103	10,836 2 0	40	4,294 1 16
<b>SYDNEY</b>													
Milton	Ordinary	1	40 0 0							1	40 0 0		
		2	125 1 0							2	125 1 0		
Parramatta	Ordinary					3	132 0 0			3	132 0 0		
		1	40 0 0							1	40 0 0		
Penrith	Ordinary	1	40 0 0							1	40 0 0		
		2	85 0 0	1	40 0 0	1	40 0 0			2	85 0 0	1	40 0 0
Picton	Ordinary			1	30 0 0	1	40 0 0			1	40 0 0	1	30 0 0
		1	70 0 0	1	40 0 0	9	488 0 0			10	558 0 0	1	40 0 0
Windsor	Ordinary	2	163 0 0			5	287 2 0			7	450 2 0	1	40 0 0
		1	40 0 0			3	140 0 0	1	40 0 0	4	180 0 0		
Do	Special area	6	254 2 0							6	254 2 0		
<b>SUMMARY</b>													
	Ordinary	3	150 0 0	2	120 0 0	13	660 0 0			16	810 0 0	2	120 0 0
		5	328 1 0			5	287 2 0	1	40 0 0	10	615 3 0	1	40 0 0
		3	125 0 0	1	40 0 0	3	140 0 0			6	265 0 0	1	40 0 0
	Total	11	603 1 0	3	160 0 0	21	1,087 2 0	1	40 0 0	32	1,690 3 0	4	200 0 0
	Special area	6	254 2 0							6	254 2 0		
	Total	6	254 2 0							6	254 2 0		
	Grand Total	17	857 3 0	3	160 0 0	21	1,087 2 0	1	40 0 0	38	1,945 1 0	4	200 0 0



SCHEDULE X—continued.

Land Board District and Land Distr.ct.	Class of Application.	Applications made during 1898.				Applications made prior to 1st January, 1898.				Total.				
		Confirmed.		Disallowed.		Confirmed.		Disallowed.		Confirmed.		Disallowed.		
		No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	
<b>TAMWORTH.</b>														
Coonabarrabran	Ordinary	Original	2	130 0 0	2	366 2 0	1	100 0 0	2	1,595 0 0	2	130 0 0	4	1,961 2 0
		Additional	1	200 0 0	1	220 0 0					2	300 0 0	1	220 0 0
		Non-residential												
Gunnedah	Ordinary	Original	4	1,330 0 0	8	3,059 0 0	3	373 0 0	10	5,253 3 0	8	3,059 0 0	1	5 0 0
Do	Special area	Original	6	443 3 31	2	363 0 0	2	15 1 18	1	5 0 0	3	855 3 0	2	363 0 0
		Additional	3	855 3 0							4	405 1 0		
Murrurundi	Ordinary	Original	2	274 3 0			1	135 0 0	3	1,203 2 0				
		Additional	2	1,068 2 0			1	3 0 2			2	5 3 38		
Do	Special area	Original	1	2 3 36			2	300 2 0	2	300 2 0	7	992 3 0	1	40 0 0
		Additional	6	416 0 0	2	680 0 0	2	1,577 0 0	2	244 0 0	7	4,144 3 0	4	924 0 0
Narrabri	Ordinary	Original	5	2,507 3 0	2	680 0 0	2	1,577 0 0	2	244 0 0	1	90 0 0	1	320 0 0
		Additional	1	300 0 0	1	485 0 0	14	3,360 0 0	1	40 0 0	20	4,381 2 0	3	410 0 0
Do	Special area	Original	6	1,021 2 0	2	370 0 0	3	375 0 0	19	3,012 3 0	1	150 0 0	5	1,095 3 9
		Additional	13	2,687 3 0	1	150 0 0	1	280 0 0	2	1,217 1 19	5	40 0 0		
Tamworth	Ordinary	Original	18	937 1 19	5	40 0 0								
Do	Special area	Original	2	111 3 0										
		Additional												
SUMMARY														
Ordinary	Original	20	3,172 1 0	2	370 0 0	18	4,227 1 0	2	80 0 0	38	7,399 2 0	4	450 0 0	
	Additional	28	11,354 3 0	13	4,255 2 0	10	2,560 0 0	4	1,839 0 0	38	13,914 3 0	17	6,094 2 0	
	Non-residential				220 0 0								220 0 0	
Total		48	14,527 0 0	16	4,845 2 0	28	6,787 1 0	6	1,919 0 0	76	21,314 1 0	22	6,764 2 0	
Special area	Original	25	1,404 1 6	5	1,095 3 9	5	397 1 20	2	325 0 0	30	1,801 2 26	7	1,420 3 9	
	Additional	6	1,267 2 0	4	883 0 0	2	300 2 0			8	1,508 0 0	4	888 0 0	
Total		31	2,671 3 6	9	1,983 3 9	7	697 3 20	2	325 0 0	38	3,309 2 26	11	2,308 3 9	
Grand Total		79	17,198 3 6	25	6,829 1 9	35	7,485 0 20	8	2,244 0 0	114	24,683 3 26	33	9,073 1 9	
<b>WAGGA WAGGA.</b>														
Albury	Ordinary	Original	1	320 0 0	3	620 0 0	4	375 0 0	5	695 0 0	3	620 0 0		
		Additional	2	823 3 0					1	184 2 0	2	823 3 0	1	184 2 0
Do	Special area	Original	2	206 3 0			1	160 0 0	1	150 0 0	3	366 3 0	1	150 0 0
		Additional					1	150 0 0			1	150 0 0		
Cootamundra	Ordinary	Original	1	86 2 0			1	45 0 0			1	86 2 0		
		Additional									1	45 0 0		
Do	Special area	Original	4	470 0 0	2	368 2 0					4	470 0 0	2	368 2 0
		Additional	3	60 0 0							3	60 0 0		
Cootamundra Central	Ordinary	Original					1	100 0 0			1	100 0 0		
Do	Special area	Original					1	287 0 0			1	287 0 0		
		Additional	1	142 0 0							1	142 0 0		
Corowa	Ordinary	Original	1	92 1 0	4	2,687 0 0	1	640 0 0	3	1,722 2 0	2	732 1 0	7	4,409 2 0
		Additional	5	2,501 3 0	4	2,086 3 0	3	627 3 0			8	3,129 2 0	4	2,086 3 0
Do	Special area	Original	7	2,177 1 0	5	2,027 2 0	1	56 2 0			8	2,233 3 0	5	2,027 2 0
		Additional	1	150 0 0	1	640 0 0	3	759 1 0			4	909 1 0	1	640 0 0
Gundagai	Ordinary	Original	1	82 3 0							1	82 3 0		
		Additional	1	407 0 0	2	588 0 0	1	100 0 0			2	507 0 0	2	588 0 0
Narrandera	Ordinary	Original	6	2,793 0 0	2	587 0 0	6	2,420 0 0	12	5,213 3 0	2	857 0 0		
		Additional	1	115 3 0	1	115 3 0	1	640 0 0			2	755 3 0	1	115 3 0
Do	Special area	Original												
		Additional	1	250 0 0			4	370 0 0			5	620 0 0		
Tumbarumba	Ordinary	Original	2	300 0 0	1	80 0 0	1	270 0 0	1	20 0 0	3	570 0 0	1	80 0 0
		Additional					1	160 0 0	1	20 0 0	1	160 0 0	1	20 0 0
Do	Special area	Original	1	160 0 0			1	195 3 0			2	355 3 0		
		Additional	3	485 2 0			2	390 0 0			5	375 2 0		
Tumut	Ordinary	Original			1	600 0 0	1	80 0 0			1	80 0 0	1	600 0 0
		Additional	3	1,564 2 0	1	244 3 0	2	1,073 0 0	2	434 0 10	5	2,637 2 0	1	244 3 0
Uran	Ordinary	Original			2	480 0 0			2	46 3 0	2	46 3 0	4	526 3 0
		Additional												
Wagga Wagga	Ordinary	Original	2	233 3 0	2	177 0 0	1	105 3 0	2	80 0 0	5	535 1 0	4	277 0 0
		Additional	17	4,286 2 0	5	1,744 0 0	3	421 1 0	2	318 0 0	20	4,707 3 0	7	2,092 0 0
Do	Special area	Original	11	2,465 1 0	3	778 1 0	2	559 2 0			13	3,024 3 0	3	778 1 0
		Additional												
SUMMARY														
Ordinary	Original	9	1,841 0 0	7	2,448 0 0	20	2,609 2 0	1	277 0 0	29	4,450 2 0	8	2,725 0 0	
	Additional	17	5,890 0 0	10	4,045 3 0	13	4,653 3 0	6	1,987 0 0	30	10,543 3 0	16	6,032 3 0	
Total		26	7,731 0 0	17	6,493 3 0	33	7,263 1 0	7	2,264 0 0	59	14,994 1 0	24	8,757 3 0	
Special area	Original	29	7,580 3 0	9	3,830 3 0	12	3,295 1 0	6	922 0 10	41	10,876 0 0	15	4,752 3 10	
	Additional	22	4,862 2 0	13	3,770 0 0	5	961 3 0	2	46 3 0	27	5,824 1 0	15	3,816 3 0	
Total		51	12,443 1 0	22	7,600 3 0	17	4,257 0 0	8	968 3 10	68	16,700 1 0	30	8,569 2 10	
Grand Total		77	20,174 1 0	39	14,094 2 0	50	11,520 1 0	15	3,232 2 10	127	31,694 2 0	54	17,327 1 0	
SUMMARY.														
Ordinary	Original	214	25,123 0 0	117	16,982 3 20	175	22,118 3 0	33	4,825 3 0	389	47,241 3 0	150	21,806 2 20	
	Additional	243	97,263 3 0	96	21,109 1 0	125	24,162 2 0	29	7,083 0 0	368	121,427 1 0	125	28,197 1 0	
	Non residential	8	351 0 0	6	1,040 0 0	6	303 3 0	1	320 0 0	14	654 3 0	7	1,360 0 0	
Total for the whole Colony		465	122,737 3 0	219	39,132 0 20	306	46,586 0 0	63	12,233 3 0	771	169,323 3 0	282	51,365 3 20	
Special area	Original	166	16,849 0 25	30	7,427 0 26	56	6,633 3 29	14	1,835 3 11	222	23,483 0 14	44	9,262 3 37	
	Additional	76	9,466 0 3	39	7,823 2 10	24	2,855 1 20	4	155 3 0	100	12,821 1 23	43	7,979 1 10	
Total for the whole Colony		242	26,315 0 28	69	15,250 2 36	80	9,489 1 9	18	1,991 2 11	322	35,804 1 37	87	17,242 1 7	
Grand Total for the whole Colony		707	149,052 3 28	288	54,382 3 16	386	56,075 1 9	81	14,225 1 11	1,093	205,128 0 37	369	68,608 0 27	

SCHEDULE XI.

SPECIAL AREAS.

RETURN giving particulars as to proclamation and disposal of Special Areas from 1st January, 1885, to 31st December, 1898.

Land Board District.	Land District.	Class of Land.	Total acreage in Special Areas when proclaimed.	Area proclaimed but not yet available for Conditional Purchase or rendered unavailable since Proclamation by reservation or other cause.	Area available for Selection.	Area Selected.	Area unselected on 31st December, 1898.	Capital value of land selected at Original Price.	Capital value of land selected after appraisal under Sec 36 C.L Act, 1895.	Percentage of area selected to area available for selection.	
			a. r. p.	a. r. p.	a. r. p.	a. r. p.	a. r. p.	£ s. d.	£ s. d.	Per cent.	
Armidale	Armidale	Suburban and Population	1,511 0 32	179 2 20	1,331 2 12	795 1 18	536 0 34	2,945 1 0	2,874 19 9	75	
		Country	18,375 0 10	7,189 2 10	11,185 2 0	8,542 2 0	2,643 0 0	15,148 7 6	13,676 10 9		
	Glen Innes	Suburban and Population	605 0 0	150 0 0	455 0 0	334 2 0	120 2 0	469 0 0	436 15 0	93	
		Country	14,015 3 0	8,070 3 0	5,945 0 0	5,616 0 0	329 0 0	10,504 13 9	7,725 4 6		
	Inverell	Suburban and Population	705 0 30	457 2 0	247 2 30	247 2 30	...	572 4 4	572 4 4	99	
		Country	9,013 2 0	2,169 0 0	6,844 2 0	6,776 1 0	68 1 0	14,341 16 0	12,519 7 0		
	Tenterfield	Suburban and Population	1,579 1 13	63 0 38	1,516 0 15	1,493 2 23	22 1 32	3,124 12 4	2,763 18 11	98	
		Country	2,507 1 0	1,989 1 0	518 0 0	505 0 0	13 0 0	771 0 0	346 0 0		
	Walcha	Suburban and Population	3,799 3 0	3,353 3 0	446 0 0	446 0 0	...	1,334 0 0	836 5 0	95	
		Country	6,953 2 0	2,247 2 0	4,706 0 0	4,451 1 0	254 3 0	8,663 10 0	6,011 13 1		
	Totals	Suburban and Population	8,200 1 35	4,204 0 18	3,996 1 17	3,317 0 31	679 0 26	8,448 17 8	7,484 3 0	83	
		Country	50,865 0 10	21,666 0 10	29,199 0 0	25,891 0 0	3,308 0 0	49,429 7 3	41,178 15 4	88½	
	Grand Totals		59,065 2 5	25,870 0 28	33,195 1 17	29,208 0 31	3,987 0 26	57,878 4 11	48,662 18 4	88	
Bourke	Bourke	Suburban	40 0 0	40 0 0	...	...	...	...	...	15	
		Country	10,780 0 0	1,762 3 0	9,017 1 0	1,402 1 0	7,615 0 0	2,629 7 6	2,396 7 6		
	Brewarrina	Country	1,967 0 0	1,167 0 0	800 0 0	800 0 0	...	1,200 0 0	1,200 0 0	100	
		Population	2,060 2 0	2,020 2 0	40 0 0	40 0 0	...	60 0 0	60 0 0		
	Cobar	Country	5,188 1 0	5,188 1 0	...	...	...	...	...	100	
		Suburban and Population	2,100 2 0	2,060 2 0	40 0 0	40 0 0	...	60 0 0	60 0 0		
	Totals	Country	17,935 1 0	8,118 0 0	9,817 1 0	2,202 1 0	7,615 0 0	3,829 7 6	3,594 7 6	22	
	Grand Totals		20,035 3 0	10,178 2 0	9,857 1 0	2,242 1 0	7,615 0 0	3,859 7 6	3,656 7 6	23	
Dubbo	Coonamble	Suburban or Population	170 2 19	...	170 2 19	170 2 19	...	542 15 11	542 15 11	100	
		Country	4,887 3 0	3,873 3 0	1,014 0 0	1,014 0 0	...	3,069 0 0	3,069 0 0		
	Dubbo	Suburban or Population	1,534 3 0	454 3 0	1,080 0 0	595 1 10	484 2 30	1,740 18 9	1,615 18 9	55	
		Country	7,230 1 0	3,185 0 0	4,045 1 0	4,045 1 0	...	5,611 7 6	5,347 17 6		
	Nyngan	Suburban or Population	1,053 3 10	786 2 0	267 1 10	246 0 30	21 0 20	1,110 18 6	1,110 18 6	92	
		Country	3,255 0 0	2,615 0 0	640 0 0	...	640 0 0	...	...		
	Warren	Suburban or Population	7,922 2 0	3,469 1 0	4,453 1 0	4,003 2 0	449 3 0	13,184 11 3	12,397 1 3	90	
		Country	30,770 3 0	18,638 3 0	12,132 0 0	11,832 1 0	299 3 0	18,405 3 11	15,565 6 5		
		Totals	Suburban or Population	10,681 2 29	4,710 2 0	5,971 0 29	5,015 2 19	955 2 10	16,579 4 5	15,666 14 5	83
			Country	46,143 3 0	28,312 2 0	17,831 1 0	16,891 2 0	939 3 0	27,085 11 5	23,982 3 11	94
	Grand Totals		56,825 1 29	33,023 0 0	23,802 1 29	21,907 0 19	1,895 1 10	43,664 15 10	39,648 18 4	92	

SCHEDULE XI—continued.

Land Board District.	Land District.	Class of Land.	Total acreage in Special Areas when proclaimed.			Area proclaimed but not yet available for Conditional Purchase or rendered unavailable since Proclamation by reservation or other cause.			Area available for Selection.			Area Selected.			Area unselected on 31st December, 1898.			Capital value of land selected at Original Price.			Capital value of land selected after appraisal under Sec 36 C.L. Act, 1895.			Percentage of area selected to area available for selection.
			a.	r.	p.	a.	r.	p.	a.	r.	p.	a.	r.	p.	a.	r.	p.	£	s.	d.	£	s.	d.	
39—D Forbes.....	Barmedman .....	Suburban or Population.....	499	2	0	.....	499	2	0	160	0	0	339	2	0	180	0	0	180	0	0	32		
		Country .....	31,559	0	0	9,936	1	0	21,622	3	0	21,622	3	0	.....	.....	38,541	5	0	27,774	12	5	100	
	Barmedman East.....	Suburban or Population.....	32,433	0	0	14,045	3	0	18,387	1	0	17,807	1	0	580	0	0	35,179	0	0	19,397	10	0	97
		Country .....	1,020	2	36	141	1	0	879	1	36	705	0	36	174	1	0	1,845	0	0	1,647	10	0	80
	Condobolin .....	Suburban or Population.....	15,644	1	0	5,068	0	0	10,576	1	0	10,576	1	0	.....	.....	16,805	4	2	14,907	19	2	100	
		Country .....	9,424	3	25	450	1	13	8,974	2	12	8,750	1	8	224	1	4	24,510	11	4	21,966	15	10	97.5
	Forbes .....	Suburban or Population.....	43,095	1	28	11,250	3	0	31,844	2	28	30,676	2	28	1,168	0	0	47,478	12	6	40,609	13	11	96
		Country .....	5,567	2	37	1,109	0	32	4,458	2	5	4,106	0	5	352	2	0	8,402	6	8	6,425	5	5	92
	Grenfell .....	Suburban or Population.....	13,814	2	0	1,689	3	0	12,124	3	0	11,990	0	0	134	3	0	20,092	19	11	14,177	13	9	99
		Country .....	4,460	3	0	144	2	36	4,316	0	4	3,471	3	16	844	0	28	8,111	0	7	7,256	18	5	80
	Parkes .....	Suburban or Population.....	37,918	0	0	4,721	2	0	33,196	2	0	32,413	1	0	783	1	0	49,673	4	2	41,510	18	7	98
		Country .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	Totals .....	Suburban or Population.....	20,973	2	28	1,845	2	11	19,128	0	17	17,193	1	25	1,934	2	32	43,048	18	7	37,476	9	8	90
		Country .....	174,454	0	28	46,712	0	0	127,752	0	28	125,086	0	28	2,666	0	0	207,770	5	9	158,378	7	10	98
	Grand Totals.....	.....	195,437	3	16	48,557	2	11	146,880	1	5	142,279	2	13	4,600	2	32	250,819	4	4	195,854	17	6	97
Goulburn .....	Bega .....	Suburban or Population.....	2,029	0	37	.....	2,029	0	37	.....	.....	.....	.....	.....	.....	10,325	18	2	9,477	2	7	100		
		Country .....	1,198	0	0	.....	1,198	0	0	1,052	1	0	145	3	0	2,481	2	6	2,427	12	6	88		
	Bombala .....	Suburban or Population.....	2,844	3	0	625	0	0	2,219	3	0	1,984	1	0	285	2	0	4,380	2	6	4,380	2	6	87
		Country .....	*8,018	1	20	*1,705	0	0	6,313	1	20	5,879	3	0	433	2	20	9,594	0	0	9,478	19	4	93
	Boorowa .....	Suburban or Population.....	14,737	3	26	1,024	2	30	13,713	0	36	11,868	2	0	2,344	2	36	23,916	12	1	20,788	6	4	82
		Country .....	15,900	2	0	4,087	1	0	11,813	1	0	10,861	2	0	951	3	0	22,048	13	9	20,043	10	0	91
	Braidwood .....	Suburban or Population.....	42	3	25	.....	42	3	25	29	2	25	13	1	0	145	14	6	145	14	6	70		
		Country .....	1,075	0	0	331	1	0	743	3	0	337	2	0	406	1	0	532	10	0	532	10	0	45
	Cooma .....	Suburban or Population.....	5,735	2	28	4,224	2	38	1,510	3	30	1,393	3	21	117	0	9	3,078	5	11	3,078	5	11	92
		Country .....	19,681	3	20	5,424	2	20	14,257	1	0	13,221	1	0	1,036	0	0	22,256	4	2	21,423	0	1	92
	Eden .....	Suburban or Population.....	1,012	2	30	479	2	10	533	0	20	472	2	30	60	1	30	1,276	1	8	1,032	8	2	88
		Country .....	1,342	1	0	979	0	0	363	1	0	363	1	0	.....	.....	908	2	6	908	2	6	100	
	Goulburn .....	Suburban or Population.....	627	0	0	.....	627	0	0	106	0	0	521	0	0	286	11	3	199	18	9	17		
		Country .....	2,019	0	0	808	2	0	1,210	2	0	1,210	2	0	.....	.....	2,421	0	0	2,182	18	9	100	
	Gunning .....	Suburban or Population.....	5,304	0	20	2,884	1	0	2,419	3	20	1,709	2	10	710	1	10	3,260	3	9	3,161	16	3	70
		Country .....	23,830	0	0	21,533	2	0	2,246	2	0	1,831	2	0	415	0	0	3,053	5	0	2,582	18	9	81
	Moruya.....	Suburban or Population.....	920	2	25	.....	920	2	25	172	1	20	748	1	5	281	18	2	281	18	2	18		
		Country .....	2,455	2	30	215	3	0	2,239	3	30	1,896	3	0	343	0	30	3,109	18	9	2,948	3	9	85
	Moss Vale .....	Suburban or Population.....	2,254	0	26	.....	2,254	0	26	.....	.....	.....	.....	2,254	0	26	.....	.....	.....	.....	.....	.....	.....	
		Country .....	1,148	3	0	778	0	0	370	3	0	242	0	0	128	3	0	434	0	0	334	0	0	65
	Queanbeyan .....	Suburban or Population.....	2,903	0	10	1,533	3	4	1,369	1	6	1,180	2	8	188	2	38	4,124	1	9	4,022	16	6	86
		Country .....	2,291	2	0	609	1	0	1,682	1	0	1,682	1	0	.....	.....	2,738	12	6	2,634	12	6	100	
	Yass .....	Suburban or Population.....	4,258	2	0	2,082	3	0	2,175	3	0	1,695	3	0	430	0	0	2,703	12	6	2,703	12	6	78
Country .....		2,614	3	0	374	1	20	2,240	1	20	2,145	1	20	95	0	0	3,961	18	9	3,616	1	10	95	
Young .....	Suburban or Population.....	†16,065	3	31	†1,374	1	14	14,692	2	17	13,943	1	36	749	0	21	37,286	13	10	31,523	16	4	95	
	Country .....	30,394	1	0	7,056	0	0	23,338	1	0	22,448	0	0	890	1	0	47,073	1	3	38,363	9	11	96	
Totals .....	Suburban or Population.....	58,737	2	18	14,229	0	16	44,508	2	2	36,035	3	27	8,472	2	15	91,065	16	1	80,795	18	6	81	
	Country .....	111,969	3	30	43,952	2	0	68,017	1	30	63,171	3	20	4,845	2	10	120,612	9	2	107,475	19	11	93	
Grand Total .....	.....	170,707	2	8	58,181	2	16	112,525	3	32	99,207	3	7	13,318	0	25	211,678	5	3	188,271	18	5	88	

\* Includes 233 acres, available in 1899.

† Includes 69 acres 3 roods 26 perches, available in 1899.

SCHEDULE XI—continued.

Laud Board District.	Land District.	Class of Land.	Total acreage in Special Areas when proclaimed.	Area proclaimed but not yet available for Conditional Purchase or rendered unavailable since Proclamation by reservation or other cause.	Area available for Selection.	Area Selected.	Area unselected on 31st December, 1898.	Capital value of land selected at Original Price.	Capital value of land selected after appraisalment under Sec. 36 C.L. Act, 1895.	Percentage of area selected to area available for selection	
			a. r. p.	a. r. p.	a. r. p.	a. r. p.	a. r. p.	£ s. d.	£ s. d.	Per cent.	
Grafton	Bellingen	Suburban and Population	633 1 20	509 3 0	123 2 20	84 0 0	39 2 20	136 10 0	136 10 0	68	
		Country	23,538 3 0	11,872 1 0	11,666 2 0	9,233 2 0	2,433 0 0	15,448 5 0	12,356 14 0	79	
	Casino	Suburban and Population	942 0 18	4 0 22½	937 3 35½	585 3 30½	352 0 5	2,565 19 9	2,565 19 9	62	
		Country	6,969 2 0	5,070 1 0	1,899 1 0	1,899 1 0	.....	4,773 10 0	4,173 3 9	100	
	Grafton	Suburban and Population	1,081 3 28	.....	1,081 3 28	544 1 28	537 2 0	1,029 0 6	1,029 0 6	50	
		Country	5,817 3 0	2,151 0 0	3,666 3 0	2,701 2 0	965 1 0	4,461 2 6	3,917 2 6	73	
	Kempsey	Suburban and Population	430 2 34	.....	430 2 34	49 1 9	381 1 15	157 9 6	157 9 6	11	
		Country	7,469 0 0	2,155 0 0	5,314 0 0	5,093 0 0	221 0 0	7,654 10 0	6,117 9 6	95	
	Lismore	Suburban and Population	2,145 2 14½	43 3 19	2,101 2 35½	1,428 2 28½	673 0 7	3,737 8 3	3,788 13 10	67	
		Country	57,140 0 0	41,597 0 0	15,543 0 0	15,390 1 0	152 3 0	40,014 16 6	31,726 10 5	99	
	Murwillumbah	Suburban and Population	154 2 25½	.....	154 2 25½	121 0 32½	33 1 33	485 10 6	485 10 6	78	
		Country	16,704 0 20	9,205 3 0	7,498 1 20	4,198 3 20	3,299 2 0	7,952 15 0	7,265 3 0	56	
	Port Macquarie	Country	653 1 0	.....	653 1 0	100 0 0	553 1 0	150 0 0	150 0 0	15	
		Totals	Suburban and Population	5,388 1 20	557 3 1½	4,830 2 18½	2,813 2 18½	2,017 0 0	8,111 18 6	8,163 4 1	56
		Country	118,292 1 20	72,051 1 0	46,241 0 20	38,616 1 20	7,624 3 0	80,454 19 0	65,706 3 2	73	
	Grand Totals	.....	123,680 3 0	72,609 0 1½	51,071 2 38½	41,420 3 38½	9,641 3 0	88,566 17 6	73,869 7 3	65	
Hay	Balranald South	Population or Suburban	3,040 3 0	40 0 0	3,000 3 0	2,662 1 0	338 2 0	4,572 10 0	4,002 1 3	88·7	
		Country	47,473 3 0	25,621 0 0	21,852 3 0	19,136 3 0	2,716 3 0	31,104 7 6	24,151 2 8	87·6	
	Deniliquin	Population or Suburban	6,123 3 0	257 2 0	5,866 1 0	5,666 1 0	300 0 0	16,051 2 6	10,243 12 6	94·9	
		Country	157,293 2 39	81,484 0 0	75,809 2 39	73,542 1 39	2,267 1 0	132,351 1 0	108,606 0 3	97·0	
	Hay	Country	93,079 1 19	68,921 1 19	24,158 0 0	21,403 3 0	2,754 1 0	36,818 1 4	25,836 17 5	88·6	
		Population or Suburban	1,179 1 0	.....	1,179 1 0	1,005 2 0	173 3 0	1,508 5 0	1,304 0 8	85·2	
	Hillston	Country	7,816 3 0	5,316 1 0	2,500 2 0	1,436 1 0	1,064 1 0	2,521 10 0	2,067 18 0	57·4	
		Totals	Population or Suburban	10,343 3 0	297 2 0	10,046 1 0	9,234 0 0	812 1 0	22,131 17 6	15,549 14 5	92·0
			Country	305,663 2 18	181,342 2 19	124,320 3 39	115,519 0 39	8,801 3 0	202,794 19 10	160,661 18 4	92·9
		Grand Totals	.....	316,007 1 18	181,640 0 19	134,367 0 39	124,753 0 39	9,614 0 0	224,926 17 4	176,211 12 9	92·9

SCHEDULE XI—continued.

Land Board District.	Land District.	Class of Land.	Total acreage in Special Areas when proclaimed.	Area proclaimed but not yet available for Conditional Purchase or rendered unavailable since Proclamation by reservation or other cause.	Area available for Selection.	Area Selected.	Area unselected on 31st December, 1897.	Capital value of land selected at Original Price.	Capital value of land selected after appraisalment under Sec. 36 C.L. Act, 1895.	Percentage of area selected to area available for selection.	
			a. r. p.	a. r. p.	a. r. p.	a. r. p.	a. r. p.	£ s. d.	£ s. d.	Per cent.	
Maitland .....	Cassilis .....	Country .....	4,218 1 0	1,828 0 0	2,390 1 0	2,390 1 0	.....	3,795 10 0	3,747 10 0	100	
	Dungog .....	Country .....	2,818 0 0	778 2 0	2,039 2 0	1,675 3 0	363 3 0	3,012 15 0	2,823 15 0	80	
	Gosford.....	Country .....	906 0 20	191 2 0	714 2 20	714 2 20	.....	1,991 0 0	1,852 8 9	100	
		Population or Suburban.....	611 1 28	10 0 0	601 1 28	289 0 32	312 0 36	578 8 0	578 8 0	44	
	Maitland .....	Country .....	2,177 3 0	1,448 3 0	729 0 0	360 2 0	368 2 0	657 15 0	657 15 0	49	
		Population or Suburban.....	2,068 1 20	216 1 30	1,851 3 30	1,416 2 20	435 1 10	2,702 1 3	2,702 1 3	76	
	Muswellbrook .....	Country .....	1,295 3 0	1,065 3 0	230 0 0	230 0 0	.....	575 0 0	575 0 0	100	
		Population or Suburban.....	4,185 3 0	754 0 0	3,431 3 0	3,111 3 0	320 0 0	7,722 2 6	7,543 14 2	90	
	Newcastle .....	Country .....	5,660 3 0	5,277 1 0	383 2 0	383 2 0	.....	707 0 0	707 0 0	100	
		Population or Suburban.....	977 1 0	125 0 0	852 1 0	852 1 0	.....	1,392 7 6	1,392 7 6	100	
	Paterson .....	Country .....	150 0 0	.....	150 0 0	.....	150 0 0	.....	.....	.....	
		Population or Suburban.....	273 3 10	.....	273 3 10	107 3 0	166 0 10	241 4 4	241 4 4	39	
	Scone.....	Country .....	984 2 38	.....	984 2 38	984 2 38	.....	1,678 4 6	1,565 3 3	100	
		Population or Suburban.....	1,109 0 0	140 0 0	969 0 0	969 0 0	.....	2,223 10 0	1,911 9 9	100	
	Singleton .....	Country .....	1,306 3 0	.....	1,306 3 0	1,306 3 0	.....	2,348 17 6	2,286 14 8	100	
		Population or Suburban.....	7,008 3 0	5,024 1 0	1,984 2 0	1,944 2 0	40 0 0	3,541 15 0	3,541 15 0	98	
	Stroud .....	Country .....	852 3 0	.....	852 3 0	726 3 0	126 0 0	1,323 3 9	1,323 3 9	85	
Population or Suburban.....		1,671 0 20	44 1 0	1,626 3 20	892 1 20	734 2 0	1,425 11 3	1,425 11 3	56		
Wollombi .....	Country .....	202 2 0	.....	202 2 0	81 0 0	121 2 0	162 0 0	162 0 0	40		
	Totals .....	Country .....	28,271 2 18	15,879 0 0	12,482 2 18	11,312 3 18	1,169 3 0	21,065 0 9	20,259 8 0	90	
		Population or Suburban.....	10,117 0 38	1,024 2 30	9,092 2 8	7,124 1 32	1,968 0 16	15,018 4 10	14,727 13 8	79	
	Grand Total .....	.....	38,388 3 16	16,903 2 30	21,575 0 26	18,437 1 10	3,137 3 16	36,083 5 7	34,987 1 8	85	
Moree .....	Bingara .....	Country .....	1,833 3 0	571 2 0	1,262 1 0	1,034 2 0	227 3 0	1,985 7 6	1,825 7 6	82	
		Population Area .....	278 0 0	150 1 0	127 3 0	.....	127 3 0	.....	.....	.....	
	Moree .....	Country .....	38,862 1 0	21,935 3 0	16,926 2 0	14,178 1 0	2,748 1 0	22,359 8 9	20,954 19 11	83	
		Population Area .....	580 0 0	.....	580 0 0	580 0 0	.....	1,771 10 0	1,567 10 0	100	
	Walgett .....	Country .....	5,984 1 0	3,709 0 0	2,275 1 0	766 1 0	1,509 0 0	1,338 15 0	1,338 15 0	33	
		Population Area .....	.....	.....	.....	.....	.....	.....	.....	.....	
	Warialda .....	Country .....	15,843 0 13	11,630 1 0	4,217 3 13	3,967 3 13	250 0 0	6,414 2 0	5,935 13 3	94	
		Population Area .....	1,761 3 30	1,124 3 10	637 0 20	434 2 20	202 2 0	1,188 0 4	1,182 14 1	68	
		Totals .....	Country.....	62,528 1 13	37,846 2 0	24,681 3 13	19,946 3 13	4,735 0 0	32,097 13 3	29,154 15 8	81
			Population Area .....	2,619 3 30	1,275 0 10	1,344 3 20	1,014 2 20	330 1 0	2,959 10 4	2,750 4 1	75
	Grand Totals .....	.....	65,148 1 3	39,121 2 10	26,026 2 33	20,961 1 33	5,065 1 0	35,057 3 7	31,904 19 9	80	

SCHEDULE XI—continued.

Land Board District	Land District	Class of Land.	Total acreage in Special Areas when proclaimed.	Area proclaimed but not yet available for Conditional Purchase or rendered unavailable since Proclamation by reservation or other cause	Area available for Selection.	Area Selected.	Area unselected on 31st December, 1898	Capital value of land selected at Original Price.	Capital value of land selected after appraisalment under Sec 36 C L. Act 1895.	Percentage of area selected to area available for selection.
			a. r. p.	a. r. p.	a. r. p.	a. r. p.	a. r. p.	£ s. d.	£ s. d.	Percent.
Orange	Bathurst	Suburban or Population...	837 2 10	.....	837 2 10	.....	837 2 10	.....	.....	.....
		Country	2,284 3 0	544 1 0	1,740 2 0	1,544 2 0	196 0 0	2,515 0 0	2,476 17 6	89
	Carcoar	Suburban or Population	76 0 31	.....	76 0 31	76 0 31	.....	190 9 8	190 9 8	100
		Country	1,371 2 30	298 2 0	1,073 0 30	481 3 30	591 1 0	723 6 2	723 6 2	45
	Cowra	Suburban or Population...	1,890 2 38	*27 1 5	1,863 1 33	1,510 0 8	353 1 25	4,912 16 10	4,720 17 11	81
		Country	28,236 2 0	2,586 0 0	25,650 2 0	25,501 2 0	149 0 0	47,020 2 10	42,786 1 8	99
	Lithgow	Suburban or Population	.....	.....	.....	.....	.....	.....	.....	.....
		Country	4,416 2 0	2,099 3 0	2,316 3 0	1,576 0 0	740 3 0	3,653 17 6	3,613 17 6	68
	Molong	Suburban or Population	4,744 3 37	†1,315 2 11	3,429 1 26	3,261 3 18	167 2 8	6,548 13 9	6,159 16 8	95
		Country	27,048 2 0	6,229 1 0	20,819 1 0	20,090 3 0	728 2 0	36,083 15 0	32,117 0 5	96
	Mudgee	Suburban or Population	2,199 0 0	919 0 0	1,280 0 0	1,280 0 0	.....	2,678 2 6	2,427 2 6	100
		Country	3,668 3 0	556 0 0	3,112 3 0	2,940 3 0	172 0 0	4,644 15 0	4,286 18 2	94
	Orange	Suburban or Population	.....	.....	.....	.....	.....	.....	.....	.....
		Country	468 2 0	.....	468 2 0	468 2 0	.....	1,804 0 0	1,768 0 0	100
	Rylstone	Suburban or Population	1,688 2 0	.....	1,688 2 0	1,097 1 0	591 1 0	2,195 0 0	2,105 10 0	65
Country		486 3 0	.....	486 3 0	486 3 0	.....	842 7 6	842 7 6	100	
Wellington	Suburban or Population	2,800 0 0	‡5 1 0	2,794 3 0	2,583 0 0	211 3 0	4,402 5 0	4,044 15 8	92	
	Country	1,253 0 0	438 1 0	814 3 0	814 3 0	.....	1,245 5 0	1,205 5 0	100	
	Totals	Suburban or Population ..	14,236 3 36	2,267 0 16	11,969 3 20	9,808 1 17	2,161 2 3	20,947 12 9	19,648 12 5	82
		Country	69,234 3 30	12,752 0 0	56,482 3 30	53,905 1 30	2,577 2 0	98,532 9 0	89,819 13 11	95
	Grand Totals	.....	83,471 3 26	15,019 0 16	68,452 3 10	63,713 3 7	4,739 0 3	119,480 1 9	109,468 6 4	93
Sydney	Campbelltown	Country	9,371 0 0	4,265 3 0	5,105 1 0	2,417 3 0	2,687 2 0	4,019 10 0	3,514 14 6	47
		Country	96 2 0	.....	96 2 0	96 2 0	.....	193 0 0	193 0 0	100
	Metropolitan	Suburban and Population Area	1,178 2 21	473 1 4	705 1 17	.....	705 1 17	.....	.....	.....
		Country	2,695 0 0	1,730 0 0	965 0 0	965 0 0	.....	1,615 5 0	1,006 5 0	100
	Nowra	Country	423 0 0	59 0 0	364 0 0	298 0 0	66 0 0	593 12 6	593 12 6	82
		Suburban and Population Area	722 0 22	.....	722 0 22	63 2 20	658 2 2	384 17 6	384 17 6	9
	Parramatta	Country	262 0 0	162 0 0	100 0 0	100 0 0	.....	225 0 0	225 0 0	100
		Suburban and Population Area	1,210 1 20	1,091 2 20	118 3 0	118 3 0	.....	294 10 0	294 10 0	100
	Penrith	Country	899 0 0	259 2 0	639 2 0	609 0 0	30 2 0	3,840 5 0	3,840 5 0	95
		Suburban and Population Area	274 0 13	125 2 33	148 1 20	105 1 20	43 0 0	187 15 0	187 15 0	71
	Picton	Country	2,525 1 0	845 0 0	1,680 1 0	1,174 0 0	506 1 0	3,597 0 0	3,597 0 0	70
		Suburban and Population Area	4,632 3 10	865 0 20	3,767 2 30	2,001 2 0	1,766 0 30	6,673 16 8	6,448 19 9	53
	Windsor	Country	61 2 0	.....	61 2 0	61 2 0	.....	123 0 0	123 0 0	100
		Suburban and Population Area	.....	.....	.....	.....	.....	.....	.....	.....
		Totals	Suburban and Population Area.....	8,018 0 6	2,555 2 37	5,462 1 9	2,289 1 0	3,173 0 9	7,540 19 2	7,316 2 3
Country			16,333 1 0	7,321 1 0	9,012 0 0	5,721 3 0	3,290 1 0	14,206 12 6	12,732 17 0	63
	Grand Totals.....	.....	24,351 1 6	9,876 3 37	14,474 1 9	8,011 0 0	6,463 1 9	21,747 11 8	20,048 19 3	55

\* 208½ acres did not become available during 1898.

† 234 acres did not become available during 1898.

‡ 337 acres did not become available during 1898.

SCHEDULE XI—continued.

Land Board District.	Land District.	Class of Land	Total acreage in Special Areas when proclaimed	Area proclaimed but not yet available for Conditional Purchase or rendered unavailable since Proclamation by reservation or other cause	Area available for Selection	Area Selected.	Area unselected on 31st December, 1898	Capital value of land selected at Original Price.	Capital value of land selected after appraisement under Sec. 36 C L Act, 1895.	Percentage of area selected for area available for selection.
			a. r. p.	a. r. p.	a. r. p.	a. r. p.	a. r. p.	£ s. d.	£ s. d.	Percent.
Tamworth .....	Coonabarrabran ...	Suburban or Population...	264 0 0	..	264 0 0	..	264 0 0	..	..	..
		Country .....	2,469 0 0	1,537 0 0	932 0 0	160 0 0	772 0 0	240 0 0	240 0 0	17
	Gunnedah .....	Suburban or Population.....	4 903 1 12	340 0 0	4,563 1 12	4,272 2 19	290 2 33	10,284 17 6	10,284 17 6	94
		Country .....	18,489 0 0	2,792 0 0	15,697 0 0	10 044 2 36	5,652 1 4	17,729 4 2	17,285 1 8	64
	Murrurundi .....	Suburban or Population.....	697 3 11	..	697 3 11	139 0 31	558 2 20	418 5 0	418 5 0	20
		Country .....	17,873 2 0	4,013 2 10	13,859 3 30	11,867 1 20	1,992 2 10	23,817 1 8	22,853 4 10	85
	Narrabri .....	Suburban or Population.....	45 0 20	..	45 0 20	45 0 20	..	362 4 4	362 4 4	100
		Country .....	44,441 2 0	25,803 0 0	18,638 2 0	16,180 0 0	2,458 2 0	27,084 12 11	27,021 0 5	87
	Tamworth .....	Suburban or Population .....	11,357 1 38	378 2 0	10,978 3 38	3,286 3 36	7,692 0 2	14,086 5 2	12,899 18 11	30
		Country .....	61,616 3 4	8,438 2 20	53,178 0 24	45,131 0 19	8 047 0 5	94,395 11 0	90,984 10 9	84
	Totals .....	Suburban or Population .....	17,267 3 1	718 2 0	16,549 1 1	7,743 3 26	8,805 1 15	25,151 12 0	23,965 5 9	47
		Country .....	144,889 3 4	42,584 0 30	102,305 2 14	83,383 0 35	18,922 1 19	163,266 9 9	153,383 17 8	81
Grand Totals .....	.....	162,157 2 5	43,302 2 30	118,854 3 15	91,127 0 21	27,727 2 34	188,418 1 9	182,349 3 5	76	
Wagga Wagga .....	Albury .....	Suburban or Population .....	630 0 0	420 1 10	209 2 30	209 2 30	..	629 1 3	569 1 3	100
		Country .....	24,402 3 3	5,516 3 10	18,885 3 33	17,667 0 33	1,218 3 0	47,834 2 6	33,781 19 9	93
	Cootamundra .....	Suburban or Population .....	1,032 1 17	..	1,032 1 17	735 0 7	297 1 10	2,835 6 9	2,808 14 3	71
		Country .....	65,659 1 10	12,019 3 30	54,639 1 20	52,634 0 20	2,005 1 0	78,400 8 4	47,185 9 7	96
	Cootamundra, Central ..	Country .....	3,203 0 0	..	3,203 0 0	2,129 1 0	1,073 3 0	4,258 10 0	3,113 6 10	66
	Corowa .....	Country .....	49,640 2 0	11,278 3 0	38,361 3 0	33,794 0 20	4,567 2 20	91,625 1 10	71,995 14 9	88
	Gundagai .....	Country .....	17,990 2 0	971 2 0	17,019 0 0	16,945 1 0	73 3 0	34,736 3 4	25,561 7 0	99
	Narrandera .....	Country .....	49,027 3 0	*24,955 0 0	24,072 3 0	22 560 3 0	1,512 0 0	53,957 6 8	48,856 4 7	93
	Tumberumba .....	Country .....	13,684 2 10	3,070 1 0	10,614 1 10	9,534 3 0	1,079 2 10	21,289 2 6	15,632 0 6	89
	Tumberumba North ..	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Tumut .....	Suburban or Population .....	534 0 4	20 0 0	514 0 4	208 3 33	305 0 11	333 8 8	333 8 8	40
		Country .....	7,451 3 0	4,548 1 0	2,903 2 0	2,743 2 0	160 0 0	4,836 0 0	3,837 15 0	94
	Urana .....	Suburban or Population.....	994 2 10	680 0 0	314 2 10	314 2 10	..	1,063 14 2	1,020 8 7	100
		Country .....	74,773 0 28	23,106 0 18	51,667 0 10	46,330 1 10	5,336 3 0	92,734 11 8	69,165 12 4	89
	Wagga Wagga.....	Country .....	105,043 2 10	18,756 2 0	86,287 0 10	81,933 3 0	4,353 1 10	169,626 6 8	120,289 0 1	94
Totals .....	Suburban or Population.....	3,190 3 31	1,120 1 10	2,070 2 21	1,468 1 0	602 1 21	4,861 10 10	4,731 12 9	70	
	Country .....	411,876 3 21	104,223 0 18	307,653 3 3	286,273 0 3	21,380 3 0	602,297 13 6	483,468 10 5	93	
Grand Totals .....	.....	415 067 3 12	105,343 1 28	309,724 1 24	287,741 1 3	21,983 0 21	607,159 4 4	444,200 3 2	92	

SUMMARY.

Totals .....	Suburban .....	171,876 3 32	36,866 1 29½	135,010 2 2½	103,098 2 15½	31,911 3 27	265,926 2 8	238,335 15 0
	Country .....	1,558,468 3 32	622,759 3 37	935,797 3 35	847,921 2 6	87,876 1 29	1,623,442 18 8	1,310,798 18 8
Grand Totals for Colony	.....	1,730,345 3 24	659,626 1 26½	1,070,808 1 37½	951,020 0 21½	119,788 1 16	1,889,369 1 4	1,549,134 13 8

\* 1,461 acres did not become available during 1898.

† 880 acres did not become available during 1898.

## SCHEDULE XII.

RETURN giving particulars of applications made by holders of Conditional Purchases for reduction of amount of Annual Instalment.

Land District.	No. of Conditional Purchases.	No. of Applications.	Reduction in amount of Annual Instalment.	Land District.	No. of Conditional Purchases.	No. of Applications.	Reduction in amount of Annual Instalment.
			£ s. d.				£ s. d.
Albury .....	2	2	11 5 4	Milton .....	1	3	7 15 0
Armidale .....	21	46	124 0 5	Molong .....	10	22	77 7 7
Balranald .....	2	5	36 8 0	Moree .....	3	3	40 0 0
Barmedman .....	4	6	51 11 4	Moruya .....	3	8	11 13 10
Bathurst .....	3	13	21 9 9	Moss Vale .....	2	3	12 15 0
Bellingen .....	5	7	21 3 9	Mudgee .....	14	49	50 17 11
Bingara .....	1	1	2 17 0	Murrurundi .....	2	3	8 16 10
Bombala .....	3	13	32 0 0	Murwillumbah .....	4	12	43 10 9
Boorowa .....	1	2	2 19 3	Narrandera .....	1	3	48 0 0
Braidwood.....	2	4	4 9 7	Nowra .....	2	2	2 10 0
Carcoar .....	5	18	26 1 11	Nyngan .....	2	2	16 0 0
Casino .....	5	6	18 10 4	Orange.....	1	1	4 0 0
Cassilis .....	5	19	68 1 7	Parkes .....	9	9	76 0 3
Condobolin .....	6	19	114 8 9	Paterson .....	3	25	30 0 11
Cooma .....	30	63	141 0 6	Penrith .....	1	1	1 3 6
Coonabarrabran .....	1	12	17 0 0	Port Macquarie .....	1	4	11 5 0
Coonamble .....	3	6	24 15 0	Queanbeyan .....	14	35	44 1 9
Cootamundra .....	19	40	113 7 4	Rylstone .....	1	7	6 2 9
Cowra .....	4	9	31 10 8	Scone .....	1	11	17 15 0
Corowa .....	1	2	15 7 3	Singleton.....	2	7	4 17 6
Deniliquin.....	6	6	53 10 10	Tamworth .....	2	2	12 0 0
Dubbo .....	8	25	93 13 4	Taree .....	9	31	68 19 9
Eden .....	3	11	26 17 1	Tenterfield .....	16	32	77 15 5
Forbes .....	8	12	41 8 11	Tumbarumba .....	3	11	33 10 0
Glen Innes .....	10	23	41 6 5	Tumut.....	5	7	21 5 0
Gosford .....	1	4	4 5 0	Urana .....	3	4	39 13 1
Goulburn .....	18	75	119 3 10	Wagga Wagga .....	7	20	68 11 6
Grafton .....	6	10	14 19 11	Walcha .....	11	36	78 6 7
Grenfell.....	1	1	5 8 0	Walgett .....	1	2	8 0 0
Gundagai .....	1	1	2 0 0	Warialda.....	4	6	24 7 2
Gunning .....	6	20	22 6 3	Wellington .....	1	12	8 17 7
Hay .....	10	27	306 7 3	Wentworth.....	2	6	28 17 3
Hillston.....	5	5	38 1 3	Windsor .....	1	1	1 10 3
Inverell .....	13	36	70 0 1	Yass.....	2	2	7 7 9
Kempsey .....	6	10	19 3 10	Young .....	10	31	70 18 5
Lismore .....	2	2	1 16 0				
Lithgow.....	4	9	12 13 9	Totals.....	386	987	2,819 9 4
Maitland .....	1	4	3 6 6				



## SCHEDULE XIII.

RETURN showing Increases and Decreases in Area of Conditional Purchases during 1898.

Land Board District.	Land District.	Crown Lands Act of 1884.		Crown Lands Alienation Act of 1861.	
		Increase in Area.	Decrease in Area.	Increase in Area.	Decrease in Area.
Armidale.....	Armidale.....	a. r. p. 115 0 0	a. r. p. 18 3 0	a. r. p. 3 1 0	a. r. p. 17 3 0
	Glen Innes.....	24 3 0	.....	.....	.....
	Inverell.....	31 0 0	.....	.....	.....
	Tenterfield.....	11 0 0	44 2 0	.....	.....
	Walcha.....	.....	8 3 0	.....	0 3 0
Bourke.....	Bourke.....	.....	.....	.....	0 2 0
	Brewarrina East.....	192 0 0	.....	.....	.....
Dubbo.....	Coonamble.....	58 3 0	.....	.....	.....
	Dubbo.....	200 2 0	369 3 0	.....	0 0 13
	Warren.....	.....	32 2 0	.....	9 1 20
Forbes.....	Forbes.....	5 0 0	139 1 0	.....	.....
	Grenfell.....	.....	.....	.....	2 0 0
Goulburn.....	Parkes.....	50 0 0	185 1 29	3 0 0	.....
	Bega.....	20 0 0	.....	8 3 0	25 3 0
	Bombala.....	20 0 0	.....	.....	.....
	Boorowa.....	1 3 0	2 0 0	.....	.....
	Cooma.....	77 2 0	.....	0 3 0	1 2 0
	Eden.....	.....	.....	.....	6 2 0
	Goulburn.....	4 0 0	6 3 0	3 0 0	6 0 37
	Gunning.....	.....	.....	.....	4 1 0
	Moruya.....	.....	.....	.....	2 0 20
	Moss Vale.....	3 1 0	0 1 8	1 3 0	8 2 0
	Yass.....	23 2 0	11 3 0	2 0 0	8 3 0
	Young.....	.....	.....	0 1 0	4 0 0
	Grafton.....	Bellingen.....	31 0 0	5 0 0	.....
Casino.....		643 0 0	2 3 0	.....	18 3 0
Grafton.....		.....	4 2 0	0 1 0	5 2 0
Kempsey.....		69 0 0	1 3 0	.....	3 3 0
Lismore.....		47 0 0	2 0 0	12 0 24	8 1 26
Murwillumbah.....		0 3 39½	1 2 0	.....	5 1 0
Port Macquarie.....		5 2 0	1 0 0	.....	1 0 0
Balranald South.....		.....	32 0 0	.....	.....
Hay.....	Deniliquin.....	320 2 0	.....	310 0 0	.....
	Hay.....	165 0 0	38 3 0	.....	.....
	Hillston.....	.....	.....	5 3 0	1 0 0
	Wentworth.....	.....	.....	.....	35 1 0
Maitland.....	Cassilis.....	0 1 0	.....	1 2 30	0 2 10
	Gosford.....	.....	60 0 0	.....	.....
	Muswellbrook.....	.....	0 2 0	.....	0 1 0
	Paterson.....	.....	.....	2 1 0	.....
	Scone.....	.....	145 0 0	.....	.....
	Taree.....	24 1 0	1 1 0	.....	3 2 0
	Wollombi.....	35 3 0	.....	.....	.....
Moree.....	Bingara.....	80 0 0	5 2 0	.....	1 1 0
	Moree.....	899 0 0	1 0 0	.....	.....
	Warialda.....	755 3 0	.....	.....	.....
Orange.....	Walgett.....	602 3 0	.....	.....	.....
	Bathurst.....	.....	1 3 0	.....	3 0 0
	Carcoar.....	17 0 0	10 0 32	.....	11 3 0
	Cowra.....	.....	.....	1 0 0	0 3 26
	Lithgow.....	3 0 0	.....	1 0 0	106 3 13
	Molong.....	59 1 0	62 2 0	6 0 0	4 3 0
	Mudgee.....	151 0 0	13 0 0	.....	.....
	Orange.....	25 3 0	.....	.....	5 3 20
	Rylstone.....	23 1 0	6 1 0	.....	0 3 0
	Wellington.....	60 2 0	2 3 0	2 1 0	26 0 4½
Sydney.....	Milton.....	0 1 0	2 3 0	.....	1 2 0
	Penrith.....	1 0 0	4 1 0	.....	0 1 0
	Picton.....	.....	.....	.....	.....
	Windsor.....	35 2 0	14 1 0	.....	.....
Tamworth.....	Gunnedah.....	15 1 0	167 2 0	.....	11 3 0
	Murrurundi.....	35 0 0	0 1 0	0 1 0	0 1 24
	Narrabri.....	64 3 0	38 1 0	.....	.....
	Tamworth.....	33 0 0	0 2 0	4 1 0	4 0 0
Wagga Wagga.....	Albury.....	.....	.....	4 0 0	1 0 20
	Coatamundra.....	.....	11 3 0	.....	202 1 27½
	Corowa.....	.....	102 1 0	0 2 0	0 0 27
	Gundagai.....	.....	40 3 0	.....	20 3 28½
	Narrandera.....	674 0 0	28 0 0	.....	.....
	Tumbarumba, North.....	.....	.....	0 3 0	.....
	Tumut.....	1 0 0	16 0 0	0 1 0	.....
	Urana.....	.....	3 0 0	.....	0 0 10
	Wagga Wagga.....	.....	3 3 4	.....	7 3 8

## GRAND TOTALS.

Crown Lands Act of 1884.		a. r. p.	Crown Lands Alienation Act of 1861.		a. r. p.
Increase in Area	.....	5,717 0 39½	Increase in Area	.....	375 0 14
Decrease	.....	1,651 3 33	Decrease	.....	603 0 30½
Total Increase in Area		.....	Total Increase in Area		a. r. p. 6,092 1 13½
Total Decrease		.....	Total Decrease		2,255 0 23½

## SCHEDULE XIV.

RETURN showing number of Transfers of Conditional Purchases received from 1st January to 31st December, 1898, and the number dealt with, inclusive of those on hand, during that period.

Number of Transfers received .....	8,863
"    "    intimated to Treasury .....	9,254
"    Conditional Purchases thereby transferred .....	17,557*
"    "    "    and area actually transferred	{ Number of Conditional Purchases . . . . . 11,457 Area . . . . . 1,972,208a 3r 11p
"    "    "    Transfers upon which stamp duty was paid .....	
Amount of stamp duty paid thereon—	
Paid through Lands Department .....	£5,056 9 0
Paid prior to lodgment .....	£2,401 4 0
	} £7,457 13 0
Number of Transfers registered in Registrar-General's office .....	9,259
"    "    in Registrar-General's office awaiting registration ..	Nil
"    Crown Solicitor's certificates received .....	422
"    Notices despatched, informing parties, Crown Land Agents, and Chairmen of Local Land Boards of registration of transfers ..	14,312

\* Includes Conditional Purchases transferred more than once during the year.

## SCHEDULE XV.

RETURN showing Number and Area of Conditional Purchases declared forfeited during the year 1898 for non-fulfilment of the required conditions.

Land Board District and Land District.	Ordinary Lands.						Special Areas						Total.							
	Original.		Additional.		Non residential		Original		Additional.		Non-residential									
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.						
<b>Armidale—</b>		a.	r.	p.		a.	r.		a.	r.	p.		a.	r.	p.					
Armidale .....	2	110	0	2	...	...	...	...	...	...	...	...	2	110	0	2				
Glen Innes .....	2	80	0	0	...	...	...	1	47	2	0	...	...	...	...	3	127	2	0	
Inverell .....	1	75	0	0	1	46	2	...	1	225	0	0	...	...	...	...	3	346	2	0
Tenterfield .....	2	250	0	0	...	...	...	2	520	0	...	...	...	...	...	...	4	770	0	0
Walcha .....	1	320	0	0	...	...	...	1	100	0	...	...	...	...	...	...	2	420	0	0
<b>Total .....</b>	<b>8</b>	<b>835</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>46</b>	<b>2</b>	<b>3</b>	<b>620</b>	<b>0</b>	<b>2</b>	<b>272</b>	<b>2</b>	<b>0</b>	<b>...</b>	<b>...</b>	<b>14</b>	<b>1,774</b>	<b>0</b>	<b>2</b>
<b>Dubbo—</b>																				
Coonamble .....	5	2,026	0	0	3	455	0	...	...	...	...	...	...	...	...	...	8	2,481	0	0
Dubbo .....	4	695	0	0	1	40	0	1	40	0	...	...	...	...	...	...	6	775	0	0
Nyngan .....	1	300	0	0	...	...	...	1	20	2	24	...	...	...	...	...	2	320	2	24
Warren .....	2	413	0	0	...	...	...	1	17	2	0	...	...	...	...	...	3	430	2	0
<b>Total .....</b>	<b>12</b>	<b>3,434</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>495</b>	<b>0</b>	<b>1</b>	<b>40</b>	<b>0</b>	<b>2</b>	<b>38</b>	<b>0</b>	<b>24</b>	<b>...</b>	<b>...</b>	<b>19</b>	<b>4,007</b>	<b>0</b>	<b>24</b>
<b>Forbes—</b>																				
Barmedman .....	1	200	0	0	...	...	...	...	...	...	...	...	...	...	...	...	1	200	0	0
Condobolin .....	3	1,150	0	0	1	40	0	...	...	...	...	...	...	...	...	...	4	1,190	0	0
Forbes .....	...	...	...	...	...	...	...	1	5	1	0	...	...	...	...	...	1	5	1	0
Parkes .....	...	...	...	...	...	...	...	3	21	0	0	...	...	...	...	...	3	21	0	0
<b>Total .....</b>	<b>4</b>	<b>1,350</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>40</b>	<b>0</b>	<b>...</b>	<b>4</b>	<b>26</b>	<b>1</b>	<b>0</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>...</b>	<b>9</b>	<b>1,416</b>	<b>1</b>	<b>0</b>
<b>Goulburn—</b>																				
Bega .....	1	40	0	0	...	...	...	1	100	0	...	...	...	...	...	...	2	140	0	0
Bombala .....	...	...	...	...	...	...	...	1	50	0	0	...	...	...	...	...	1	50	0	0
Boorowa .....	2	360	0	0	...	...	...	...	...	...	...	...	...	...	...	...	2	360	0	0
Braidwood .....	1	100	0	0	...	...	...	1	80	0	...	...	...	...	...	...	2	180	0	0
Cooma .....	4	220	0	0	1	40	0	...	...	...	...	...	...	...	...	...	6	320	0	0
Goulburn .....	5	547	3	0	1	100	0	...	...	...	...	...	...	...	...	...	7	750	0	0
Gunning .....	...	...	...	...	1	40	0	...	...	...	...	...	...	...	...	...	1	40	0	0
Moruya .....	1	100	0	0	...	...	...	...	...	...	...	...	...	...	...	...	1	100	0	0
Moss Vale .....	3	260	2	0	...	...	...	2	80	0	...	...	...	...	...	...	5	340	2	0
Queanbeyan .....	1	320	0	0	1	46	1	...	...	...	...	...	...	...	...	...	2	366	1	0
Yass .....	1	40	0	0	1	50	0	...	...	...	...	...	...	...	...	...	2	90	0	0
Young .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	326	2	19
<b>Total .....</b>	<b>19</b>	<b>1,983</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>336</b>	<b>1</b>	<b>4</b>	<b>260</b>	<b>0</b>	<b>3</b>	<b>479</b>	<b>1</b>	<b>19</b>	<b>...</b>	<b>...</b>	<b>33</b>	<b>3,063</b>	<b>3</b>	<b>19</b>

## SCHEDULE XV—continued.

Land Board District and Land District.	Ordinary Lands.						Special Areas.						Total.	
	Original.		Additional.		Non-residential.		Original.		Additional.		Non-residential.			
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		a. r. p.		a. r.		a. r.		a. r. p.		a. r.		a. r.		a. r. p.
<b>Grafton—</b>														
Bellingen .....	2	90 0 0	...	...	3	126 0	...	...	...	...	1	57 1	6	273 1 0
Casino .....	1	60 0 0	...	...	...	...	...	...	...	...	...	...	1	60 0 0
Grafton .....	3	180 0 0	...	...	...	...	...	...	...	...	...	...	3	180 0 0
Kempsey .....	4	843 0 0	1	100 0	...	...	1	225 1 0	...	...	...	...	6	1,168 1 0
Lismore .....	1	80 0 0	...	...	...	...	1	66 0 0	...	...	...	...	2	146 0 0
Murwillumbah.....	...	...	...	...	1	45 0	...	...	...	...	...	...	1	45 0 0
Port Macquarie....	6	362 0 0	...	...	...	...	1	100 0 0	...	...	...	...	7	462 0 0
Total .....	17	1,615 0 0	1	100 0	4	171 0	3	391 1 0	...	...	1	57 1	26	2,334 2 0
<b>Hay—</b>														
Hay .....	1	128 0 0	...	...	...	...	...	...	...	...	1	320 0	2	448 0 0
Total .....	1	128 0 0	...	...	...	...	...	...	...	...	1	320 0	2	448 0 0
<b>Maitland—</b>														
Dungog .....	1	40 0 0	...	...	...	...	...	...	...	...	...	...	1	40 0 0
Gosford .....	2	136 3 0	1	49 0	2	120 2	...	...	...	...	...	...	5	297 1 0
Maitland .....	1	40 0 0	...	...	...	...	1	99 1 0	...	...	...	...	2	139 1 0
Muswellbrook.....	3	133 2 0	...	...	...	...	...	...	...	...	...	...	3	133 2 0
Raymond Terrace..	...	...	...	...	1	95 3	1	23 2 30	...	...	...	...	2	119 1 30
Scone .....	1	40 0 0	1	50 0	1	52 0	...	...	...	...	...	...	3	142 0 0
Singleton .....	1	50 2 0	...	...	...	...	...	...	...	...	...	...	1	50 2 0
Taree .....	6	429 3 0	...	...	...	...	1	72 3 0	...	...	...	...	7	502 2 0
Wollombi .....	...	...	...	...	1	100 0	...	...	...	...	...	...	1	100 0 0
Total .....	15	870 2 0	2	90 0	5	368 1	3	195 2 30	...	...	...	...	25	1,524 1 30
<b>Moree—</b>														
Bingara .....	1	200 0 0	...	...	...	...	...	...	...	...	...	...	1	200 0 0
Moree .....	1	131 0 0	...	...	...	...	...	...	...	...	...	...	1	131 0 0
Walgett .....	2	1,280 0 0	...	...	...	...	...	...	...	...	...	...	2	1,280 0 0
Total .....	4	1,611 0 0	...	...	...	...	...	...	...	...	...	...	4	1,611 0 0
<b>Orange—</b>														
Bathurst.....	4	1,110 0 0	...	...	...	...	...	...	...	...	...	...	4	1,110 0 0
Carcoar .....	3	350 0 0	...	...	1	200 0	...	...	...	...	...	...	4	550 0 0
Cowra .....	...	...	1	90 0	...	...	2	89 0 1	...	...	...	...	3	179 0 1
Lithgow .....	1	180 0 0	...	...	...	...	...	...	...	...	...	...	1	180 0 0
Molong .....	4	235 0 0	1	194 1	...	...	1	45 0 0	1	20 2	1	78 0	8	572 3 0
Mudgee .....	1	40 0 0	...	...	...	...	...	...	...	...	...	...	1	40 0 0
Rylstone .....	1	53 0 0	...	...	...	...	...	...	...	...	...	...	1	53 0 0
Wellington.....	1	285 0 0	...	...	1	320 0	...	...	...	...	...	...	2	605 0 0
Total .....	15	2,253 0 0	2	284 1	2	520 0	3	134 0 1	1	20 2	1	78 0	24	3,289 3 1
<b>Sydney—</b>														
Milton.....	1	40 0 0	...	...	...	...	...	...	...	...	...	...	1	40 0 0
Nowra.....	1	200 0 0	...	...	1	120 0	...	...	...	...	...	...	2	320 0 0
Picton .....	3	137 0 0	2	119 3	...	...	...	...	...	...	...	...	5	256 3 0
Windsor.....	...	...	...	...	1	40 0	2	100 0 10	...	...	...	...	3	140 0 10
Total .....	5	377 0 0	2	119 3	2	160 0	2	100 0 10	...	...	...	...	11	756 3 10
<b>Tamworth—</b>														
Gunnedah .....	...	...	...	...	...	...	3	164 1 0	...	...	...	...	3	164 1 0
Murrurundi .....	...	...	...	...	2	264 2	...	...	1	103 2	...	...	3	368 0 0
Narrabri .....	2	166 3 0	...	...	...	...	...	...	...	...	...	...	2	166 3 0
Tamworth .....	2	215 0 0	1	200 0	3	360 0	3	102 3 9	...	...	...	...	9	877 3 9
Total .....	4	381 3 0	1	200 0	5	624 2	6	267 0 9	1	103 2	...	...	17	1,576 3 9
<b>Wagga Wagga—</b>														
Albury .....	...	...	...	...	...	...	1	59 0 0	...	...	...	...	1	59 0 0
Cootamundry.....	...	...	2	240 0	...	...	4	354 2 14	...	...	...	...	6	594 2 14
Corowa .....	...	...	1	50 0	...	...	...	...	...	...	...	...	1	50 0 0
Gundagai .....	1	320 0 0	...	...	...	...	...	...	...	...	...	...	1	320 0 0
Narrandera .....	1	80 0 0	...	...	...	...	...	...	...	...	...	...	1	80 0 0
Tumbarumba .....	6	1,750 0 0	7	1,369 0	...	...	...	...	1	52 3	2	320 0	16	3,491 3 0
Tumut .....	...	...	...	...	...	...	1	77 1 0	...	...	...	...	1	77 1 0
Urana .....	...	...	...	...	...	...	1	158 0 0	...	...	...	...	1	158 0 0
Total .....	8	2,150 0 0	10	1,659 0	...	...	7	648 3 14	1	52 3	2	320 0	28	4,820 2 14
<b>Grand Total .....</b>	<b>112</b>	<b>16,993 2 2</b>	<b>29</b>	<b>3,370 3</b>	<b>26</b>	<b>2,763 3</b>	<b>37</b>	<b>2,553 0 27</b>	<b>3</b>	<b>176 3</b>	<b>5</b>	<b>775 1</b>	<b>212</b>	<b>26,633 0 29</b>

SCHEDULE XVI.

RETURN showing Number and Area of Conditional Purchases declared forfeited during the year 1898 for non-payment of balance, interest, or instalment of purchase money.

Land Board District and Land District.	Crown Lands Alienation Act of 1861											Crown Lands Act of 1884.												
	Section 13		Section 14.		Section 19		Section 21		Section 22		Total		Section 26 (Ordinary)		Section 42 (Ordinary)		Section 47 (Ordinary)		Sections 26-24 (Special Areas)		Sections 42-24 (Special Areas)		Total	
	No	Area	No	Area	No	Area	No	Area	No	Area	No	Area.	No	Area.	No	Area	No	Area	No	Area	No	Area.	No	Area
<b>OURKL—</b>		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.
Willyama ....		...		...	1	80 0 0		...		...	1	80 0 0		.....		.....		.....		...		.....		....
<b>DUBBO—</b>																								
Nyngan .....		.....		.....		.....		.....		.....		.....	1	320 0 0		.....		.....		.....		.....		1 320 0 0
<b>FORBES—</b>																								
Barnedman ..		.....		.....		.....		.....	1	60 0 0	1	60 0 0	2	740 0 0		.....		.....		.....	2	609 0 0		4 1,349 0 0
Condobolin ..	3	774 2 20		.....		.....	1	500 0 0		.....	4	1,274 2 20		.....	1	160 0 0		.....		.....	1	20 0 0		2 180 0 0
Forbes .....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....	1	3 0 1		1 3 0 1
Parkes .....	1	40 0 0		.....		.....		.....		.....	1	40 0 0	1	640 0 0		.....		.....		.....		.....		1 640 0 0
<b>Total.</b>	<b>4</b>	<b>814 2 20</b>		.....		.....	<b>1</b>	<b>500 0 0</b>	<b>1</b>	<b>60 0 0</b>	<b>6</b>	<b>1,374 2 20</b>	<b>3</b>	<b>1,380 0 0</b>	<b>1</b>	<b>160 0 0</b>		.....	<b>4</b>	<b>632 0 1</b>		.....		<b>8 2,172 0 1</b>
<b>GOULBURN—</b>																								
Bega .....	1	100 0 0		.....		.....	1	52 0 0		.....	2	152 0 0	1	120 0 0		.....		.....		.....		.....		1 120 0 0
Braidwood ..		.....		.....	1	40 0 0		.....		.....	1	40 0 0	1	40 0 0		.....		.....		.....		.....		1 40 0 0
Cooma .....	1	40 0 0		.....		.....		.....		.....	1	40 0 0		.....		.....		.....		.....		.....		.....
Goulburn .....		.....		.....		.....		.....		.....		.....	1	120 0 0	1	40 0 0		.....		.....		.....		2 160 0 0
Gunning .....		.....		.....		.....		.....		.....		.....		.....	1	100 0 0		.....		.....		.....		1 100 0 9
Moruya .....		.....		.....		.....		.....		.....		.....	1	80 0 0		.....		.....		.....		.....		1 80 0 0
Young .....		.....		.....		.....	1	40 0 0		.....	1	40 0 0		.....		.....		.....		.....		.....		.....
<b>Total</b>	<b>2</b>	<b>140 0 0</b>		.....	<b>1</b>	<b>40 0 0</b>	<b>2</b>	<b>92 0 0</b>		.....	<b>5</b>	<b>272 0 0</b>	<b>4</b>	<b>360 0 0</b>	<b>2</b>	<b>140 0 0</b>		.....		.....		.....		<b>6 500 0 0</b>
<b>GRATTON—</b>																								
Kempsey .....		.....		.....	1	40 0 0		.....		.....	1	40 0 0	1	200 0 0		.....		.....		.....		.....		1 200 0 0
Murwillumbah	1	59 0 0		.....		.....		.....		.....	1	50 0 0	1	160 0 0	1	100 0 0	1	270 0 0		.....		.....		3 530 0 0
<b>Total..</b>	<b>1</b>	<b>50 0 0</b>		.....	<b>1</b>	<b>40 0 0</b>		.....		.....	<b>2</b>	<b>90 0 0</b>	<b>2</b>	<b>360 0 0</b>	<b>1</b>	<b>100 0 0</b>	<b>1</b>	<b>270 0 0</b>		.....		.....		<b>4 730 0 0</b>

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SCHEDULE XVI—continued.

Land Board District and Land District.	Crown Lands Alienation Act of 1861.											Crown Lands Act of 1884.												
	Section 13.		Section 14.		Section 19.		Section 21.		Section 22.		Total.	Section 26 (Ordinary)		Section 42 (Ordinary)		Section 47 (Ordinary)		Sections 26-24 (Special Areas)		Sections 42-24 (Special Areas)		Total.		
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
<b>HAY—</b>		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.
Demliquan .....	2	480 0 0		.....		.....	1	160 0 0		.....	3	640 0 0		.....		.....		.....		.....		.....		.....
Hillston .....		.....		.....		.....		.....		.....		.....		.....		.....		.....	1	114 0 0		.....	1	114 0 0
Total ..	2	480 0 0		.....		.....	1	160 0 0		.....	3	640 0 0		.....		.....		.....	1	114 0 0		.....	1	114 0 0
<b>MAITLAND—</b>																								
Stroud .....		.....		.....		.....	1	108 0 0		.....	1	108 0 0	2	440 0 0		.....		.....		.....		.....	2	440 0 0
Taree .....		.....	1	40 0 0		.....	1	60 0 0		.....	2	100 0 0	1	100 0 0		.....		.....		.....		.....	1	100 0 0
Wollombi .....		.....		.....		.....		.....		.....		.....	1	320 0 0	1	75 0 0		.....		.....		.....	2	395 0 0
Total..		.....	1	40 0 0		.....	2	168 0 0		.....	3	208 0 0	4	860 0 0	1	75 0 0		.....		.....		.....	5	935 0 0
<b>ORANGE—</b>																								
Bathurst .....		.....		.....		.....		.....		.....		.....	3	628 0 0	4	251 2 0		.....		.....		.....	7	879 2 0
Carcoar .....	3	118 0 0	2	140 0 0		.....	8	330 0 0		.....	13	588 0 0	8	1,160 0 0	2	90 0 0		.....		.....		.....	10	1,250 0 0
Cowra .....		.....		.....		.....		.....		.....		.....	1	320 0 0		.....		.....		.....		.....	1	320 0 0
Lithgow .....	3	190 0 0	3	120 0 0	12	2,042 0 26½	4	204 0 0	7	387 0 0	29	2,943 0 26½	5	221 1 0	9	655 3 0		.....		.....		.....	14	877 0 0
Molong .....		.....		.....		.....		.....		.....		.....	2	420 0 0		.....		.....		.....		.....	2	420 0 0
Mudgee .....	4	220 0 0		.....		.....	1	40 0 0		.....	5	260 0 0	2	200 0 0	1	40 0 0		.....		.....		.....	3	240 0 0
Rylstone .....	2	160 0 0		.....		.....	1	44 0 0		.....	3	204 0 0		.....		.....		.....		.....		.....		.....
Total...	12	688 0 0	5	260 0 0	12	2,042 0 26½	14	618 0 0	7	387 0 0	50	3,995 0 26½	21	2,949 1 0	16	1,037 1 0		.....		.....		.....	37	3,986 2 0
<b>WAGGA WAGGA—</b>																								
Albury .....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....
Tumut .....		.....	2	100 0 0		.....	6	1,040 0 0		.....	8	1,140 0 0		.....		.....		.....		.....		.....	1	80 0 0
Wagga Wagga .....		.....		.....		.....		.....		.....		.....		.....		.....		.....	3	720 0 0		.....	3	720 0 0
Total..		.....	2	100 0 0		.....	6	1,040 0 0		.....	8	1,140 0 0		.....		.....		.....	3	720 0 0		.....	4	800 0 0
<b>Grand Total</b> .....	21	2,172 2 20	8	400 0 0	15	2,202 0 26½	26	2,578 0 0	8	447 0 0	78	7,799 3 6½	35	6,229 1 0	21	1,512 1 0	1	270 0 0	8	1,466 0 1	1	180 0 0	66	9,557 2 1

## SCHEDULE XVII.

RETURN for the Year 1898, showing the number and area of Conditional Purchases and Conditional Leases validated under the 44th section of the Crown Lands Act of 1895.

Conditional Purchases.			Conditional Leases.		
Land District.	No.	Area.	Land District.	No.	Area.
		a. r. p.			a. r. p.
Inverell .....	1	251 0 0	Wellington .....	1	960 0 0
Wellington .....	1	200 0 0	Inverell .....	1	240 0 0
" .....	1	91 0 0	Warren .....	1	105 0 0
" .....	1	54 1 0			
Lithgow .....	1	40 0 0			
" .....	1	40 0 0			
Scone .....	1	40 0 0			
Wagga Wagga .....	1	320 0 0			
Inverell .....	1	60 0 0			
Totals .....	9	1,096 1 0	Totals .....	3	1,305 0 0

## SCHEDULE XVIII.

SUMMARY of particulars relating to the number and area of Conditional Purchases in existence on 31st December, 1898.

Particulars.	No.	Area.	No.	Area.
		a. r. p.		a. r. p.
Number and area selected up to 31st December, 1897, after deducting number and area cancelled, lapsed, forfeited, disallowed, withdrawn, converted into homestead selections, and for which deeds have issued*	151,183	20,224,892 0 37 $\frac{3}{4}$		
Number and area applied for during 1898 .....	1,591	298,137 2 11 $\frac{1}{2}$	152,774	20,523,029 3 9 $\frac{1}{2}$
Less net decrease due to disallowances, &c., as below .....	686	102,762 2 22 $\frac{1}{2}$		
„ number and area for which deeds were issued during 1898 .....	1,391	176,529 0 12	2,077	279,291 2 34 $\frac{1}{2}$
Number and area in existence on 31st December, 1898 .....			150,697	20,243,738 0 15
Number and area of conditional purchases for which deeds have been issued up to 31st December, 1898 .....			25,522	3,059,191 0 33
Disallowed or withdrawn during 1898 .....	369	68,608 0 27		
Declared forfeited during 1898 .....	356	43,990 1 36 $\frac{1}{2}$		
Decrease in area (Schedule XIII) .....		2,255 0 23 $\frac{1}{2}$		
Converted into homestead selections during 1898, exclusive of applications withdrawn or refused .....	18	2,977 2 0	743	117,831 1 6 $\frac{1}{2}$
Reversals of forfeiture for non-payment—Crown Lands Act, 1861 .....	26	3,475 3 10		
Reversals of forfeiture for non-payment—Crown Lands Act, 1884 .....	21	3,113 0 1		
Reversals of forfeiture for reasons other than non-payment—Crown Lands Act, 1884 .....	7	1,330 1 0		
Increase in area (Schedule XIII) .....		6,092 1 13 $\frac{1}{2}$		
Applied to be converted into Homestead Selections prior to 31st December, 1897, and applications withdrawn or refused during 1898 .....	3	1,057 1 0	57	15,068 2 24 $\frac{1}{2}$
Net decrease in number and area due to disallowances, &c. ....			686	102,762 2 22 $\frac{1}{2}$

\* These figures are in lieu of those given in Schedule XXI of Annual Report for 1897 (vide 98-11,530 Dep.).

SCHEDULE XIX.

RETURN of applications for Homestead Selections received from 1st June, 1895, to 31st December, 1898.

Land Board District and Land District	Section	From 1st June, 1895, to 31st December, 1897					From 1st January, 1898, to 31st December, 1898					Total				
		No	Area	Annual Rent	Full Survey Fees	Capital Value	No	Area	Annual Rent	Full Survey Fees	Capital Value	No	Area	Annual Rent	Full Survey Fees	Capital Value
Armidale—			a r p	£ s d	£ s d	£ s d	a r p	£ s d	£ s d	£ s d		a r p	£ s d	£ s d	£ s d	
Armidale	14	49	9,810 1 10	131 4 3	198 7 1	10,475 18 1	13	3,224 3 20	38 5 1	55 10 0	3,060 7 1	62	13,030 0 30	169 9 4	253 17 1	13,536 5 2
"	13	1	55 0 0	1 10 11	1 1 11	123 15 0						1	55 0 0	1 10 11	1 1 11	123 15 0
Glen Innes	14	12	2,131 3 14	31 7 2	45 2 6	2,508 2 0	6	1,639 3 0	15 4 4	31 14 6	1,217 9 11	18	3,771 2 14	46 11 6	76 17 0	3,725 11 11
Inverell	14	34	13,015 0 0	211 8 11	208 10 6	16,916 3 8	5	1,609 1 0	35 4 2	30 10 0	2,316 3 9	39	14,024 1 0	246 13 1	239 0 6	19,732 7 5
Tenterfield	14	44	9,416 3 10	99 6 4	170 10 5	7,944 12 6	5	4,712 3 0	39 10 4	45 11 6	3,161 8 4	49	14,129 2 10	138 16 8	216 1 11	11,106 0 10
Walcha	14	18	4,204 1 0	99 9 1	87 6 9	7,955 1 8	1	182 1 0	5 13 11	4 15 9	455 12 6	19	4,386 2 0	105 3 0	92 2 6	8,410 14 2
Total		158	38 633 0 34	574 6 8	710 19 2	45,923 12 11	30	11,368 3 20	133 17 10	168 1 9	10,711 1 7	188	50,002 0 14	708 4 6	879 0 11	56,634 14 6
Bourke—																
Bourke	14	21	432 1 20	105 0 0	73 1 3	8,400 0 0	1	20 0 0	5 0 0	2 5 0	400 0 0	22	452 1 20	110 0 0	75 6 3	8,800 0 0
Brewarrina	14	16	14,162 0 20	128 14 9	133 9 3	10,097 7 0	2	1,154 2 0	7 17 1	14 11 0	628 3 9	13	15,316 2 20	136 11 10	148 0 3	10,725 10 9
Cobar	14	12	1,730 1 23	14 14 2	36 14 6	1,498 11 8	9	1,478 0 33	11 19 11	32 1 3	959 4 9	21	3,208 2 16	26 14 1	68 15 9	2,457 16 5
Total		49	16 324 3 23	248 8 11	243 5 0	19,995 18 8	12	2,652 2 33	24 17 0	48 17 3	1,987 8 6	61	18,977 2 16	273 5 11	292 2 3	21,983 7 2
Dubbo—																
Coonamble	14	13	1,730 2 0	30 2 2	45 15 3	2,406 5 3	3	83 1 11	2 13 7	7 13 9	214 6 1	16	1,813 3 11	32 15 9	58 9 0	2,620 11 4
Dubbo	14	135	63,892 3 37	1,071 8 8	896 13 3	85,521 9 11	96	84,573 0 0	1,499 1 5	862 18 3	119,920 11 6	231	148,465 3 37	2,570 10 1	1,759 11 6	205,442 1 5
Nyngan	14	40	16,424 3 0	222 10 0	253 19 11	17,798 4 11	12	5,075 0 0	80 0 8	78 4 8	6,402 2 10	52	21,499 3 0	302 10 8	332 4 7	24,200 7 9
Warren	14						18	3,502 0 29	184 3 9	86 13 6	14,733 13 9	18	3,502 0 29	184 3 9	86 13 6	14,733 13 9
Total		188	82,048 0 37	1,324 0 10	1,196 8 5	105,726 0 1	129	93,233 2 0	1,765 19 5	1,035 10 2	141,270 14 2	317	175,281 2 37	3,000 0 3	2,231 18 7	246,996 14 3
Forbes—																
Barmedman	14	11	5,184 2 0	67 13 11	76 4 6	5,415 5 8	6	5,398 0 0	72 15 7	56 1 9	5,821 13 9	17	10,582 2 0	140 9 6	132 6 3	11,236 19 5
Forbes	14	81	60,149 3 0	893 0 8	680 4 0	71,472 4 11	12	8,069 2 0	112 14 3	98 0 0	9,016 6 0	93	68,219 1 0	1,005 14 11	778 4 0	80,488 10 11
Glenfell	14	16	7,574 3 33	103 19 9	100 4 3	8,320 12 3	1	23 3 30	0 9 0	2 8 0	35 18 2	17	7,598 3 23	104 8 9	102 12 3	8,356 10 5
Paikes	14	69	59,649 2 0	718 10 10	637 1 3	57,472 6 4	58	50,335 2 10	606 14 9	525 11 0	48,527 0 8	127	109,985 0 10	1,325 5 7	1,162 12 3	105,999 7 0
Total		177	132 558 2 33	1,783 5 2	1,493 14 0	142 680 9 2	77	63,827 0 0	792 13 7	682 0 9	63,400 18 7	254	196 385 2 33	2,575 18 9	2,175 14 9	206,081 7 9
Goulburn—																
Bega	14						7	1,071 0 10	14 10 8	24 7 0	1,162 2 6	7	1,071 0 10	14 10 8	24 7 0	1,162 2 6
Bombala	14	21	1,377 0 10	44 4 7	67 12 8	3 537 5 8	11	420 0 30	15 11 2	32 0 0	1,241 9 5	32	1,797 1 0	59 15 9	99 12 8	4,778 15 1
Boorowa	14	24	5,468 3 0	100 4 2	121 2 6	7,924 18 1	5	2,419 1 0	46 7 7	33 19 3	3,709 5 9	29	7,888 0 0	146 11 9	155 1 9	11,634 6 10
Braidwood	14	1	962 2 12	12 0 8	9 13 3	962 11 6	10	1,212 2 10	20 3 2	37 3 0	1,609 11 3	11	2,175 0 22	32 3 10	46 16 3	2,572 2 9
Cooma	14	18	3,553 2 38	66 4 8	77 1 3	5,298 4 6	22	8,568 1 30	124 17 11	128 18 3	9,990 10 10	40	12,122 0 23	191 2 7	205 19 6	15,288 15 4
Eden	14	20	1,434 2 20	35 4 0	73 9 3	2,814 10 0	4	322 1 10	5 17 7	14 7 9	470 2 11	24	1,756 3 30	41 1 7	87 17 0	3,284 12 11
Goulburn	14	13	2,363 1 30	50 13 10	60 15 6	4,060 15 9	2	484 1 0	9 5 1	10 12 0	740 5 0	15	2,847 2 30	59 18 11	71 7 6	4,801 0 9
Gunning	14	8	1,170 1 0	25 3 6	35 5 3	2,032 2 6	4	1,021 2 0	12 15 6	21 17 3	1,021 10 0	12	2,191 3 0	37 19 0	57 2 6	3,053 12 6
Moulay	14	10	2,083 2 0	18 19 0	51 6 9	1 517 18 2						10	2 083 2 0	18 19 0	51 6 9	1 517 18 2
Queanbeyan	14	13	2,072 0 30	41 18 0	54 7 2	3,345 12 6	4	790 2 0	29 13 2	19 10 3	2,371 10 0	17	2,862 2 30	71 11 2	73 17 5	5,717 2 6
Yass	14	10	1,293 1 0	23 11 3	42 9 9	2,254 10 0	3	856 1 0	11 17 6	16 17 9	949 7 6	13	2,149 2 0	40 8 9	69 7 6	3,233 17 6
"	18	1	82 0 0	4 6 2	3 17 0	123 0 0						1	82 0 0	4 6 2	3 17 0	123 0 0
Young	14	60	12,896 3 35	305 5 8	274 16 5	24,419 0 10	26	2,538 2 7	46 11 4	88 10 9	3,721 12 8	86	15 435 2 2	351 17 0	363 7 2	28,140 13 6
"	18						1	32 3 0	5 14 7	3 2 0	163 15 0	1	32 3 0	5 14 7	3 2 0	163 15 0
Total		199	34,758 1 15	732 16 4	871 16 9	58,320 9 6	99	19,737 2 17	343 5 3	431 5 3	27,151 5 10	298	54,495 3 32	1,076 1 7	1,303 2 0	85,471 15 4
Grafton—																
Bellingen	14	9	1,459 1 0	18 4 11	40 19 11	1,459 5 0	12	1,968 2 0	24 12 2	54 18 0	1,968 10 0	21	3,427 3 0	42 17 1	95 17 11	3,427 15 0
Casno	14						4	1,662 2 0	30 8 3	25 17 9	2,432 12 6	4	1,662 2 0	30 8 3	25 17 9	2,432 12 6
Grafton	14	11	2,784 2 0	25 7 2	55 11 4	2,027 3 6	1	153 2 0	1 18 5	4 10 0	2,938 0 0	12	2,938 0 0	27 5 7	60 1 4	2,180 13 6
Kempsey	14	10	1,291 3 0	26 7 3	44 14 9	2,108 5 0	4	575 0 0	9 19 1	17 10 9	796 0 0	14	1,866 3 0	36 6 4	62 5 6	2,904 5 0
Lismore	14	25	5,226 1 0	88 15 4	124 4 9	7,099 18 4	7	2,284 3 0	27 0 8	41 13 0	2,162 0 5	32	7,511 0 0	115 16 0	165 17 9	9,261 18 9
Murwillumbah	14	12	1,549 1 0	29 9 4	51 7 11	2,357 14 6	5	1,822 3 0	24 5 4	30 17 6	1,940 10 7	17	3,372 0 0	53 14 8	82 5 5	4,298 5 1
"	18	1	100 3 0	5 6 0	4 0 9	151 2 6						1	100 3 0	5 6 0	4 0 9	151 2 6
Total		68	12 411 3 0	193 10 0	320 19 5	15,203 8 10	33	8,467 0 0	118 3 11	175 7 0	9,453 3 6	101	20,878 3 0	311 13 11	496 6 5	24,656 12 4
Hay—																
Balranald	14	3	3,511 0 0	39 8 0	33 3 9	3,151 14 0						3	3 511 0 0	39 8 0	33 3 9	3 151 14 0
Balranald South	14	17	19 244 0 0	353 15 1	177 11 0	28,497 7 6	7	7,242 0 0	133 4 8	69 15 6	10,657 17 0	24	26,486 0 0	436 19 9	247 6 6	39,155 4 6
Deniliquin	14	179	74,104 2 0	1,914 9 3	1,157 0 0	152,920 3 9	22	11,954 0 38	310 8 1	157 12 0	24,831 7 1	201	86,058 2 38	2,224 17 4	1,314 12 0	177,751 10 10
"	18	1	160 0 0	11 4 0	4 10 0	320 0 0						1	160 0 0	11 4 0	4 10 0	320 0 0
Hay	14	52	47,938 3 0	741 7 10	476 11 1	59,283 2 4	16	5,350 2 0	90 9 0	92 11 6	7,233 10 0	68	53,289 1 0	831 16 10	569 2 7	66,521 12 4
Hay North	14						2	1,464 0 0	27 9 2	17 1 3	2,196 0 0	2	1,464 0 0	27 9 2	17 1 3	2,196 0 0
Hillston	14	35	21,947 0 0	199 17 11	286 15 6	15,237 17 6	61	27,812 2 0	284 14 10	339 3 0	22,769 0 1	96	49,759 2 0	484 12 9	675 18 6	38,006 17 7
Hillston North	14						4	142 3 0	3 11 5	11 8 0	285 10 0	4	142 3 0	3 11 5	11 8 0	285 10 0
Wentworth	14	2	2,558 0 0	11 19 11	22 2 6	959 10 0	1	846 0 0	6 6 11	9 2 0	507 12 0	3	3,404 0 0	18 6 10	31 4 6	1,467 2 0
Total		289	169,463 1 0	3,272 2 0	2,157 13 10	260,374 15 1	113	54,811 3 38	856 4 1	746 13 3	68,480 16 2	402	224,275 0 38	4,128 6 1	2,904 7 1	328,855 11 3

SCHEDULE XIX—continued.

Land Board District and Land District	Section	From 1st June, 1895, to 31st December, 1897					From 1st January, 1898, to 31st December, 1898					Total				
		No	Area	Annual Rent	Full Survey Fees	Capital Value	No	Area	Annual Rent	Full Survey Fees	Capital Value	No	Area	Annual Rent	Full Survey Fees	Capital Value
			a r p	£ s d	£ s d	£ s d		a r p	£ s d	£ s d	£ s d		a r p	£ s d	£ s d	£ s d
Maitland—																
Cassilis	14	65	5,542 2 20	115 1 10	224 16 9	9 262 1 1	32	5,766 2 30	100 6 10	139 10 6	8,025 11 8	97	11,309 1 10	216 2 8	364 7 3	17,237 12 9
Dungo	14	8	1,038 3 10	20 0 7	33 16 11	1,602 6 6	3	278 3 10	6 6 5	11 12 6	505 13 2	11	1,317 2 20	26 7 0	45 9 5	2,107 19 8
Gosford	14	38	3,850 0 0	45 10 7	133 19 10	3,531 5 0	12	1,258 0 0	14 13 4	44 18 3	1,172 13 4	50	5,108 0 0	60 3 11	178 18 1	4,753 18 4
Maitland	14	18	1,343 0 20	20 0 7	6 0 10	1,601 8 4	11	913 3 0	12 0 3	41 1 9	960 12 6	29	2,256 3 20	32 0 10	106 2 7	2,562 0 10
Muswellbrook	14	2	398 0 0	5 16 2	9 15 0	464 6 8						2	3 38 0 0	5 16 2	9 15 0	464 6 8
Newcastle	14	13	761 2 0	9 17 5	43 14 3	788 4 5	4	312 2 0	4 7 7	14 14 6	353 2 6	17	1 074 0 0	14 5 0	58 8 9	1,138 6 11
Paterson	14	12	1,874 0 0	19 19 5	53 6 11	1 997 4 2	7	1,490 2 0	16 7 4	3 1 6	1,338 13 4	19	3 365 1 0	36 6 9	88 8 5	2 905 17 6
Scone	14	13	14,413 2 0	190 3 5	130 19 6	14,413 10 0						13	14 413 2 0	180 3 5	130 19 6	14,413 10 0
Singleton	14	32	2,735 0 0	54 10 2	122 6 0	4,470 17 6	9	550 2 14	10 12 11	30 11 3	850 4 7	41	3,315 2 14	65 3 1	152 17 3	5,321 2 1
Stroud	14	9	7,626 1 0	117 2 11	81 9 9	9,369 16 3						9	7 626 1 0	117 2 11	81 9 9	9,369 16 3
Taree	14						4	264 2 10	4 14 3	14 3 6	376 16 10	4	264 2 10	4 14 3	14 3 6	376 16 10
Total		210	39,583 2 10	538 17 1	899 0 9	47,150 19 11	82	10,865 1 24	169 8 11	331 13 9	13,550 7 11	202	50,448 3 34	738 6 0	1,230 19 6	60,701 7 10
Moree—																
Walgett	14	12	11,030 1 20	151 4 7	112 14 3	12,097 14 5	1	1,280 0 0	16 0 0	11 1 3	1,280 0 0	13	12,310 1 20	167 4 7	123 15 6	13,377 14 5
Walialda	14	8	10,240 0 0	123 0 0	88 10 0	10,240 0 0						8	10,240 0 0	123 0 0	88 10 0	10,240 0 0
Total		20	21,270 1 20	279 4 7	201 4 3	22,337 14 5	1	1,280 0 0	16 0 0	11 1 3	1,280 0 0	21	22,550 1 20	295 4 7	212 5 6	23,617 14 5
Orange—																
Carcoar	14						1	408 0 0	5 2 0	6 11 3	408 0 0	1	408 0 0	5 2 0	6 11 3	408 0 0
Cowra	14	1b	166 0 14	5 14 7	23 16 6	460 3 2	8	1,129 2 25	19 2 10	28 9 6	1,529 15 11	23	1,295 2 39	24 17 5	52 6 0	1,989 19 1
Lithgow	14	3	579 1 0	10 17 3	14 10 1	838 17 6						3	579 1 0	10 17 3	14 10 1	838 17 6
Molong	14	23	5,596 1 33	10 16 2	106 19 10	8 463 19 8	12	1,898 0 14	42 17 11	49 9 0	3,431 14 9	35	7,494 2 7	148 14 1	156 8 10	11,895 14 5
Mudree	14	70	11,789 0 19	230 10 3	301 4 9	17,718 10 9	7	1,243 1 0	21 4 6	32 10 9	1,697 10 1	77	15,032 1 19	251 14 9	331 15 6	19,416 0 10
Rylstone	14						5	4,714 0 0	48 12 4	47 11 0	3,887 5 0	5	4,714 0 0	48 12 4	47 11 0	3,887 5 0
Wellington	14						4	602 3 0	16 19 10	17 16 6	1,358 7 6	4	602 3 0	16 19 10	17 16 6	1,358 7 6
Total		111	18,130 3 26	302 18 3	446 11 2	27,511 11 1	37	9,995 2 39	153 19 5	182 8 0	12,312 13 3	148	28,126 2 25	506 17 8	628 19 2	39,824 4 4
Sydney—																
Campbelltown	14	36	984 1 2	24 3 3	103 5 6	1,890 19 1	2	42 1 20	1 4 5	4 12 3	97 19 5	33	1,026 2 22	25 7 8	107 17 9	1,988 18 6
"	18	1	13 0 10	1 3 0	1 16 0	32 13 3						1	13 0 10	1 3 0	1 16 0	32 13 3
Liverpool	14	12	497 2 0	6 13 2	32 15 3	552 7 6	3	77 1 0	1 9 0	7 9 3	115 17 6	15	574 3 0	8 7 2	40 4 6	668 5 0
Milton	14						5	61 0 8	1 3 2	8 8 6	91 11 6	5	61 0 8	1 3 2	8 8 6	91 11 6
Nowra	14	5	128 1 20	2 17 5	11 18 6	229 11 11	3	92 0 0	1 3 1	10 16 0	92 0 0	8	220 1 20	4 0 6	22 14 0	321 11 11
"	18	1	36 1 20	0 18 2	2 17 9	72 15 0						1	36 1 20	0 18 2	2 17 9	72 15 0
Penrith	14	1	29 1 30	0 8 10	2 12 6	30 6 6	10	513 3 0	6 11 0	33 15 0	522 15 0	11	543 0 30	6 19 10	36 7 6	538 1 6
Pictou	14	1	33 0 0	0 6 11	2 14 9	27 10 0						1	33 0 0	0 6 11	2 14 9	27 10 0
"	18	2	140 3 0	4 2 2	9 9 9	117 5 10						2	140 3 0	4 2 2	9 9 9	117 5 10
Windsor	14	58	2,742 1 10	45 14 7	182 5 10	3,648 15 7	23	1,094 3 30	19 3 1	72 15 6	1,532 10 8	81	3,837 1 0	64 17 8	235 1 4	5,131 6 3
"	18	5	227 2 10	9 8 1	15 11 4	264 2 6						5	227 2 10	9 8 1	15 11 4	264 2 6
Total		122	4 832 2 22	96 0 7	365 7 2	6,871 7 2	46	1,881 1 18	30 13 9	137 16 6	2,452 14 1	168	6,714 0 0	126 14 4	503 3 8	9,324 1 3
Tamworth—																
Coonabarabran	14						6	1 226 0 0	23 0 0	29 17 0	1 839 0 0	6	1,226 0 0	23 0 0	29 17 0	1,839 0 0
Gunnedah	14	96	36,216 3 0	719 2 9	603 16 9	56 045 4 4	41	12,041 1 0	273 2 1	229 0 6	21,847 10 10	137	48,268 0 0	992 4 10	832 17 3	77,892 15 2
"	18	2	712 1 0	45 9 11	12 7 6	1,293 15 0						2	712 1 0	45 9 11	12 7 6	1,293 15 0
Murrumbidgee	14	19	802 2 0	134 17 3	58 1 0	10,788 15 0	7	2,144 0 0	6 0 0	41 11 0	5 040 0 0	26	2,946 2 0	197 17 3	99 12 0	15 828 15 0
Narrabri	14	5	3,186 3 0	61 7 0	37 8 6	4,907 12 6	33	13,543 3 0	275 18 0	217 5 9	22,071 9 2	38	16,730 2 0	337 5 0	254 14 3	26,979 1 8
Tamworth	14	25	9,089 3 30	223 18 11	142 16 6	17,929 1 3	12	2,225 3 36	45 15 6	43 0 3	3,661 18 6	37	11,315 3 26	269 14 5	185 16 9	21,590 19 9
Total		147	50,008 0 30	1,184 15 10	854 10 3	90,969 8 1	99	31,180 3 36	680 15 7	560 14 6	54,459 18 6	246	81,189 0 26	1,865 11 5	1,415 4 9	145,429 6 7
Wagga Wagga—																
Albury	14	50	1,520 1 26	42 0 6	110 5 1	3 238 4 9	9	133 0 25	5 0 11	14 8 0	403 7 9	59	1,653 2 11	47 1 5	124 18 1	3,641 12 6
Cootamundra	14	106	27,530 2 14	608 11 9	572 17 7	47,859 3 3	12	4,777 0 30	80 6 0	75 0 4	6,423 5 3	118	32,307 3 4	688 17 9	647 17 11	54,282 8 6
Cootamundra, Central	14	8	4,543 2 0	75 8 5	59 14 3	6,033 18 9	8	5,878 2 0	106 6 9	67 19 9	8,506 2 11	16	10,422 0 0	181 15 2	127 14 0	14,540 1 8
Corowa	14	156	85,941 1 16	1,670 18 1	1,149 2 4	132,885 19 4	23	15 470 2 0	322 3 7	203 5 3	25,773 19 3	184	101,411 3 16	1,993 1 8	1,352 7 7	158,609 18 7
Narrandera	14	111	72,861 3 0	1,196 11 3	825 8 0	95,720 14 7	70	27,929 1 0	519 19 3	418 11 3	41,593 16 3	181	100,707 0 0	1,716 10 6	1,243 19 3	137,314 10 10
Tumut	14						1	477 0 0	2 19 8	7 0 9	233 10 0	1	477 0 0	2 19 8	7 0 9	233 10 0
Urana	14	198	116 062 3 10	2,217 4 2	1,488 18 9	177,120 12 7	66	31,247 0 7	683 13 3	423 10 3	53,090 3 4	264	147,309 3 17	2,880 17 5	1 917 9 0	230,210 15 11
Wagga Wagga	14	251	103,736 2 0	2,533 13 4	1,632 8 1	202,675 1 4	129	66,431 3 0	1,807 6 0	912 14 9	144,569 9 4	380	170,168 1 0	4,340 19 4	2,545 2 10	347,244 10 8
Total		880	412,196 3 26	8,344 7 6	5,838 14 1	665,533 14 7	323	152,344 1 22	3,507 15 5	2,127 10 4	280,598 14 1	1,203	564,541 1 8	11,862 2 11	7,966 4 5	946,132 8 8
Grand Total		2,618	1,032,220 3 36	18,974 13 9	15,000 9 3	1,508,599 9 6	1,081	461,646 2 7	8,593 14 2	6,638 19 9	687,109 16 2	3,699	1,498,867 2 3	27,563 7 11	22,289 9 0	2,195,709 5 8





SCHEDULE XX—continued.

Land Board District and Land District.	Section.	From 1st June, 1895, to 31st December, 1897.					From 1st January, 1898, to 31st December, 1898.					Total.				
		No.	Area.	Annual Rent.	Full Survey Fees.	Capital Value.	No.	Area.	Annual Rent.	Full Survey Fees.	Capital Value.	No.	Area.	Annual Rent.	Full Survey Fees.	Capital Value.
Maitland—	14	57	4,316 0 20	93 2 0	191 14 9	7,447 5 3	24	3,246 1 30	60 3 4	95 3 6	4,812 8 9	81	7,562 2 10	153 5 4	236 18 3	12,259 14 0
Cassilis	14	7	751 3 10	16 16 4	23 8 2	1,345 6 6	3	435 3 10	8 9 10	13 2 6	679 6 6	10	1,217 2 20	25 6 2	41 10 8	2,024 13 0
Dungog	14	33	3,716 1 0	41 12 7	122 5 5	3,329 7 6	12	1,258 0 0	14 13 4	44 18 3	1,172 13 4	45	4,974 1 0	56 5 11	167 3 8	4,502 0 10
Gosford	14	18	1,343 0 20	20 0 7	65 0 9	1,601 8 4	10	801 3 0	10 16 11	36 19 3	867 5 10	23	2,144 3 20	30 17 6	102 0 0	2,468 14 2
Maitland	14	1	199 0 0	2 18 1	4 17 6	232 3 4	1	199 0 0	2 18 1	4 17 6	232 3 4	1	199 0 0	2 18 1	4 17 6	232 3 4
Muswellbrook	14	8	469 1 0	6 3 1	26 14 6	491 1 3	4	268 1 0	3 3 0	14 1 6	251 17 6	12	737 2 0	9 6 1	40 16 0	742 18 9
Newcastle	14	11	9,293 2 0	116 3 5	86 14 6	9,293 10 0	7	1,490 2 0	16 7 4	35 1 6	1,308 13 4	18	3,165 1 0	34 13 5	83 10 11	2,772 10 10
Paterson	14	9	1,674 3 0	18 6 1	48 9 5	1,463 17 6	7	580 2 14	10 12 11	30 11 3	850 4 7	9	9,293 2 0	116 3 5	86 14 6	9,293 10 0
Scone	14	28	2,895 1 0	47 10 2	104 13 5	3,920 7 6	9	264 2 10	4 14 3	14 3 6	376 16 10	6	4,706 2 0	74 3 8	52 8 3	5,941 7 6
Singleton	14	6	4,706 2 0	74 5 8	52 8 3	5,941 7 6	4	264 2 10	4 14 3	14 3 6	376 16 10	4	264 2 10	4 14 3	14 3 6	376 16 10
Stroud	14	6	4,706 2 0	74 5 8	52 8 3	5,941 7 6	4	264 2 10	4 14 3	14 3 6	376 16 10	4	264 2 10	4 14 3	14 3 6	376 16 10
Taree	14	6	4,706 2 0	74 5 8	52 8 3	5,941 7 6	4	264 2 10	4 14 3	14 3 6	376 16 10	4	264 2 10	4 14 3	14 3 6	376 16 10
Total		178	28,895 2 10	436 18 0	731 6 8	35,065 14 8	73	8,345 3 24	129 0 11	234 1 3	10,319 6 8	251	37,241 1 34	565 18 11	1,015 7 11	15,385 1 4
Moree—	14	11	10,390 1 20	143 4 7	115 14 3	11,457 14 5	11	10,390 1 20	143 4 7	115 14 3	11,457 14 5	11	10,390 1 20	143 4 7	115 14 3	11,457 14 5
Walgett	14	5	6,400 0 0	80 0 0	55 6 3	6,400 0 0	5	6,400 0 0	80 0 0	55 6 3	6,400 0 0	5	6,400 0 0	80 0 0	55 6 3	6,400 0 0
Wyallda	14	5	6,400 0 0	80 0 0	55 6 3	6,400 0 0	5	6,400 0 0	80 0 0	55 6 3	6,400 0 0	5	6,400 0 0	80 0 0	55 6 3	6,400 0 0
Total		16	16,790 1 20	223 4 7	171 0 6	17,857 14 5	16	16,790 1 20	223 4 7	171 0 6	17,857 14 5	16	16,790 1 20	223 4 7	171 0 6	17,857 14 5
Orange—	14	15	166 0 15	5 14 7	23 16 6	460 3 2	7	662 2 25	13 6 0	21 10 9	1,062 15 11	22	828 3 0	19 0 7	45 7 3	1,522 19 1
Cowra	14	3	579 1 0	10 17 3	14 10 9	868 17 6	13	2,306 0 11	50 7 1	54 15 6	4,028 3 3	31	6,526 2 10	129 0 4	136 9 8	10,320 15 11
Lithgow	14	18	4,220 1 39	78 13 3	81 14 2	6,292 12 8	3	490 3 0	8 13 1	13 15 9	692 1 11	47	6,056 0 36	123 15 2	185 3 0	9,899 0 7
Molong	14	44	5,565 1 36	115 2 1	171 7 3	9,206 18 8	3	490 3 0	8 13 1	13 15 9	692 1 11	47	6,056 0 36	123 15 2	185 3 0	9,899 0 7
Mudgee	14	44	5,565 1 36	115 2 1	171 7 3	9,206 18 8	3	490 3 0	8 13 1	13 15 9	692 1 11	47	6,056 0 36	123 15 2	185 3 0	9,899 0 7
Total		80	10,531 1 10	210 7 2	291 8 8	16,823 12 0	23	3,459 1 36	72 6 2	90 2 0	5,783 1 1	103	13,990 3 6	282 18 4	331 10 8	22,611 13 1
Sydney—	14	36	769 1 12	18 12 3	80 1 0	1,487 17 2	3	76 0 30	1 9 8	7 7 9	118 13 2	39	845 2 2	20 1 11	87 8 9	1,606 10 4
Campbelltown	14	11	467 3 0	6 10 9	30 2 9	522 12 6	2	52 2 0	0 15 11	4 19 9	63 17 6	13	520 1 0	7 6 8	35 2 6	586 10 0
Liverpool	14	11	467 3 0	6 10 9	30 2 9	522 12 6	2	52 2 0	0 15 11	4 19 9	63 17 6	13	520 1 0	7 6 8	35 2 6	586 10 0
Milton	14	5	128 1 20	2 17 5	11 18 6	219 11 11	2	37 1 0	0 9 4	4 7 0	37 5 0	7	165 2 20	3 6 9	16 5 6	256 16 11
Nowra	14	1	29 1 30	0 8 10	2 12 6	35 6 6	6	308 3 0	3 18 6	18 19 9	313 5 0	7	338 0 30	4 7 4	21 12 3	348 11 6
Peniith	14	1	33 0 0	0 6 11	2 14 9	27 10 0	1	33 0 0	0 6 11	2 14 9	27 10 0	1	33 0 0	0 6 11	2 14 9	27 10 0
Picton	14	1	45 0 0	1 6 3	3 2 0	37 10 0	1	45 0 0	1 6 3	3 2 0	37 10 0	1	45 0 0	1 6 3	3 2 0	37 10 0
Windsor	14	52	2,455 2 10	38 14 3	164 11 5	3,296 6 8	24	1,153 2 20	19 8 9	76 5 9	1,555 8 2	76	3,609 0 30	58 3 0	240 17 2	4,851 14 10
"	14	3	153 1 10	6 5 11	9 15 1	179 17 6	3	153 1 10	6 5 11	9 15 1	179 17 6	3	153 1 10	6 5 11	9 15 1	179 17 6
Total		110	4,081 3 2	75 2 7	304 18 0	5,806 12 3	41	1,681 1 10	27 2 4	119 1 0	2,167 18 10	151	5,763 0 12	102 4 11	423 19 0	7,974 11 1
Tamworth—	14	73	25,472 3 0	468 9 1	481 0 9	38,968 5 10	36	10,878 1 0	230 8 0	201 14 9	18,431 8 0	109	30,351 0 0	698 17 1	682 15 6	57,399 13 10
Coonabarabran	14	1	251 2 0	13 4 9	5 8 9	377 5 0	1	251 2 0	13 4 9	5 8 9	377 5 0	1	251 2 0	13 4 9	5 8 9	377 5 0
Gunnedah	14	16	682 2 0	115 7 5	49 1 0	9,228 15 0	3	924 0 0	26 17 6	17 14 6	2,150 0 0	19	1,606 2 0	142 4 11	66 15 6	11,378 15 0
Murrurundi	14	3	1,232 1 0	24 14 0	18 2 0	1,975 17 6	12	1,863 3 36	36 3 6	38 11 9	2,833 18 6	31	9,362 1 26	219 9 9	154 4 9	22,252 14 9
Narrabri	14	19	7,498 1 30	183 6 3	115 13 0	19,358 16 3	12	1,863 3 36	36 3 6	38 11 9	2,833 18 6	31	9,362 1 26	219 9 9	154 4 9	22,252 14 9
Tamworth	14	19	7,498 1 30	183 6 3	115 13 0	19,358 16 3	12	1,863 3 36	36 3 6	38 11 9	2,833 18 6	31	9,362 1 26	219 9 9	154 4 9	22,252 14 9
Total		112	35,137 1 30	805 1 6	669 5 6	69,908 19 7	54	14,242 2 36	304 5 4	272 12 0	24,340 1 6	166	49,380 0 26	1,109 6 10	941 17 6	94,249 1 1
Wagga Wagga—	14	26	821 0 37	25 0 9	53 11 9	2,002 18 5	11	278 2 22	8 5 3	23 14 6	660 17 4	37	1,099 3 19	33 6 0	77 6 3	2,663 16 0
Albury	14	80	20,878 0 0	458 10 3	430 7 2	36,681 2 1	9	3,377 2 10	56 2 4	54 17 3	4,489 5 8	89	24,255 2 10	514 12 7	485 4 5	41,170 7 9
Cootamundra	14	7	4,276 0 0	69 11 5	54 4 0	5,565 19 3	7	4,873 0 0	90 12 6	58 2 9	7,249 5 5	14	9,149 0 0	160 3 11	112 6 9	12,815 4 8
Cent.	14	66	26,529 0 31	636 18 0	392 10 1	50,952 0 11	14	7,788 2 0	167 18 10	104 7 8	13,435 8 0	80	34,317 2 31	804 16 10	496 17 9	64,387 8 11
Corowa	14	87	56,854 2 0	944 3 10	640 18 8	75,535 8 1	52	20,658 3 0	392 16 5	311 11 0	31,422 13 9	139	77,513 1 0	1,337 0 3	952 9 8	106,958 1 10
Narrandeta	14	99	50,587 1 20	967 10 6	697 14 3	77,401 17 7	35	13,234 2 7	283 5 10	204 9 9	22,662 4 4	134	63,821 3 27	1,250 16 4	902 4 0	100,064 1 11
Tumut	14	158	63,506 1 0	1,550 2 4	1,037 2 9	124,009 5 3	82	40,974 3 0	1,088 14 3	607 13 9	87,087 14 3	250	104,481 0 0	2,638 16 7	1,644 16 6	211,096 19 6
Wagga Wagga	14	158	63,506 1 0	1,550 2 4	1,037 2 9	124,009 5 3	82	40,974 3 0	1,088 14 3	607 13 9	87,087 14 3	250	104,481 0 0	2,638 16 7	1,644 16 6	211,096 19 6
Total		523	223,452 2 8	4,651 17 1	3,306 8 8	372,148 11 10	221	91,662 2 39	2,090 15 1	1,371 17 5	167,245 18 9	744	315,115 1 7	6,742 12 2	4,678 6 1	539,394 10 7
GRAND TOTAL		1,800	633,852 1 13	11,593 0 3	10,176 0 6	932,420 8 10	802	311,606 2 37	5,492 17 7	4,685 15 2	439,145 8 10	2,611	945,469 0 10	17,085 17 10	14,861 15 8	1,371,565 12 8

## SCHEDULE XXI.

RETURN showing Number and Area of Homestead Selections declared forfeited during the year 1898.

Land Board District.	Land District.	Section.	Forfeited for non-fulfilment of Residence or Improvement Condition.		Forfeited for non-payment of Rent.		Total.	
			No.	Area.	No.	Area.	No.	Area.
				a. r. p.		a. r. p.		a. r. p.
Armidale.....	Armidale .....	14	2	60 0 0	...	.....	2	60 0 0
	Tenterfield .....	14	2	106 2 0	...	.....	2	106 2 0
	Walcha .....	14	1	182 1 0	...	.....	1	182 1 0
	Total .....	.....	5	348 3 0	...	.....	5	348 3 0
Bourke .....	Brewarrina .....	14	...	.....	1	1,012 0 0	1	1,012 0 0
	Cobar .....	14	2	329 3 19	...	.....	2	329 3 19
	Total .....	.....	2	329 3 19	1	1,012 0 0	3	1,341 3 19
Dubbo .....	Dubbo .....	14	4	729 1 0	...	.....	4	729 1 0
	Nyngan .....	14	1	201 0 0	2	554 2 0	3	755 2 0
	Total .....	.....	5	930 1 0	2	554 2 0	7	1,484 3 0
Goulburn .....	Boorowa .....	14	2	306 0 0	...	.....	2	306 0 0
	Eden .....	14	2	100 0 0	...	.....	2	100 0 0
	Young .....	14	1	91 0 0	...	.....	1	91 0 0
	Total .....	.....	5	497 0 0	...	.....	5	497 0 0
Grafton .....	Bellingen .....	14	1	109 0 0	...	.....	1	109 0 0
	Grafton .....	14	1	153 2 0	...	.....	1	153 2 0
	Kempsey .....	14	1	157 0 0	...	.....	1	157 0 0
	Lismore .....	14	1	145 3 0	...	.....	1	145 3 0
	Total .....	.....	4	565 1 0	...	.....	4	565 1 0
Hay .....	Deniliquin .....	14	3	2,048 1 0	...	.....	3	2,048 1 0
	Hay .....	14	1	1,259 1 0	...	.....	1	1,259 1 0
	Wentworth .....	14	2	2,558 0 0	...	.....	2	2,558 0 0
	Total .....	.....	6	5,865 2 0	...	.....	6	5,865 2 0
Maitland .....	Cassilis .....	14	4	169 1 20	1	34 0 10	5	203 1 30
	Dungog .....	14	3	256 3 10	...	.....	3	256 3 10
	Gosford .....	14	2	113 0 0	...	.....	2	113 0 0
	Maitland .....	14	2	160 0 0	...	.....	2	160 0 0
	Newcastle .....	14	3	167 0 0	...	.....	3	167 0 0
	Paterson .....	14	1	180 0 0	...	.....	1	180 0 0
	Singleton .....	14	...	.....	1	144 2 0	1	144 2 0
	Stroud .....	14	1	593 0 0	...	.....	1	593 0 0
	Total .....	.....	16	1,639 0 30	2	178 2 10	18	1,817 3 0
Moree ...	Walgett .....	14	2	2,560 0 0	...	.....	2	2,560 0 0
	Orange .....	14	2	212 3 0	...	.....	2	212 3 0
Sydney .....	Campbelltown .....	14	5	122 1 39	...	.....	5	122 1 39
	Liverpool .....	14	3	72 3 0	...	.....	3	72 3 0
	Windsor .....	14	6	214 3 30	1	34 0 30	7	279 0 20
	Total .....	.....	14	440 0 29	1	34 0 30	15	474 1 19
Tamworth .....	Gunnedah .....	14	10	*2,606 3 0	1	220 0 0	11	2,826 3 0
Wagga Wagga...	Albury .....	14	2	27 0 18	...	.....	2	27 0 18
	Cootamundry .....	14	3	704 2 0	...	.....	3	704 2 0
	Cootamundry, Central.....	14	1	1,005 2 0	...	.....	1	1,005 2 0
	Narrandera .....	14	6	1,661 3 0	...	.....	6	1,661 3 0
	Urana .....	14	5	1,865 2 0	1	320 0 0	6	2,185 2 0
	Wagga Wagga .....	14	5	2,147 0 0	...	.....	5	2,147 0 0
Total .....	.....	22	7,411 1 18	1	320 0 0	23	7,731 1 18	
	Grand Total .....	.....	93	23,406 3 16	8	2,319 1 0	101	25,726 0 16

\* Forfeiture of one Homestead Selection, 320 acres, provisionally reversed.

## SCHEDULE XXII.

SUMMARY of Particulars relating to the Number and Area of Homestead Selections in existence on 31st December, 1898.\*

Particulars.	No.	Area.		
		a.	r.	p.
Number and Area applied for up to 31st December, 1898 .....	3,699	1,493,867	2	3
Less Net Decrease, due to Disallowances, &c., as below .....	1,004	456,639	2	26
Number and Area in existence on 31st December, 1898* .....	2,695	1,037,227	3	17
Disallowed or withdrawn up to 31st December, 1897 .....	574	271,651	2	1
"    "    during 1898 .....	268	148,895	2	28
Total disallowed or withdrawn .....	842	420,547	0	29
Declared forfeited up to 31st December, 1898 .....	164	36,418	0	31
Forfeiture reversed up to 31st December, 1898 .....	1,006	456,965	1	20
Net Decrease due to Disallowances, &c. ....	2	325	2	34
	1,004	456,639	2	25

\* Exclusive of conversions of Conditional Purchases and Conditional Leases into Homestead Selections (vide Schedule XXIV).

## SCHEDULE XXIII.

RETURN giving Particulars as to notification and disposal of Homestead Selection Areas from 1st June, 1895, to 31st December, 1898.

Land Board District and Land District.	Total acreage in Homestead Selection Areas when notified.			Area notified but not yet available for selection, or rendered unavailable since notification, by reservation or other cause.			Area available for selection.			Area selected.			Area unselected on 31st December, 1898.			Capital Value represented by Land selected.			Percentage of area selected to area available for selection.				
	No. of Blocks.	a.	r.	p.	No. of Blocks.	a.	r.	p.	No. of Blocks.	a.	r.	p.	No. of Blocks.	a.	r.	p.	£	s.		d.			
<b>Armidale—</b>																							
Armidale .....	92	14,621	3	10	25	1,796	3	0	12,825	0	10	53	11,804	3	0	1,020	1	10	12,184	4	11	92	
Glen Innes .....	34	15,475	2	14	17	12,444	0	0	3,031	2	14	17	3,031	2	14	.....	.....	.....	3,676	11	11	100	
Inverell .....	38	13,989	3	0	7	2,269	1	0	11,720	2	0	30	11,139	2	0	581	0	0	14,536	2	1	95	
Tenterfield .....	45	18,464	0	10	1	47	3	0	18,416	1	10	35	11,404	3	10	7,011	2	0	9,160	0	4	62	
Walcha .....	14	2,944	1	0	1	102	1	0	2,842	0	0	13	2,842	0	0	.....	.....	.....	5,963	9	2	100	
<b>Totals .....</b>	<b>223</b>	<b>65,495</b>	<b>1</b>	<b>34</b>	<b>51</b>	<b>16,660</b>	<b>0</b>	<b>0</b>	<b>48,835</b>	<b>1</b>	<b>34</b>	<b>148</b>	<b>40,222</b>	<b>2</b>	<b>24</b>	<b>8,612</b>	<b>3</b>	<b>10</b>	<b>45,520</b>	<b>8</b>	<b>5</b>	<b>82</b>	
<b>Bourke—</b>																							
Bourke .....	20	408	1	0	.....	.....	.....	408	1	0	20	408	1	0	.....	.....	.....	.....	8,000	0	0	100	
Brewarrina .....	19	15,638	1	20	.....	.....	.....	15,638	1	20	18	15,316	2	0	321	3	0	.....	10,925	5	9	98	
Cobar .....	86	12,018	0	17	3	34	0	20	11,983	3	37	15	1,686	2	18	10,297	1	19	1,226	15	3	14	
<b>Totals .....</b>	<b>125</b>	<b>28,064</b>	<b>2</b>	<b>37</b>	<b>3</b>	<b>34</b>	<b>0</b>	<b>20</b>	<b>28,030</b>	<b>2</b>	<b>17</b>	<b>53</b>	<b>17,411</b>	<b>1</b>	<b>38</b>	<b>10,619</b>	<b>0</b>	<b>19</b>	<b>20,252</b>	<b>1</b>	<b>0</b>	<b>62</b>	
<b>Dubbo—</b>																							
Coonamble .....	14	496	3	21	.....	.....	.....	496	3	21	13	472	3	19	24	0	2	.....	1,182	3	9	95	
Dubbo .....	166	88,838	2	37	8	7,620	2	0	81,218	0	37	155	80,635	2	37	582	2	0	110,425	6	9	99	
Nyngan .....	50	19,133	2	0	.....	.....	.....	19,133	2	0	44	18,393	1	0	740	1	0	.....	19,934	19	4	96	
Warren .....	24	3,264	1	17	7	366	3	8	2,897	2	9	15	2,758	1	29	139	0	20	11,619	11	3	95	
<b>Totals .....</b>	<b>254</b>	<b>111,733</b>	<b>1</b>	<b>35</b>	<b>15</b>	<b>7,987</b>	<b>1</b>	<b>8</b>	<b>103,746</b>	<b>0</b>	<b>27</b>	<b>227</b>	<b>102,260</b>	<b>1</b>	<b>5</b>	<b>1,435</b>	<b>3</b>	<b>22</b>	<b>43,182</b>	<b>1</b>	<b>1</b>	<b>93</b>	
<b>Forbes—</b>																							
Barmedman .....	46	25,660	3	0	28	14,321	1	0	11,279	2	0	17	10,582	2	0	697	0	0	.....	11,236	19	5	94
Condobolin .....	2	976	3	0	2	976	3	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Forbes .....	87	63,803	0	0	21	14,852	1	0	48,455	3	0	66	48,455	3	0	.....	.....	.....	55,853	3	1	100	
Grenfell .....	16	7,566	2	0	.....	.....	.....	7,566	2	0	16	7,566	2	0	.....	.....	.....	.....	8,308	3	3	100	
Parkes .....	106	92,997	1	0	9	8,155	1	0	84,842	0	0	97	84,842	0	0	.....	.....	.....	80,437	15	11	100	
<b>Totals .....</b>	<b>257</b>	<b>190,449</b>	<b>1</b>	<b>0</b>	<b>60</b>	<b>38,305</b>	<b>2</b>	<b>0</b>	<b>152,143</b>	<b>3</b>	<b>0</b>	<b>196</b>	<b>151,446</b>	<b>3</b>	<b>0</b>	<b>697</b>	<b>0</b>	<b>0</b>	<b>155,836</b>	<b>1</b>	<b>8</b>	<b>99</b>	
<b>Goulburn—</b>																							
Bega .....	22	4,053	3	37	.....	.....	.....	4,053	3	37	7	1,071	0	10	2,982	3	27	.....	1,162	2	6	26	
Bombala .....	30	1,721	0	10	.....	.....	.....	1,721	0	10	30	1,721	0	10	.....	.....	.....	.....	4,134	6	11	100	
Boorowa .....	24	6,232	0	0	.....	.....	.....	6,232	0	0	21	5,610	0	0	622	0	0	.....	8,333	18	5	90	
Braidwood .....	9	2,070	3	22	1	30	0	0	2,040	3	22	8	2,040	3	22	.....	.....	.....	2,303	12	9	100	
Cooma .....	72	13,583	0	28	26	1,745	1	0	11,837	3	28	33	10,992	3	28	845	0	0	13,219	7	10	93	
Eden .....	24	2,251	3	0	1	69	1	0	2,182	2	0	16	1,212	0	3	970	1	10	2,019	12	11	56	
Goulburn .....	18	3,106	1	30	4	683	0	30	2,423	1	0	11	1,968	1	10	454	3	30	3,222	19	5	81	
Gunning .....	14	3,150	2	0	1	391	0	0	2,759	2	0	9	1,755	3	0	1,003	3	0	2,380	2	6	64	
Moruya .....	28	8,885	2	0	.....	.....	.....	8,885	2	0	10	2,083	2	0	6,802	0	0	.....	1,517	18	2	23	
Queanbeyan .....	15	1,819	2	30	.....	.....	.....	1,819	2	30	15	1,819	2	30	.....	.....	.....	.....	4,421	12	6	100	
Yass .....	16	2,597	3	0	2	271	3	0	2,326	0	0	11	1,944	1	0	381	3	0	2,558	15	0	83	
Young .....	480	14,348	3	27	9	2,625	1	0	11,723	2	27	66	11,339	3	29	383	2	38	20,022	2	2	96	
<b>Totals .....</b>	<b>352</b>	<b>63,821</b>	<b>2</b>	<b>24</b>	<b>44</b>	<b>5,815</b>	<b>2</b>	<b>30</b>	<b>58,005</b>	<b>3</b>	<b>34</b>	<b>237</b>	<b>43,559</b>	<b>2</b>	<b>9</b>	<b>14,446</b>	<b>1</b>	<b>25</b>	<b>65,296</b>	<b>11</b>	<b>1</b>	<b>75</b>	
<b>Grafton—</b>																							
Bellingen .....	49	7,832	3	0	.....	.....	.....	7,832	3	0	16	2,516	3	0	5,316	0	0	.....	2,516	15	0	32	
Casino .....	20	5,226	0	0	.....	.....	.....	5,226	0	0	3	1,475	2	0	3,750	2	0	.....	2,292	7	6	28	
Grafton .....	30	8,148	3	0	.....	.....	.....	8,148	3	0	10	2,156	2	0	5,992	1	0	.....	1,713	3	6	26	
Kempsey .....	19	3,437	0	0	.....	.....	.....	3,437	0	0	9	1,269	3	0	2,167	1	0	.....	1,943	15	0	36	
Lismore .....	144	43,602	0	0	17	7,155	2	0	36,446	2	0	29	7,085	1	0	29,361	1	0	8,419	15	0	19	
Murwillumbah .....	41	9,504	3	0	12	3,287	0	0	6,217	3	0	13	2,565	1	0	3,652	2	0	3,340	12	9	41	
Port Macquarie .....	16	4,993	0	0	1	456	3	0	4,536	1	0	.....	.....	.....	4,536	1	0	.....	.....	.....	.....		
<b>Totals .....</b>	<b>319</b>	<b>82,744</b>	<b>1</b>	<b>0</b>	<b>30</b>	<b>10,899</b>	<b>1</b>	<b>0</b>	<b>71,845</b>	<b>0</b>	<b>0</b>	<b>80</b>	<b>17,069</b>	<b>0</b>	<b>0</b>	<b>54,776</b>	<b>0</b>	<b>0</b>	<b>20,231</b>	<b>8</b>	<b>9</b>	<b>30</b>	

1 Of this area, 17 blocks, containing 12,444 acres, did not become available during 1898.

2 Of this area, 1 block, containing 1,166 acres 3 roods, did not

become available during 1898.

3 Twenty-six blocks, containing 12,955½ acres, did not become available in 1898.

4 Of this area, 5 blocks, containing

1,808½ acres, did not become available during 1898.

SCHEDULE XXIII—continued.

Land Board District and Land District.	Total acreage in Homestead Selection Areas when notified.			Area notified but not yet available for selection, or rendered unavailable since notification, by reservation or other cause.			Area available for selection.			Area selected.			Area unselected on 31st December, 1898.			Capita Value represented by Land selected.		Percentage of area selected to area available for selection.				
	No. of Blocks.	Area.		No. of Blocks.	Area.		Area available for selection.			No. of Blocks.	Area.		Area unselected on 31st December, 1898.			Capita Value represented by Land selected.						
		a.	r.	p.		a.	r.	p.	a.	r.	p.		a.	r.	p.	a.	r.	p.	£	s.	d.	
<b>Hay—</b>																						
Balranald .....	28	16,051	3	0	.....	.....	.....	.....	16,051	3	0	3	3,573	0	0	12,478	3	0	3,151	14	0	22.3
Balranald South..	30	30,582	0	0	4	2,753	3	0	27,828	1	0	22	24,065	2	0	3,762	3	0	36,720	13	3	86.5
Deniliquin .....	115	45,249	1	39	10	6,492	2	39	38,756	3	0	105	38,756	3	0	.....	.....	.....	82,799	11	1	100
<sup>1</sup> Hay .....	77	48,612	3	0	8	5,646	2	0	42,966	1	0	48	36,488	0	0	6,478	1	0	33,200	4	2	85.0
Hay North .....	4	2,490	0	0	.....	.....	.....	.....	2,490	0	0	2	1,464	0	0	1,026	0	0	2,196	0	0	58.8
<sup>2</sup> Hillston .....	172	106,322	0	20	10	7,716	0	0	98,606	0	20	87	44,892	2	0	53,713	2	20	35,138	8	9	45.5
Hillston North...	5	180	1	32	.....	.....	.....	.....	180	1	32	4	142	3	0	37	2	32	285	10	0	79.0
Wentworth .....	59	57,794	1	0	.....	.....	.....	.....	57,794	1	0	1	846	0	0	56,948	1	0	507	12	6	1.4
Totals .....	490	307,282	3	11	32	22,608	3	39	284,673	3	12	272	150,228	2	0	134,445	1	12	198,999	13	9	52.77
<b>Maitland—</b>																						
Cassilis .....	87	9,243	3	10	1	349	3	0	8,894	0	10	78	8,559	2	20	334	1	30	12,241	6	8	96
Dungog .....	11	1,636	2	10	.....	.....	.....	.....	1,636	2	10	8	1,088	3	10	547	3	0	1,525	13	2	66
Gosford .....	75	8,440	3	13	7	1,162	1	30	7,278	1	23	40	4,632	3	30	2,645	1	33	4,125	10	10	63
Maitland .....	70	5,904	0	30	2	125	1	0	5,778	3	30	26	2,036	3	20	3,742	0	10	2,300	14	2	35
Muswellbrook ...	4	768	1	0	.....	.....	.....	.....	768	1	0	1	199	0	0	569	1	0	232	3	4	26
Newcastle .....	57	5,185	2	0	.....	.....	.....	.....	5,185	2	0	11	745	3	0	4,439	3	0	762	7	6	14
Paterson .....	22	3,981	1	0	.....	.....	.....	.....	3,981	1	0	17	2,985	1	0	996	0	0	2,592	10	10	87
Scone .....	13	14,413	2	0	.....	.....	.....	.....	14,413	2	0	9	9,293	2	0	5,120	0	0	9,293	10	0	64
Singleton .....	48	3,474	3	14	.....	.....	.....	.....	3,474	3	14	35	2,752	1	14	722	2	0	4,385	17	10	79
Stroud .....	8	6,850	3	0	.....	.....	.....	.....	6,850	3	0	5	4,113	2	0	2,737	1	0	5,051	17	6	60
Taree .....	69	13,028	0	20	11	2,551	0	0	10,477	0	20	4	264	2	10	10,212	2	10	376	16	10	2.1
Totals .....	464	72,927	2	17	21	4,188	1	30	68,739	0	27	234	36,672	0	24	32,067	0	3	42,888	8	8	53
<b>Moree—</b>																						
Walgett .....	19	19,197	1	20	1	640	0	0	18,557	1	20	11	10,390	1	20	8,167	0	0	11,457	14	5	56
Warialda .....	5	6,400	0	0	.....	.....	.....	.....	6,400	0	0	5	6,400	0	0	.....	.....	.....	6,400	0	0	100
Totals .....	24	25,597	1	20	1	640	0	0	24,957	1	20	16	16,790	1	20	8,167	0	0	17,857	14	5	67
<b>Orange—</b>																						
Bathurst .....	16	188	1	10½	3	16	0	21	172	0	29½	.....	.....	.....	172	0	29½	.....	.....	.....	.....	.....
Carcoar .....	3	706	2	0	.....	.....	.....	.....	706	2	0	1	408	0	0	298	2	0	408	0	0	57
Covra .....	35	2,565	0	0	8	809	2	0	1,755	2	0	23	1,295	3	0	459	3	0	1,989	19	1	74
Lithgow .....	5	1,864	3	0	1	195	1	0	1,669	2	0	2	384	0	0	1,285	2	0	576	0	0	23
Molong .....	42	6,778	1	18	.....	.....	.....	.....	6,778	1	18	31	6,526	2	10	251	3	8	10,321	5	11	96
Mudgee .....	59	8,457	3	26	7	1,232	2	0	7,225	1	26	47	6,205	3	26	1,019	2	0	10,069	2	4	85
Rylstone .....	8	8,750	0	0	6	6,862	0	0	1,888	0	0	2	1,888	0	0	.....	.....	.....	1,533	5	0	100
Wellington .....	4	602	3	0	.....	.....	.....	.....	602	3	0	4	602	3	0	.....	.....	.....	1,358	7	0	100
Totals .....	172	29,913	2	14½	25	9,115	1	21	20,798	0	33½	110	17,310	3	36	3,487	0	37½	26,255	19	4	83
<b>Sydney—</b>																						
Campbelltown ...	189	5,719	2	23	33	536	0	25	5,183	2	3	28	622	0	3	4,561	2	0	1,199	3	6	12
Liverpool .....	60	5,313	2	10	.....	.....	.....	.....	5,309	2	10	12	502	0	0	4,807	2	10	570	10	0	10
Milton .....	41	2,460	1	30	.....	.....	.....	.....	2,460	1	30	4	53	0	0	2,407	1	30	79	9	2	2
Nowra .....	8	183	0	20	.....	.....	.....	.....	183	0	20	7	165	2	20	17	2	0	236	16	11	90
Penrith .....	148	6,163	2	0	1	53	0	0	6,110	2	0	7	338	0	30	5,772	1	10	393	11	6	5
Picton .....	16	1,218	1	0	2	95	3	0	1,122	2	0	2	78	0	0	1,044	2	0	65	0	0	7
Windsor .....	184	10,941	0	30	1	45	0	0	10,896	0	30	65	3,113	0	10	7,783	0	20	4,201	10	9	28
Totals .....	646	31,999	2	38	37	733	3	25	31,265	3	13	125	4,871	3	23	26,393	3	30	6,751	1	10	15
<b>Tamworth—</b>																						
Coonabarran...	7	1,091	0	0	.....	.....	.....	.....	1,091	0	0	3	577	0	0	514	0	0	865	0	0	53
Gunnedah .....	142	52,160	0	0	521	12,304	0	0	39,856	0	0	104	35,266	0	0	4,590	0	0	55,470	0	0	86
Murrurundi .....	18	1,566	2	0	.....	.....	.....	.....	1,566	2	0	18	1,566	2	0	.....	.....	.....	10,898	0	0	100
Narrabri .....	51	19,563	0	0	63	1,103	0	0	18,460	0	0	33	13,429	1	0	5,030	3	0	21,603	0	0	72
Tamworth .....	53	11,111	0	0	71	1,156	0	0	9,955	0	0	31	9,809	0	0	146	0	0	18,586	0	0	98
Totals .....	271	85,491	2	0	25	14,563	0	0	70,928	2	0	189	60,647	3	0	10,280	3	0	107,422	0	0	85
<b>Wagga Wagga—</b>																						
Albury .....	53	1,475	2	19	.....	.....	.....	.....	1,475	2	19	42	1,367	2	4	108	0	15	3,071	10	6	92
Cootamundry ...	101	30,635	2	10	112	5,790	2	0	24,845	0	10	87	24,240	0	10	605	0	0	38,820	11	1	97
Cootamundry Centl	14	9,149	0	0	.....	.....	.....	.....	9,149	0	0	14	9,149	0	0	.....	.....	.....	12,815	0	11	100
Corowa .....	89	38,616	1	31	.....	.....	.....	.....	38,616	1	31	89	38,616	1	31	.....	.....	.....	72,069	9	11	100
Narrandera .....	158	82,021	3	0	6	353	0	0	81,668	3	0	146	80,188	3	0	1,480	0	0	110,822	11	10	98
Tumbarumba ...	20	603	3	10	920	603	3	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tumut .....	2	957	1	0	.....	.....	.....	.....	957	1	0	1	477	0	0	480	1	0	238	10	0	49
Urana .....	227	84,230	0	0	63	9,694	0	0	74,536	0	0	143	71,166	3	0	3,369	1	0	117,522	17	10	95
Wagga Wagga...	267	111,187	1	0	1011	5,891	2	0	105,295	3	0	256	105,295	3	0	.....	.....	.....	213,050	13	10	100
Totals .....	931	358,876	2	30	112	22,332	3	10	336,543	3	20	778	330,501	1	5	6,042	2	15	568,411	5	11	98
Grand Totals	4,528	1,454,397	3	20½	456	150,471	3	23	1,300,513	2	37½	2,665	988,992	2	24	311,521	0	13½	1,313,904	15	11	76

<sup>1</sup> One farm, containing 200 acres, did not become available during 1898. <sup>2</sup> One farm, containing 640 acres, did not become available during 1898.  
<sup>3</sup> Cowra.—Of this area, 7 blocks, 724 acres 2 roods, did not become available during 1898. <sup>4</sup> Rylstone.—Of this area, 6 blocks, 6,862 acres, did not become available

SCHEDULE XXIV.

RETURN of Applications for Conversion of Conditional Purchases and Conditional Leases into Homestead Selections received from 1st June, 1895, to 31st December, 1898, exclusive of those since withdrawn or refused.

Land Board District and Land District.	From 1st June, 1895, to 31st December, 1897.						From 1st January, 1898, to 31st December, 1898.						Total.					
	Applications to convert.		C.P.'s included.		C.L.'s included.		Applications to convert.		C.P.'s included.		C.L.'s included.		Applications to convert.		C.P.'s included.		C.L.'s included.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.		a. r. p.
Armidale—																		
Armidale .....	...	.....	...	.....	...	.....	1	568 0 0	3	568 0 0	...	.....	1	568 0 0	3	568 0 0	...	.....
Inverell .....	1	1,100 0 0	1	300 0 0	2	800 0 0	...	.....	...	.....	...	.....	1	1,100 0 0	1	300 0 0	2	800 0 0
Tenterfield .....	3	1,760 1 0	5	681 0 0	3	1,079 1 0	...	.....	...	.....	...	.....	3	1,760 1 0	5	681 0 0	3	1,079 1 0
Walcha .....	2	869 2 0	3	229 0 0	3	640 2 0	2	1,300 0 0	4	550 0 0	1	750 0 0	4	2,169 2 0	7	779 0 0	4	1,390 2 0
Bourke—																		
Bourke .....	2	1,000 0 0	2	1,000 0 0	...	.....	...	.....	...	.....	...	.....	2	1,000 0 0	2	1,000 0 0	...	.....
Brewarrina .....	1	160 0 0	1	160 0 0	...	.....	...	.....	...	.....	...	.....	1	160 0 0	1	160 0 0	...	.....
Forbes—																		
Condobolin .....	1	111 0 0	1	111 0 0	...	.....	...	.....	...	.....	...	.....	1	111 0 0	1	111 0 0	...	.....
Goulburn—																		
Bega .....	1	100 0 30	1	100 0 30	...	.....	...	.....	...	.....	...	.....	1	100 0 30	1	100 0 30	...	.....
Bombala .....	1	1,246 2 0	11	1,246 2 0	...	.....	...	.....	...	.....	...	.....	1	1,246 2 0	11	1,246 2 0	...	.....
Braidwood .....	2	1,120 0 0	3	570 0 0	1	550 0 0	...	.....	...	.....	...	.....	2	1,120 0 0	3	570 0 0	1	550 0 0
Cooma .....	1	130 0 0	3	130 0 0	...	.....	...	.....	...	.....	...	.....	1	130 0 0	3	130 0 0	...	.....
Goulburn .....	4	2,144 1 0	11	770 0 0	4	1,374 1 0	1	40 0 0	1	40 0 0	...	.....	5	2,184 1 0	12	810 0 0	4	1,374 1 0
Gunning .....	1	120 0 0	1	40 0 0	1	80 0 0	1	930 0 0	1	283 0 0	1	697 0 0	2	1,050 0 0	2	273 0 0	2	777 0 0
Moss Vale .....	1	50 0 0	1	50 0 0	...	.....	1	932 3 0	1	203 1 0	1	729 2 0	2	982 3 0	2	253 1 0	1	729 2 0
Queanbeyan .....	1	350 0 0	2	100 0 0	2	250 0 0	...	.....	...	.....	...	.....	1	350 0 0	2	100 0 0	2	250 0 0
Yass .....	2	2,000 0 0	3	640 0 0	3	1,360 0 0	...	.....	...	.....	...	.....	2	2,000 0 0	3	640 0 0	3	1,360 0 0
Young .....	1	314 3 0	1	314 3 0	...	.....	...	.....	...	.....	...	.....	1	314 3 0	1	314 3 0	...	.....
Grafton—																		
Bellingen .....	3	549 0 0	6	549 0 0	...	.....	...	.....	...	.....	...	.....	3	549 0 0	6	549 0 0	...	.....
Casino .....	1	1,280 0 0	1	640 0 0	1	640 0 0	...	.....	...	.....	...	.....	1	1,280 0 0	1	640 0 0	1	640 0 0
Kempsey .....	1	222 0 0	1	222 0 0	...	.....	1	222 0 0	1	222 0 0	...	.....	1	222 0 0	1	222 0 0	...	.....
Lismore .....	1	105 0 0	1	105 0 0	...	.....	...	.....	...	.....	...	.....	1	105 0 0	1	105 0 0	...	.....
Port Macquarie .....	2	447 0 0	2	387 0 0	1	60 0 0	...	.....	...	.....	...	.....	2	447 0 0	2	387 0 0	1	60 0 0
Hay—																		
Balranald South .....	1	302 0 0	1	80 0 0	1	222 0 0	...	.....	...	.....	...	.....	1	302 0 0	1	80 0 0	1	222 0 0
Deniliquin .....	3	1,920 0 0	3	1,920 0 0	...	.....	...	.....	...	.....	...	.....	3	1,920 0 0	3	1,920 0 0	...	.....
Hillston .....	2	951 1 0	3	951 1 0	...	.....	2	951 1 0	3	951 1 0	...	.....	2	951 1 0	3	951 1 0	...	.....
Orange—																		
Molong .....	1	1,246 0 0	6	840 0 0	1	406 0 0	...	.....	...	.....	...	.....	1	1,246 0 0	6	840 0 0	1	406 0 0
Sydney—																		
Picton .....	1	80 0 0	1	80 0 0	...	.....	1	80 0 0	1	80 0 0	...	.....	1	80 0 0	1	80 0 0	...	.....
Wagga Wagga—																		
Cootamundry .....	2	240 0 0	2	240 0 0	...	.....	...	.....	...	.....	...	.....	2	240 0 0	2	240 0 0	...	.....
Corowa .....	1	320 0 0	1	320 0 0	...	.....	...	.....	...	.....	...	.....	1	320 0 0	1	320 0 0	...	.....
Narrandera .....	1	640 0 0	2	640 0 0	...	.....	...	.....	...	.....	...	.....	1	640 0 0	2	640 0 0	...	.....
Tumbarumba .....	2	1,280 0 0	2	960 0 0	1	320 0 0	...	.....	...	.....	...	.....	2	1,280 0 0	2	960 0 0	1	320 0 0
Tumut .....	1	124 2 0	1	124 2 0	...	.....	...	.....	...	.....	...	.....	1	124 2 0	1	124 2 0	...	.....
Total .....	43	20,899 3 30	75	13,117 3 30	24	7,782 0 0	11	5,154 0 0	18	2,977 2 0	3	2,176 2 0	54	26,053 3 30	93	16,095 1 30	27	9,958 2 0

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## SCHEDULE XXV.

RETURN showing the Number and Area of Conditional Leases applied for during 1898, with amount of Deposits and Survey Fees received.

Local Land Board District and Land District.	No.	Area.	Deposits.	Survey Fees.	Local Land Board District and Land District.	No.	Areas.	Deposits.	Survey Fees.
		a. r. p.	£ s. d.	£ s. d.			a. r. p.	£ s. d.	£ s. d.
<b>Armidale—</b>					<b>Maitland—continued.</b>				
Armidale .....	46	10,364 1 0	86 7 5	226 16 1	Stroud .....	2	140 0 0	1 3 4	6 18 9
Glen Innes .....	22	3,581 1 0	29 16 11	98 4 8	Taree .....	7	630 0 0	5 5 0	26 3 3
Inverell .....	46	11,531 3 0	96 2 0	235 12 0	Wollombi .....	2	100 0 0	0 16 8	6 7 6
Tenterfield .....	33	8,861 3 0	73 17 0	175 10 8	<b>Total .....</b>	<b>50</b>	<b>12,596 1 0</b>	<b>104 19 6</b>	<b>248 9 3</b>
Walcha .....	13	1,991 0 0	16 11 10	55 19 8					
<b>Total .....</b>	<b>160</b>	<b>36,330 0 0</b>	<b>302 15 2</b>	<b>792 3 1</b>	<b>Moree—</b>				
					Bingara .....	11	8,555 0 0	71 5 10	91 10 3
<b>Dubbo—</b>					Moree .....	15	16,015 0 0	133 9 5	143 2 8
Coonamble .....	21	13,663 2 0	131 3 1	151 17 11	Walgett .....	21	22,943 2 0	191 3 11	206 5 4
Dubbo .....	58	39,401 1 0	328 7 1	439 8 11	Warialda .....	22	9,245 0 0	77 1 4	134 14 8
Nyngan .....	21	13,184 2 0	109 17 9	155 12 10	<b>Total .....</b>	<b>69</b>	<b>56,759 2 0</b>	<b>473 0 6</b>	<b>574 12 11</b>
Warren .....	10	3,228 0 0	26 18 1	57 16 11					
<b>Total .....</b>	<b>110</b>	<b>69,477 1 0</b>	<b>596 6 0</b>	<b>804 16 7</b>	<b>Sydney—</b>				
					Milton .....	3	325 0 0	2 14 2	12 1 11
<b>Forbes—</b>					Nowra .....	2	100 0 0	0 16 8	6 7 6
Barmedman .....	9	2,474 3 0	20 12 6	47 5 2	Picton .....	3	340 0 0	2 16 8	13 10 3
Barmedman East .....	5	1,353 0 0	11 5 8	27 0 1	Windsor .....	2	160 0 0	1 6 8	7 2 6
Condoblin .....	2	532 0 0	4 8 8	10 6 4	<b>Total .....</b>	<b>10</b>	<b>925 0 0</b>	<b>7 14 2</b>	<b>39 2 2</b>
Forbes .....	8	3,788 2 0	31 11 7	53 3 2					
Grenfell .....	10	9,974 0 0	83 2 4	93 11 7	<b>Orange—</b>				
Parke .....	43	19,788 0 0	164 18 5	288 7 6	Bathurst .....	9	1,735 2 0	14 9 3	42 17 0
<b>Total .....</b>	<b>77</b>	<b>37,910 1 0</b>	<b>315 19 2</b>	<b>519 13 10</b>	Carcoar .....	4	690 0 0	5 13 4	18 7 6
					Cowra .....	5	857 3 0	7 3 0	22 19 5
<b>Goulburn—</b>					Lithgow .....	11	1,379 0 0	11 9 10	45 5 10
Bega .....	4	620 0 0	5 3 4	17 12 6	Molong .....	5	1,045 3 0	8 14 4	24 3 10
Bombala .....	12	3,915 0 0	32 12 6	68 5 2	Mudgee .....	39	10,543 1 0	87 17 4	208 10 7
Boorowa .....	13	2,021 0 0	16 16 10	57 15 3	Rylstone .....	26	6,257 1 0	52 2 11	132 11 6
Braidwood .....	14	3,785 0 0	31 10 10	73 12 0	Wellington .....	15	9,556 2 0	79 12 10	114 18 11
Cooma .....	46	11,099 2 0	92 9 11	237 16 0	<b>Total .....</b>	<b>114</b>	<b>32,055 0 0</b>	<b>267 2 10</b>	<b>609 14 7</b>
Eden .....	13	1,410 0 0	11 15 0	50 16 4					
Goulburn .....	17	3,404 0 30	28 7 5	81 11 5	<b>Tamworth—</b>				
Gunning .....	1	40 0 0	0 6 8	3 0 0	Coonabarabran .....	11	4,522 2 0	37 13 9	67 4 6
Moruya .....	3	450 0 0	3 15 0	13 4 5	Gunnedah .....	17	11,018 3 0	91 17 2	132 18 4
Moss Vale .....	5	1,435 0 0	11 19 2	27 5 8	Murrurundi .....	8	2,454 0 0	20 9 1	45 3 10
Queanbeyan .....	8	1,185 0 0	9 17 6	34 10 2	Narrabri .....	20	8,089 2 0	67 8 8	118 19 8
Yass .....	5	990 3 0	8 5 2	24 7 6	Tamworth .....	28	10,172 1 0	84 15 6	169 8 7
Young .....	5	1,403 0 0	11 13 11	27 12 7	<b>Total .....</b>	<b>84</b>	<b>36,257 0 0</b>	<b>302 4 2</b>	<b>533 14 11</b>
<b>Total .....</b>	<b>146</b>	<b>31,758 1 30</b>	<b>264 13 3</b>	<b>717 9 0</b>					
					<b>Wagga Wagga—</b>				
<b>Grafton—</b>					Albury .....	13	6,021 2 0	50 3 6	85 19 6
Bellingen .....	10	1,465 0 0	12 4 2	44 2 6	Corowa .....	1	142 0 0	1 3 8	4 8 2
Casino .....	8	1,559 0 0	12 19 10	38 1 3	Gundagai .....	6	2,280 0 0	19 0 0	37 2 7
Grafton .....	5	960 0 0	8 0 0	23 16 2	Narrandera .....	7	3,288 3 0	27 8 0	47 1 5
Kempsey .....	3	411 3 20	3 8 8	12 13 2	Tumbarumba .....	8	3,028 0 0	25 4 8	49 12 7
Port Macquarie .....	2	140 0 0	1 3 4	6 18 9	Tumut .....	14	4,401 3 0	36 13 6	79 14 0
<b>Total .....</b>	<b>28</b>	<b>4,535 3 20</b>	<b>37 16 0</b>	<b>125 11 10</b>	Urana .....	3	1,156 0 0	9 12 8	18 15 0
					Wagga Wagga .....	18	8,183 3 32	63 4 3	121 0 5
<b>Hay—</b>					<b>Total .....</b>	<b>70</b>	<b>28,501 3 32</b>	<b>237 10 3</b>	<b>443 13 8</b>
Balranald South .....	2	1,127 2 0	9 7 11	15 3 10					
Deniliquin .....	6	1,775 3 0	17 12 6	30 0 0	<b>Grand total ...</b>	<b>949</b>	<b>367,440 2 2</b>	<b>3,069 13 4</b>	<b>5,630 12 9</b>
Hay .....	10	12,122 3 0	87 17 3	92 10 0					
Hillston .....	13	5,308 0 0	44 14 8	83 17 1	<b>SUMMARY.</b>				
<b>Total .....</b>	<b>31</b>	<b>20,334 0 0</b>	<b>159 12 4</b>	<b>221 10 11</b>	Central Division .....	359	219,529 1 32	1,837 0 6	2,604 1 8
					Eastern .....	590	147,911 0 10	1,232 12 10	3,026 11 1
<b>Maitland—</b>									
Cassilis .....	14	3,492 1 0	29 2 1	70 12 0					
Dungog .....	1	240 0 0	2 0 0	5 5 0					
Gosford .....	2	185 1 0	1 10 11	7 13 9					
Maitland .....	2	88 3 0	0 14 10	6 3 9					
Muswellbrook .....	1	100 0 0	0 16 8	3 18 9					
Paterson .....	1	80 0 0	0 13 4	3 15 0					
Scone .....	14	6,920 0 0	57 13 4	94 0 10					
Singleton .....	4	620 0 0	5 3 4	17 10 8					

## SCHEDULE XXVI.

RETURN showing the Number of Conditional Lease Applications confirmed or disallowed during 1898.

Local Land Board District.	Land District.	Applications made during 1898.				Applications made between 1st Dec., 1889, and 1st January, 1898.				Total.				
		Confirmed.		Disallowed.		Confirmed.		Disallowed.		Confirmed.		Disallowed.		
		No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	No.	a. r. p.	
Armidale	Armidale	21	5,739 2 0	3	440 0 0	8	2,395 0 0	3	1,274 3 0	29	8,134 2 0	6	1,714 3 0	
	Glen Innes	6	661 3 0	1	198 0 0	4	443 3 0			10	1,105 2 0	1	193 0 0	
	Inverell	14	2,100 1 0	8	2,600 0 0	11	2,216 0 0	2	1,110 0 0	25	4,316 1 0	10	3,710 0 0	
	Tenterfield	7	2,722 3 0	3	733 0 0	12	1,659 2 0	1	510 0 0	19	4,392 1 0	4	1,248 0 0	
	Walcha	3	393 1 0	2	250 0 0	1	52 0 0			4	445 1 0	2	250 0 0	
	Total	51	11,617 2 0	17	4,226 0 0	36	6,766 1 0	6	2,894 3 0	87	18,583 3 0	23	7,120 3 0	
Dubbo	Coonamble	3	1,047 2 0	8	8,110 0 0	8	4,404 3 0	1	1,920 0 0	11	5,452 1 0	9	10,030 0 0	
	Dubbo	10	6,228 2 0	15	9,257 0 0	27	23,101 2 0	4	2,901 3 0	37	29,330 0 0	19	12,158 3 0	
	Nyngan	4	2,514 1 0	8	4,254 0 0	1	780 0 0	3	1,776 2 0	5	3,294 1 0	11	6,060 2 0	
	Warren	2	584 0 0	3	1,482 3 0	5	5,536 1 0			7	6,120 1 0	3	1,482 3 0	
		Total	19	10,374 1 0	34	23,133 3 0	41	33,822 2 0	8	6,598 1 0	60	44,196 3 0	42	29,732 0 0
Forbes	Barmedman	6	1,649 3 0	2	600 0 0	3	2,269 0 0			9	3,918 3 0	2	600 0 0	
	Barmedman East	2	892 2 0	3	460 2 0	1	150 0 0			3	1,042 2 0	3	460 2 0	
	Condobolin	1	480 0 0			2	1,522 1 0	1	640 0 0	3	2,002 1 0	1	640 0 0	
	Forbes	4	2,645 1 0			1	60 0 0	2	1,318 1 0	5	2,706 1 0	2	1,318 1 0	
	Grenfell	4	2,811 0 0	5	6,802 0 0					4	2,811 0 0	5	6,802 0 0	
	Parkes	16	6,738 3 0	18	8,782 3 0	3	510 3 0	7	2,638 2 0	19	7,249 2 0	25	11,421 1 0	
		Total	33	15,213 1 0	28	16,645 1 0	10	4,512 0 0	10	4,596 3 0	43	19,730 1 0	38	21,242 0 0
	Goulburn	Bega	3	440 0 0			2	220 0 0			5	660 0 0		
Bombala		5	1,945 0 0	2	720 0 0	1	540 0 0			6	2,485 0 0	2	720 0 0	
Boorowa		6	683 2 0	2	480 0 0	2	549 0 0	2	313 0 0	8	1,232 2 0	4	793 0 0	
Braidwood		5	1,450 0 0	1	585 0 0	4	864 1 0			9	2,344 1 0	1	585 0 0	
Cooma		13	3,213 1 0	7	1,265 0 0	15	2,777 0 0	1	300 0 0	28	5,990 1 0	8	1,565 0 0	
Eden		2	531 0 0	6	670 0 0					2	331 0 0	7	730 0 0	
Goulburn		6	885 1 0	4	944 0 30	4	489 0 0	2	310 1 0	10	1,374 1 0	6	1,254 1 50	
Gunning						1	40 0 0			1	40 0 0			
Moruya		1	192 0 0			3	120 0 0	1	94 2 0	4	312 0 0	1	94 2 0	
Moss Vale		2	666 1 0	1	40 0 0	1	729 2 0	1	99 0 0	3	1,395 3 0	2	139 0 0	
Queanbeyan		3	415 0 0	1	150 0 0					3	415 0 0	1	150 0 0	
Yass		3	415 0 0	1	300 0 0	4	1,287 3 0	1	480 0 0	4	1,287 3 0	2	780 0 0	
Young		1	150 0 0			1	180 0 0			2	330 0 0			
		Total	47	10,401 1 0	25	5,154 0 30	38	7,796 2 0	9	1,656 3 0	85	18,197 3 0	34	6,810 3 20
Grafton		Bellingen	3	760 0 0	1	40 0 0	1	127 0 0	1	121 0 0	4	887 0 0	2	161 0 0
	Casino	2	260 0 0			5	342 3 0			7	1,102 3 0			
	Grafton	5	778 0 0			2	180 0 0			7	958 0 0			
	Kempsey	3	411 3 20			1	50 0 0			4	461 3 20			
	Port Macquarie	2	140 0 0			1	120 0 0			3	260 0 0			
	Total	15	2,349 3 20	1	40 0 0	10	1,319 3 0	1	121 0 0	25	3,669 2 20	2	161 0 0	
Hay	Balranald South					1	150 0 0			1	150 0 0			
	Deniliquin	2	882 1 0	1	66 0 0					2	882 1 0	1	66 0 0	
	Hay	7	6,990 3 0	1	480 0 0			1	625 1 0	7	6,990 3 0	2	1,105 1 0	
	Hillston	8	3,254 3 0	4	1,328 0 0	1	726 0 0			9	3,980 3 0	4	1,328 0 0	
	Total	17	10,627 3 0	6	1,874 0 0	2	876 0 0	1	625 1 0	19	11,503 3 0	7	2,499 1 0	
Maitland	Casillis	3	1,487 0 0	6	805 1 0	2	420 0 0	2	552 1 0	5	1,907 0 0	8	1,357 2 0	
	Dungog	1	240 0 0							1	240 0 0			
	Gosford			1	120 0 0							1	120 0 0	
	Maitland	1	48 3 0	1	40 0 0					1	48 3 0	1	40 0 0	
	Muswellbrook			1	100 0 0							1	100 0 0	
	Paterson			1	80 0 0							1	80 0 0	
	Scone	3	2,160 0 0	4	968 2 0	2	1,043 2 0	1	150 0 0	5	3,233 2 0	5	1,118 2 0	
	Singleton	2	420 0 0	2	200 0 0					2	420 0 0	2	200 0 0	
	Stroud					6	1,195 2 0			6	1,195 2 0			
	Taree	3	234 2 0	2	169 2 0	2	225 2 0	2	451 0 0	5	460 0 0	4	620 2 0	
	Wollombi	2	130 0 0							2	130 0 0			
	Total	15	4,750 1 0	18	2,483 1 0	12	2,884 2 0	5	1,153 1 0	27	7,634 3 0	23	3,636 2 0	
Moree	Bingara	4	3,851 0 0	1	560 0 0	1	413 0 0	1	220 0 0	5	4,264 0 0	2	780 0 0	
	Moree	10	12,288 0 0	1	133 1 0	2	2,090 0 0	1	1,446 0 0	12	14,378 0 0	2	1,579 1 0	
	Walgett	4	7,200 0 0	11	10,303 2 0	3	3,244 2 0	1	930 0 0	7	10,444 2 0	12	11,233 2 0	
	Warralda	4	2,530 0 0	4	1,756 0 0	3	884 0 0			7	3,414 0 0	4	1,756 0 0	
		Total	22	25,869 0 0	17	12,752 3 0	9	6,631 2 0	3	2,596 0 0	31	32,500 2 0	20	15,348 3 0
Orange	Bathurst			6	822 2 0	1	100 0 0			1	100 0 0	6	822 2 0	
	Carcoar			1	240 0 0	3	407 0 0			3	407 0 0	1	240 0 0	
	Cowra	3	596 3 0							3	596 3 0			
	Lithgow	3	481 0 0	1	120 0 0	1	194 0 0	1	590 0 0	4	675 0 0	2	710 0 0	
	Molong	2	249 0 0	1	258 3 0	14	5,330 1 0			16	5,679 1 0	1	258 3 0	
	Mudgee	6	2,055 0 0	5	1,149 0 0	5	2,448 0 0	1	700 0 0	11	4,503 0 0	6	1,849 0 0	
	Rylstone	6	1,331 1 0	4	1,025 0 0	5	1,478 2 0			11	2,809 3 0	4	1,025 0 0	
	Wellington	1	117 1 0			4	1,681 0 0			5	1,798 1 0			
		Total	21	4,830 1 0	18	3,615 1 0	33	11,638 3 0	2	1,290 0 0	54	16,469 0 0	20	4,905 1 0
	Sydney	Milton			1	100 0 0	1	40 0 0			1	40 0 0	1	100 0 0
Nowra				1	40 0 0							1	40 0 0	
Picton				1	120 0 0							1	120 0 0	
Windsor		1	120 0 0			3	280 0 0	1	150 0 0	4	400 0 0	1	150 0 0	
		Total	1	120 0 0	3	260 0 0	4	320 0 0	1	150 0 0	5	440 0 0	4	410 0 0
Tamworth	Coonabarabran	2	840 0 0	2	1,412 2 0	3	406 0 0	1	285 0 0	5	1,246 0 0	3	1,697 2 0	
	Gunnedah	5	4,175 0 0	7	5,535 0 0	2	735 3 0			7	4,910 3 0	7	5,535 0 0	
	Murrurundi	3	1,404 0 0			3	795 1 0			6	2,199 1 0			
	Narrabri	8	1,328 0 0	4	4,522 0 0	4	794 0 0	1	480 0 0	12	2,122 0 0	5	5,002 0 0	
	Tamworth	9	3,523 3 0	6	2,462 0 0	18	11,470 1 0			27	14,994 0 0	6	2,462 0 0	
		Total	27	11,270 3 0	19	13,931 2 0	30	14,201 1 0	2	765 0 0	57	25,472 0 0	21	14,696 2 0
Wagga Wagga	Albury	1	877 0 0	4	2,435 0 0	5	1,320 0 0			6	2,197 0 0	4	2,435 0 0	
	Cootamundra					1	86 3 0			1	86 3 0			
	Corowa					1	142 0 0			1	142 0 0			
	Gundagai	1	450 0 0			1	791 0 0			2	1,241 0 0			
	Narrandera	1	80 0 0	4	2,269 2 0	3	1,061 3 0			4	1,141 3 0	4	2,269 2 0	
	Tumbarumba	1	750 0 0	4	953 0 0	5	1,803 0 0	1	640 0 0	6	2,553 0 0	5	1,583 0 0	
	Tumut	1	840 0 0							1	840 0 0			
	Urana					1	750 0 0			1	750 0 0			
	Wagga Wagga	2	271 2 0	3	1,297 2 0	1	153 1 0	1	548 0 0	3	424 3 0	4	1,845 2 0	
		Total	7	3,268 2 0	15	6,960 0 0	18	6,107 3 0	2	1,188 0 0	25	9,776 1 0	17	8,148 0 0
	Grand Totals	275	110,697 2 20	201	91,075 3 30	243	96,876 3 0	50	23,635 0 0	518	207,574 1 20	251	114,710 3 30	



SCHEDULE XXVII.

RETURN showing the Number and Area of Conditional Leases Transferred and the Number of Transfers passed during the year 1898.

Land Board and Land District.	No. of Leases Transferred.	No. of Transfers passed.	Area.			Land Board and Land District.	No. of Leases Transferred.	No. of Transfers passed.	Area.		
			a.	r.	p.				a.	r.	p.
Armidale—						Maitland—					
Armidale .....	97	124	41,555	1	30	Cassilis .....	61	85	23,004	2	0
Glen Innes .....	15	23	6,432	0	20	Dungog .....	4	4	293	3	0
Inverell .....	62	104	27,540	3	0	Maitland .....	1	2	48	3	0
Tenterfield .....	29	38	7,106	3	0	Muswellbrook .....	2	2	220	0	0
Walcha .....	22	37	10,292	1	0	Paterson .....	9	10	1,329	1	0
Total .....	225	326	92,927	1	10	Scone .....	51	72	25,497	3	0
Bourke—						Singleton .....	14	16	2,903	3	0
Bourke .....	5	6	2,036	0	0	Stroud .....	17	18	8,751	2	0
Brewarrina .....	17	19	25,131	0	0	Taree .....	11	12	1,975	0	0
Total .....	22	25	27,167	0	0	Wollumbi .....	5	5	1,475	2	0
Dubbo—						Total .....	175	226	65,499	3	0
Coonamble .....	69	109	64,158	0	0	Moree—					
Dubbo .....	81	127	78,075	2	0	Bingara .....	13	18	11,708	1	0
Nyngan .....	38	62	48,088	3	0	Moree .....	80	119	94,302	3	0
Warren .....	72	117	75,556	1	0	Walgett .....	51	65	82,177	1	0
Total .....	260	415	265,878	2	0	Warialda .....	57	87	29,983	2	0
Forbes—						Total .....	201	289	218,171	3	0
Barmedman .....	36	12	33,387	1	0	Orange—					
Do Eastern .....	6	10	3,166	3	0	Bathurst .....	10	13	3,627	1	0
Condobolin .....	67	121	78,467	3	0	Carcoar .....	20	26	4,711	1	0
Forbes .....	27	38	15,269	1	0	Cowra .....	17	28	5,481	2	0
Grenfell .....	23	32	16,456	3	0	Lithgow .....	8	9	1,851	2	0
Parkes .....	51	79	55,072	1	0	Molong .....	43	54	22,543	0	0
Total .....	210	292	201,820	0	0	Mudgee .....	22	37	7,214	1	0
Goulburn—						Orange .....	2	2	595	0	0
Bombala .....	18	29	8,108	1	0	Rylstone .....	15	20	3,306	3	0
Boorowa .....	49	73	17,493	0	22	Wellington .....	25	33	7,527	2	0
Braidwood .....	7	7	1,053	1	0	Total .....	162	222	56,858	0	0
Cooma .....	49	75	15,582	0	0	Sydney—					
Eden .....	1	2	200	0	0	Milton .....	1	2	960	0	0
Goulburn .....	18	19	3,245	0	0	Parramatta .....	1	1	40	0	0
Gunning .....	27	37	5,156	1	0	Pictou .....	6	6	1,790	1	0
Moruya .....	5	5	1,279	0	0	Total .....	8	9	2,790	1	0
Moss Vale .....	8	11	2,111	0	0	Tamworth—					
Queanbeyan .....	13	17	5,148	0	0	Coonabarabran .....	32	55	21,506	3	0
Yass .....	14	22	2,618	0	0	Gunnedah .....	62	118	49,536	1	0
Young .....	14	19	7,348	2	0	Murrurundi .....	32	39	16,333	1	0
Total .....	223	316	69,342	1	22	Narrabri .....	82	147	78,112	0	0
Grafton—						Tamworth .....	113	186	52,846	0	0
Bellingen .....	6	8	2,026	1	0	Total .....	321	545	218,334	1	0
Casino .....	45	45	29,211	2	36	Wagga Wagga—					
Grafton .....	8	9	1,845	0	0	Albury .....	20	31	7,736	0	0
Kempsey .....	4	5	1,285	0	0	Cootamundra .....	14	25	8,724	2	28
Murwillumbah .....	2	4	479	0	0	Do Central .....	1	3	185	2	0
Total .....	65	71	34,846	3	36	Corowa .....	1	3	619	0	0
Hay—						Gundagai .....	9	11	2,351	0	27
Balranald .....	4	4	5,352	3	0	Narrandera .....	25	40	24,052	2	0
Deniliquin .....	10	14	5,540	1	0	Tumbarumba .....	18	24	10,712	0	0
Hay .....	48	73	57,244	2	0	Tumut .....	20	42	5,777	1	0
Wentworth .....	1	1	1,920	0	0	Urana .....	5	8	1,670	2	0
Total .....	63	92	70,057	2	0	Wagga Wagga .....	15	24	9,608	1	0
						Total .....	128	211	71,436	3	15

	Number of Leases Transferred.	Number of Transfers Passed.	Area.		
Eastern Division .....	1,090	1,538	429,911	3	3
Central .....	946	1,471	930,779	0	0
Western .....	27	30	34,439	3	0
Grand Total .....	2,063	3,039	1,395,130	2	3

SCHEDULE XXVIII.

RETURN showing the Total Number, Area, and Rent of Conditional Leases notified as Forfeited during the year 1898.

Land Board District and Land District.	No.	Area.	Rent.			Land Board District and Land District.	No.	Area.	Rent.		
		acres.	£	s.	d.						
Armidale—						Dubbo—					
Armidale .....	11	4,302	54	11	6	Coonamble .....	11	8,013	98	7	10
Glen Innes .....	12	4,025½	54	2	5	Dubbo .....	11	6,845	51	14	0
Inverell .....	11	3,072	38	1	3	Nyngan .....	6	5,911	60	9	10
Tenterfield .....	12	3,455	46	11	11	Warren .....	3	2,047	27	1	7
Walcha .....	21	9,013½	116	18	10	Total .....	31	22,816	237	13	3
Total .....	67	23,867½	310	5	11	Forbes—					
Bourke—						Barmedman .....	7	5,505	47	19	6
Bourke .....	2	240	2	15	9	Do East .....					
Cobar .....	1	442	3	13	8	Condobolin .....	17	18,538½	137	1	2
Brewarrina .....						Forbes .....	4	1,552	15	19	4
Do East .....						Grenfell .....					
Wilcannia .....	1	300	2	10	0	Parkes .....	1	1,920	18	0	0
Willyama .....						Total .....	29	27,515½	219	0	0
Total .....	4	982	8	19	5						

## SCHEDULE XXVIII—continued.

Land Board District and Land District	No	Area	Rent	Land Board District and Land District	No	Area	Rent
Goulburn—			£ s. d.	Orange—		acres.	£ s. d.
Bega .....	5	503½	4 14 11	Bathurst .....	16	6,274½	81 12 9
Bombala .....	5	1,071½	21 3 9	Carcoar .....	18	3,856½	40 11 8
Boorowa .....	10	3,174½	30 10 0	Cowra .....	4	1,073	16 10 7
Braidwood .....	8	1,995	19 5 0	Lithgow .....	28	6,224½	92 2 5
Cooma .....	24	8,113½	79 1 2	Molong .....	15	6,089½	76 9 5
Eden .....	8	1,433	19 3 6	Mudgee .....	6	2,382½	26 18 9
Goulburn .....	46	11,441½	122 11 5	Orange .....	1	180	2 5 0
Gunning .....	24	5,360½	57 7 6	Rylstone .....	5	1,151	14 16 8
Moruya .....	9	1,457	12 6 1	Wellington .....	1	855	8 0 4
Moss Vale .....	6	832	11 5 9		94	28,086½	359 7 7
Queanbeyan .....	12	3,186½	36 17 2	Sydney—			
Yass .....	14	3,769½	54 17 0	Campbelltown .....	4	2,701½	29 12 11
Young .....	1	73½	0 18 6	Kiama .....	.....	.....	.....
	172	42,412	470 1 9	Liverpool .....	.....	.....	.....
Grafton—				Milton .....	1	240	4 0 0
Bellhagen .....	12	1,178½	15 1 3	Metropolitan .....	.....	.....	.....
Casino .....	19	11,091	194 9 5	Nowra .....	6	738½	10 12 6
Grafton .....	18	4,849½	79 10 6	Parramatta .....	.....	.....	.....
Kempsey .....	12	2,841½	30 19 10	Penrith .....	2	170	1 8 4
Lismore .....	3	740½	11 8 2	Pictou .....	7	1,731½	20 19 8
Murwillumbah .....	5	1,679½	15 11 0	Windsor .....	1	439½	5 9 11
Port Macquarie .....	7	1,011	11 12 9	Wollongong .....	.....	.....	.....
	76	22,790½	358 12 11		21	6,020½	72 3 4
Hay—				Tamworth—			
Balranald .....	.....	.....	.....	Coonabarabran .....	3	1,400	9 11 8
„ South .....	2	1,162	7 5 3	Gunnedah .....	2	1,080	13 2 6
Demighun .....	.....	.....	.....	Murrurundi .....	.....	.....	.....
Hay .....	7	5,282	47 0 4	Narrabri .....	5	2,250	23 15 0
„ North .....	.....	.....	.....	Tamworth .....	13	5,158½	48 10 0
Hillston .....	6	4,483½	29 5 1		23	9,888½	94 19 2
„ North .....	.....	.....	.....	Wagga Wagga—			
Wentworth .....	1	475	3 19 2	Albury .....	2	650	5 12 6
	16	11,202½	87 9 10	Cootamundra .....	6	2,036½	22 16 4
Maitland—				„ Central .....	.....	.....	.....
Cassilis .....	6	1,109½	14 2 6	Corowa .....	.....	.....	.....
Dungog .....	3	351	3 13 11	Gundagai .....	3	1,347	7 14 6
Gosford .....	2	340	4 5 0	Narrandera .....	6	3,776½	52 14 4
Maitland .....	.....	.....	.....	Tumbarumba .....	23	12,966½	131 1 0
Muswellbrook .....	2	125½	1 4 3	„ North .....	1	900	7 10 0
Newcastle .....	.....	.....	.....	Tumut .....	2	199½	3 1 7
Paterson .....	1	69½	0 11 7	Urana .....	2	629	19 19 4
Raymond Terrace .....	4	636½	8 6 8	Wagga Wagga .....	1	855½	12 9 6
Scone .....	8	3,407	48 3 2		46	23,360½	262 19 1
Singleton .....	6	1,439½	16 13 8	SUMMARY.		a. r. p.	
Stroud .....	7	1,462	19 10 0	Eastern Division .....	545	158,749 2 5	1,959 7 4
Taree .....	21	2,593½	29 15 10	Central .....	106	80,002 3 0	792 7 2
Wollumbi .....	6	1,680	23 13 4	Western .....	5	1,457 0 0	12 18 7
	66	13,214½	169 19 11	Grand total .....	656	240,209 1 5	2,764 13 1
Moree—							
Bingara .....	2	170	1 19 7				
Moree .....	4	2,930½	42 2 1				
Walgett .....	4	4,880½	68 1 3				
„ North .....	.....	.....	.....				
Warialda .....	1	72	0 18 0				
	11	8,052½	113 0 11				

## SCHEDULE XXIX.

RETURN showing the Total Number of Conditional Leases converted into Additional Conditional Purchases under section 25 of the Act of 1889, during the year 1893.

Division	Wholly converted	Partly converted	Total number	Area converted	Rent of area converted
Eastern .....	44	35	79	acres.	£ s. d.
Central .....	96	35	131	15,001	203 18 0
Western .....	.....	.....	.....	89,730	1,245 16 8
Total .....	140	70	210	104,731	1,449 14 8

## SCHEDULE XXX.

RETURN showing Conditional Leases Gazetted during the year 1898, and the Conditional Leases in existence on the 31st December, 1898.

Division of Colony	Conditional Leases Gazetted in 1898			Gazetted Conditional Leases in existence on the 31st December, 1898			Conditional Leases in existence on the 31st December, 1898, inclusive of those applied for under the Act of 1889, and not yet dealt with		
	No	Area	Rent	No	Area	Rent	No	Area	Rent
Eastern .....	321	a. r. p. 84,864 1 0	£ s. d. 884 16 10	14,138	a. r. p. 4,746,158 0 22½	£ s. d. 57,194 1 2	14,566	a. r. p. 5,110,050 3 37½	£ s. d. 60,226 10 0
Central .....	164	100,079 2 0	1,144 15 3	7,760	7,606,683 3 6½	90,171 1 5	8,019	7,771,248 0 38½	91,542 8 10
Western .....	.....	.....	.....	195	237,144 2 19	2,477 8 8	195	237,144 2 19	2,477 8 8
Total .....	485	184,943 3 0	2,029 12 1	22,093	12,589,986 2 8¼	149,842 11 3	22,780	13,118,443 3 15¼	154,246 7 6

SCHEDULE XXXI. RETURN of Sales by Auction during the year 1898.

Main table with columns: Land Board and Land District, Town Land (Offered, Sold, Amount realised), Suburban Land (Offered, Sold, Amount realised), Country Land (Offered, Sold, Amount realised). Rows include various districts like Armidale, Bourke, Dubbo, Forbes, Goulburn, Hay, Matland, Moree, Orange, Sydney, Tamworth, Wagga Wagga, and a Total row.

Notes.—Town land—average price per acre realised £ s d. 32 14 4. Suburban land " " " 6 14 4. Country land " " " 1 7 7. Percentage of land sold to that offered 16 7917, 16 6450, 28 5909.

## SCHEDULE XXXII.

RETURN of After Auction Sales, under Section 56 of the Crown Lands Act of 1895, during the year 1898.

Land Board and Land Districts.	No. of Applications received.	No. of Applications refused or withdrawn.	No. of Applications of which approval was Gazetted.	Applications, approval of which was Gazetted during the year 1898.								
				Town.			Suburban.			Country.		
				No. of Lots.	Area.	Amount Realised.	No. of Lots.	Area.	Amount Realised.	No. of Lots.	Area.	Amount Realised.
				a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.	
Armidale—												
Armidale .....	2	...	2	2	0 3 35	35 15 0	...	.....	.....	.....	.....	
Glen Innes .....	9	1	7	1	0 1 24	15 0 0	6	3 3 14	82 0 0	.....	.....	
Inverell .....	1	...	1	1	.....	.....	4	4 2 6½	69 0 0	.....	.....	
Tenterfield .....	3	2	1	1	0 1 39½	7 10 0	.....	.....	.....	.....	.....	
Bourke—												
Bourke .....	2	...	2	2	0 3 0	40 0 0	.....	.....	.....	.....	.....	
Brewarrina .....	11	...	3	...	.....	.....	3	11 3 34	60 10 0	.....	.....	
Cobar .....	10	3	8	3	1 1 0	21 0 0	5	2 2 3½	39 0 0	.....	.....	
Willyama .....	10	...	3	3	0 3 0	20 0 0	.....	.....	.....	.....	.....	
Dubbo—												
Coonamble .....	3	1	2	...	.....	.....	3	54 0 30	190 10 0	.....	.....	
Dubbo .....	17	...	18	7	3 0 37	36 0 0	19	114 3 37	367 5 0	.....	.....	
Nyngan .....	6	...	5	3	1 2 0	119 10 0	2	14 2 24	61 0 0	.....	.....	
Forbes—												
Barmedman .....	4	...	3	4	0 3 26½	14 10 0	1	5 0 0	15 3 4	.....	.....	
Condobolin .....	5	...	4	...	.....	.....	4	8 1 3	38 0 0	.....	.....	
Grenfell .....	4	...	4	4	1 1 20½	13 10 0	.....	.....	.....	.....	.....	
Parkes .....	22	...	6	4	1 2 20	26 10 0	3	7 0 11	27 10 0	1	13 3 0	44 10 0
Goulburn—												
Bega .....	5	...	5	1	0 1 19	30 0 0	4	12 1 12½	31 10 0	.....	.....	
Bombala .....	2	...	2	2	1 0 0	16 0 0	.....	.....	.....	.....	.....	
Boorowa .....	5	1	4	5	2 2 0	21 0 0	2	3 0 0	27 0 0	.....	.....	
Braidwood .....	5	...	5	...	.....	.....	5	16 2 24	68 10 0	.....	.....	
Cooma .....	15	1	14	14	4 3 1	68 15 0	2	4 1 11½	19 15 0	.....	.....	
Eden .....	26	3	35	35	16 0 18	155 10 0	11	36 0 24	220 10 6	.....	.....	
Goulburn .....	6	3	3	...	.....	.....	3	9 2 5	38 10 0	.....	.....	
Gunning .....	3	2	2	...	.....	.....	2	35 3 5	89 10 0	.....	.....	
Moruya .....	4	1	2	2	0 2 29	14 11 0	.....	.....	.....	.....	.....	
Queanbeyan .....	...	...	3	3	0 3 0	25 5 0	.....	.....	.....	.....	.....	
Yass .....	1	...	1	...	.....	.....	5	47 0 11	118 0 0	.....	.....	
Young .....	10	...	13	12	6 0 0	43 0 0	1	0 2 26	10 0 0	.....	.....	
Grafton—												
Bellingen .....	17	1	21	14	4 3 34	84 0 0	12	111 3 39	233 0 0	.....	.....	
Casino .....	9	1	8	5	2 0 35	45 0 0	6	6 1 6½	32 10 0	.....	.....	
Grafton .....	38	3	29	8	3 1 28	46 0 0	29	166 1 32	449 15 0	2	14 2 30	47 7 6
Kempsey .....	6	...	3	...	.....	.....	3	.....	.....	3	36 2 30	55 0 8
Lismore .....	8	2	4	...	.....	.....	4	13 1 23	126 0 0	.....	.....	
Murwillumbah .....	14	...	13	7	2 2 1	100 10 0	6	41 0 33	117 10 0	.....	.....	
Port Macquarie .....	1	...	1	1	0 2 0	14 0 0	.....	.....	.....	.....	.....	
Hay—												
Deniliquin .....	14	7	6	6	2 2 30	57 10 0	.....	.....	.....	.....	.....	
Hay .....	5	1	4	4	1 0 24	240 10 0	.....	.....	.....	.....	.....	
Hillston .....	5	1	7	7	1 3 0	22 0 0	.....	.....	.....	.....	.....	
Maitland—												
Cassilis .....	...	...	1	1	0 2 0	4 0 0	.....	.....	.....	.....	.....	
Dungog .....	1	...	1	1	0 2 0	8 0 0	.....	.....	.....	.....	.....	
Gosford .....	1	...	1	1	0 1 26	9 0 0	.....	.....	.....	.....	.....	
Maitland .....	4	...	3	2	0 3 30	29 10 0	1	10 3 0	27 0 0	.....	.....	
Muswellbrook .....	1	...	1	...	.....	.....	1	9 3 0	24 10 0	.....	.....	
Newcastle .....	6	1	5	3	1 2 0	20 10 0	2	7 0 9	16 10 0	.....	.....	
Raymond Terrace .....	2	...	2	2	0 3 21	7 10 0	.....	.....	.....	.....	.....	
Singleton .....	4	...	4	...	.....	.....	4	9 0 8	33 0 0	.....	.....	
Taree .....	9	2	7	5	2 1 11	24 0 0	2	2 2 5½	12 0 0	.....	.....	
Wollombi .....	2	...	2	...	.....	.....	3	4 2 38	12 0 0	.....	.....	
Moree—												
Bingara .....	3	...	3	...	.....	.....	2	2 1 20	30 0 0	1	30 0 0	90 0 0
Moree .....	8	...	8	9	4 2 0	103 0 0	.....	.....	.....	.....	.....	
Walgett North .....	10	...	12	13	6 2 0	76 0 0	.....	.....	.....	.....	.....	
Warialda .....	4	...	2	...	.....	.....	2	2 2 27	28 10 0	.....	.....	
Orange—												
Bathurst .....	1	...	1	...	.....	.....	1	2 2 1	10 10 0	.....	.....	
Carcoar .....	18	1	21	16	7 1 21	64 10 0	5	10 1 35	34 10 0	.....	.....	
Cowra .....	3	1	...	...	.....	.....	3	15 2 0	50 0 0	.....	.....	
Lithgow .....	7	...	9	10	4 2 9½	86 0 0	3	15 2 0	50 0 0	.....	.....	
Molong .....	8	...	3	5	1 0 2¼	25 0 0	.....	.....	.....	.....	.....	
Mudgee .....	9	1	20	9	3 1 29	62 0 0	11	51 0 32½	185 0 0	.....	.....	
Orange .....	1	...	1	...	.....	.....	1	17 1 0	43 10 0	.....	.....	
Rylstone .....	1	...	1	1	0 1 4	5 10 0	.....	.....	.....	.....	.....	
Wellington .....	10	...	11	5	1 3 0	21 0 0	6	23 2 7	263 0 0	.....	.....	
Sydney—												
Campbelltown .....	4	...	3	...	.....	.....	3	2 1 27½	20 0 0	.....	.....	
Liverpool .....	14	...	13	...	.....	.....	18	40 0 17	256 0 0	1	5 1 11	27 0 0
Metropolitan .....	27	2	22	3	1 0 32	38 0 0	23	50 3 37½	1,748 0 0	5	2 2 15	307 0 0
Nowra .....	1	...	1	...	.....	.....	1	.....	.....	1	9 1 18	24 0 0
Parramatta .....	59	1	55	7	2 1 25	31 0 0	12	63 0 6	404 10 0	49	259 3 29½	2,065 0 0
Penrith .....	6	...	6	5	2 0 35	32 0 0	1	1 0 7	5 0 0	.....	.....	
Picton .....	7	...	7	4	2 0 0	19 0 0	2	14 0 17	36 0 0	1	8 2 34	27 0 0
Windsor .....	4	...	5	...	.....	.....	1	3 2 23	15 0 0	4	26 0 13	88 0 0



SCHEDULE XXXIII—continued.

Land Board District	Land District	Town.			Suburban			Country.		
		No of Lots	Area	Amount Forfeited	No of Lots.	Area.	Amount Forfeited	No of Lots	Area.	Amount Forfeited.
Sydney	Campbelltown	2	a. r. p. 0 2 22	£ s. d. 6 10 0	7	a. r. p. 4 0 39	£ s. d. 10 12 6	...	a. r. p. ...	£ s. d. ...
	Parramatta	...	...	...	...	...	...	7	3 2 0	51 18 0
	Penrith	1	0 2 0	1 5 0	...	...	...	...	...	...
	Pictou	...	...	...	1	2 1 11	9 16 0	...	111 0 3	60 6 4
	Sydney	...	...	...	...	...	...	5	16 3 36½	51 3 0
Tamworth	Windor	...	...	...	2	20 0 9	32 19 0	...	...	...
	Coonabarrabran	...	...	...	1	4 0 0	2 10 0	...	...	...
Wagga Wagga	Gunnedah	1	0 2 0	3 15 0	...	...	...	...	...	...
	Cootamundia	10	6 0 38	50 13 11	1	1 0 0	5 10 0	...	...	...
	Corowa	5	2 1 23	11 5 0	...	...	...	...	...	...
	Gundagai	...	...	...	3	4 2 0	6 2 6	...	...	...
	Narrandera	2	1 0 0	2 10 0	...	...	...	...	...	...
	Tumbarumba	2	1 0 0	2 5 0	...	...	...	...	...	...
	Urana	1	0 2 0	1 12 6	...	...	...	...	...	...
	Totals	73	38 1 8½	231 15 2	35	79 2 5	146 17 1	27	144 3 2¼	363 6 1

Grand Total—Town, Suburban, and Country:—No. of Lots, 135, 262 a. r. 16 p.; amount, £711 18s. 4d.

SCHEDULE XXXIV.

RETURN of Improvement Purchase Applications under Section 46 of the Crown Lands Act of 1884.

Land Board District and Land District.	Applications Received prior to the Year 1898			Applications Received during the Year 1898			Land Alienated during the Year												
	Number Refused	Number Approved	Number declared Lapsed	Number Received	Number Refused	Number Approved	Town			Suburban.									
							Lots	Area.	Amount realised exclusive of Fines.	Lots	Area	Amount realised exclusive of Fines							
Armidale—																			
Armidale	...	6	...	12	1	1	12	a. r. p. 2 3 6½	£ s. d. 149 10 0	1	0 1 0	9 0 0							
Tenterfield	...	...	...	...	...	...	...	...	...	2	2 0 0	5 10 0							
Walcha	1	1	...	1	...	...	...	...	...	...	...	...							
Bourke—																			
Cobar	...	10	...	15	2	5	4	1 0 0	32 0 0	4	1 1 37	21 10 0							
Wilcannia	2	13	3	34	11	16	3	0 3 0	16 10 0	24	17 1 29	339 0 0							
Willyama	1	7	...	25	4	14	6	1 1 2¾	128 0 0	10	8 1 1	113 0 0							
Dubbo—																			
Dubbo	...	3	...	2	...	...	3	0 3 0	55 0 0	...	...	...							
Nyngan	1	...	...	4	1	...	...	...	...	...	...	...							
Forbes—																			
Barnedman	6	14	3	21	3	12	22	5 1 37¼	224 5 0	9	1 2 33½	252 3 9							
Forbes	...	...	...	4	...	2	2	0 1 37¼	17 10 0	...	...	...							
Grenfell	1	...	...	...	...	...	...	...	...	...	...	...							
Parkes	...	5	1	11	5	...	4	1 2 0	84 0 0	2	2 0 0	21 10 0							
Goulburn—																			
Bega	...	...	...	1	...	...	...	...	...	...	...	...							
Braidwood	...	...	...	2	...	...	...	...	...	...	...	...							
Cooma	1	...	...	...	...	...	...	...	...	...	...	...							
Moruya	...	...	...	1	...	...	...	...	...	...	...	...							
Queanbeyan	5	1	...	1	1	...	...	...	...	...	...	...							
Grafton—																			
Bellingen	...	...	...	1	...	...	...	...	...	...	...	...							
Casino	...	7	1	4	1	1	6	1 1 29	53 0 0	...	...	...							
Grafton	...	1	...	...	...	...	...	...	...	1	0 1 0	5 0 0							
Hay—																			
Hillston	1	...	...	1	...	...	...	...	...	...	...	...							
Matland—																			
Scone	...	3	...	...	...	1	...	...	...	5	1 0 20¼	20 10 0							
Orange—																			
Bathurst	...	1	1	1	...	...	...	...	...	1	0 1 0	6 0 0							
Carcoar	1	2	...	7	1	2	3	0 1 31	24 0 0	...	...	...							
Mudgee	1	...	...	...	...	...	...	...	...	...	...	...							
Wellington	1	1	...	1	...	...	1	0 0 37½	10 0 0	1	0 1 0	4 0 0							
Tamworth—																			
Tamworth	1	4	...	8	1	3	5	1 1 0	13 0 0	1	1 0 0	2 10 0							
Wagga Wagga—																			
Cootamundra	3	...	...	1	...	1	...	...	...	...	...	...							
Gundagai	1	...	...	...	...	...	...	...	...	...	...	...							
Tumbarumba	1	...	...	...	...	...	...	...	...	...	...	...							
Tumut	2	...	...	...	...	...	...	...	...	1	1 0 0	2 10 0							
Urana	...	1	...	...	...	...	1	0 1 0	4 0 0	...	...	...							
Totals	30	80	9	158	31	58	72	17 2 21	810 15 0	62	37 0 1	802 3 9							

SCHEDULE XXXV.

RETURN of Applications received and Lands alienated during the year 1898 under Special Purchase Clauses of the Crown Land Acts of 1884 and 1889; also Applications to purchase unnecessary roads under the Public Roads Act of 1897.

Land Board District	Land District.	Section 63, Act 1884			Section 64, Act 1884			Section 66, Act 1884			Section 67, Act 1884			Public Roads Act of 1897			Section 42 of Act 1889		Total amount received for each Land District.	
		Applications received during the year	Applications completed during the year		Purchase Money, exclusive of Fines	Applications received during the year	Applications completed during the year		Purchase Money, exclusive of Fines.	Applications received during the year	Applications completed during the year		Purchase Money, exclusive of Fines	Applications received during the year	Applications completed during the year		Purchase Money, exclusive of Fines	Cases completed during the year		
			No	Area			No	Area			No	Area			No	Area		No		Area
			a r p	£ s d		a r p	£ s d		a r p	£ s d		a r p	£ s d		a r p	£ s d		a r p	£ s d	
Armidale	Armidale													2	1	7 1 28	34 7 0			34 7 0
	Glen Innes													2						
	Inverell								1	10 1 0	21 0 3			4	1	6 1 23	12 10 6			33 10 9
	Tenterfield							1						1						
Dubbo	Coonamble													3				1	3 2 20	
	Dubbo													1						
	Nyngan													2						
Forbes	Baamedman													1						
	Forbes													6						
	Grenfell							1						3						
	Parkes													1						
Goulburn	Bega							6	1	7 1 39	28 11 7			1	10 0 0	36 2 0				64 13 7
	Booroooa													1	4 0 0	10 0 0				10 0 0
	Braidwood													3						
	Cooma													1				1	0 3 0	10 19 3
	Eden													3						
	Goulburn													1						
	Moss Vale													1						
	Young							1						1						
Grafton	Bellingen													2				1	0 2 0	
	Casino													3				1	3 0 0	
	Grafton													1	2 2 32	13 8 3				13 8 3
	Lismore													12				6	18 2 12	
	Murwillumbah													1				1	2 2 25	
	Port Macquarie													15				15	39 2 0	
Hay	Bairnald													1						
	Deniliquin													1	26 0 0	76 15 0				76 15 0
	Hay													1						

SCHEDULE XXXV—continued.

Land Board District.	and District.	Section 63, Act 1884.			Section 64, Act 1884.			Section 66, Act 1884.			Section 67, Act 1884.			Public Roads Act of 1897.			Section 42 of Act 1889.		Total amount received for each Land District.			
		Applications received during the year.	Applications completed during the year.		Purchase Money exclusive of Fines.	Applications received during the year.	Applications completed during the year.		Purchase Money exclusive of Fines.	Applications received during the year.	Applications completed during the year.		Purchase Money exclusive of Fines.	Applications received during the year.	Applications completed during the year.		Purchase Money exclusive of Fines.	Cases completed during the year.				
			No.	Area.			No.	Area.			No.	Area.			No.	Area.		No.		Area.	No.	Area.
			a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.			
Maitland	Cassilis																	5	8 3 30			
	Dungog																					
	Newcastle																					
	Singleton																					
	Taree																					
Moree	Bingara																					
Orange	Carcoar																					
	Cowra																					
	Gulgong																	2	3 3 0			
	Lithgow																					
	Molong																					
	Orange																					
	Wellington																					
Sydney	Nowra																					
	Parramatta				1	0 1 27	37 13 0	1												37 13 0		
	Penrith																					
	Picton																					
	Sydney	1			13	3 1 23	1,919 8 6	2	2	6 2 11	163 13 3	2	0 2 20	52 1 0						2,135 2 9		
	Windsor								5	12 1 32	80 5 4									80 5 4		
	Wollongong																					
Tamworth	Gunnedah								1	24 0 0	70 15 1											
	Murrurundi											2	49 1 9	156 8 4						156 8 4		
	Tamworth								1			2	3 1 17	26 4 11	3					26 4 11		
Wagga Wagga	Albury											2	50 2 38	100 8 11	1					100		
	Cootamundra											1	10 3 30	30 7 6	2					30 7 6		
	Corowa																					
	Gundagai																					
	Narrandera																					
	Tumbarumba														1	11 1 30	23 5 7			23 5 7		
	Tumut																					
	Urana																					
	Wagga Wagga																					
	Totals	1			13	14	3 3 10	1,957 1 6	19	10	50 2 2	343 5 3	19	133 0 16	595 6 6	131	3	25 1 1	70 3 1	35	89 1 37	2,965 16 4



## SCHEDULE XXXVI.

RETURN showing the number of applications to surrender land in exchange for other land under the provisions of the Crown Lands Acts, received during the year 1898 and previous years, and the number disposed of and outstanding on 31st December, 1898.

Division of Colony.	Local Land Board District.	Number of Applications outstanding on 31 Dec., 1897.	Number of Applications received during 1898.	Accepted by the Governor-in-Council during 1898.			Number of Applications refused or withdrawn during 1898.	Number of Applications outstanding on 31 Dec., 1898.	
				No.	Area.				
Eastern .....	Armidale .....	46	7	12	a. 15,612	r. 3	p. 38	6	35
	Goulburn .....	19	10	3	843	0	0	6	20
	Grafton .....	5	2	2	10,267	0	36	.....	5
	Forbes .....	1	.....	.....	.....	.....	.....	1	.....
	Maitland .....	12	1	2	1,130	1	0	2	9
	Orange .....	11	2	1	1,123	0	0	6	6
	Sydney .....	2	1	1	667	0	0	1	1
	Tamworth .....	10	2	2	2,989	0	14	1	9
	Wagga Wagga .....	18	8	1	300	0	0	10	15
	Central .....	Dubbo .....	38	15	6	21,427	3	0	6
Forbes .....		35	16	9	22,607	3	9	5	37
Hay .....		31	12	7	75,660	1	7	8	28
Moree .....		42	9	10	28,181	3	0	4	37
Tamworth .....		39	14	10	47,923	2	18	3	40
Wagga Wagga .....		43	20	15	47,691	3	27	18	30
Western .....	Bourke .....	8	2	4	2,873	0	0	.....	6
	Hay .....	6	3	.....	.....	.....	.....	.....	9
	Moree .....	.....	3	.....	.....	.....	1	.....	2
		366	127	85	279,248	2	29	78	330

## SCHEDULE XXXVII.

RETURN showing the number, area, and nature of Deeds of Grant prepared during the year 1898.

No. of Deeds of Grant.	Area.		Nature of Grant.
	a.	r. p.	
1,058	49,273	3 29	Sales by Auction, under section 61 of the Crown Lands Act of 1884.
28	232	2 39	Do do Act 38 Vic. No. 3.
4	0	2 36	Do do section 5 of Act 53 Vic. No. 1.
353	1,014	2 14½	Purchases under section 56 of the Crown Lands Act of 1895.
1	2	0 0	do in virtue of Improvements under section 2 of the Crown Lands Acts Amendment Act of 1875.
154	62	2 21¾	do do do do 46 do Act of 1884.
14	3	0 35¼	do do do do 2 of Act 53 Vic. No. 1.
1,050	156,312	1 2	Conditional Purchases under sections 13, 14, 19, 21, and 22 of the Crown Lands Alienation Act of 1861.
134	18,524	2 20	Do do 24, 26, 42, and 47 of the Crown Lands Act of 1884.
4	814	0 0	Do do 24 and 42 of the Crown Lands Act of 1884, and section 18 of the Crown Lands Act of 1889.
1	210	0 0	Conditional Purchases under section 42 of the Crown Lands Act of 1884, and section 25 of the Crown Lands Act of 1889.
8	628	0 30	Conditional Purchases under sections 21 and 22 of the Crown Lands Alienation Act of 1861, and section 34 of the Crown Lands Act of 1895.
1	40	0 0	Conditional Purchases under section 42 of the Crown Lands Alienation Act of 1884, and section 34 of the Crown Lands Act of 1895.
1	11	0 25	Purchase under section 10 of the Crown Lands Alienation Act of 1861.
99	793	2 34½	Purchases under sections 63, 64, 66, and 67 of the Crown Lands Act of 1884, and section 54 of the Crown Lands Act of 1895.
94	2,413	1 27	Alienations under section 42 of the Crown Lands Act of 1889.
152	174,540	1 18	Do do 46 do do 1st Part.
10	362	3 30	Do do 46 do do 2nd "
219	121,894	0 2	Do do 47 do do 1895.
2	6	3 32	Do under sections 18 and 19 of the Public Roads Act of 1897.
33	14,332	3 30	Grants under section 20 of the Crown Lands Act of 1895, and section 6 of the Conditional Purchases Relief Act of 1896.
5	250	0 0	Volunteer Land Order Grants.
19	97	0 35	Dedications.
1	636	3 0	Miscellaneous—Court of Claims Case.
2	59	2 30	Re-grants.
3,447	542,518	0 10½	

## SCHEDULE XXXVIII.

RETURN showing the number, area, and rental of Pastoral Leases and Occupation Licenses current during 1898.

Pastoral Leases.				Occupation Licenses.			
Number of Leases.	Division of Colony.	Area.	Annual Rental.	Number of Licenses.	Division of Colony.	Area.	Annual License Fee.
384	Central .....	acres. 10,835,754	£ 110,904 s. 6 d. 11	502	Eastern .....	acres. 5,877,510	£ 15,532 s. 17 d. 10
308	Western .....	42,076,752	137,116 7 1	309	Eastern (Preferential) ..	3,553,986	15,807 12 1
				538	Central .....	5,233,325	26,604 14 2
				269	Central (Preferential) ..	4,376,272	28,479 16 4
				189	Western .....	18,226,261	19,700 7 5
692		52,912,506	248,020 14 0	1,807		37,267,354	106,125 7 10

## SCHEDULE XXXIX

RETURN showing particulars as to Refunds granted during the year 1898 on account of land withdrawn from Pastoral Lease and Occupation License

Pastoral Leases				Occupation Licenses			
Division	Number of Pastoral Lease	Area withdrawn	Amount of refund granted	Division	Number of Occupation Licenses	Area withdrawn	Amount of refund granted
		Acres	£ s d			Acres	£ s d
Central	70	607,322	5,242 6 9	Eastern	56	78,813	259 0 5
Western	17	36,578	136 10 5	Eastern (Preferential)	82	77,029	519 14 10
				Central	153	444,724	3 472 3 2
				Central (Preferential)	82	374,477	2,031 4 4
				Western	47	653,099	726 14 10
Total	87	643,900	5,378 17 2	Total	420	1,628,142	7,008 17 7

## Grand Totals

Cases	507
Area withdrawn	2,272,042 acres
Amount refunded	£12,387 14s 9d.

## SCHEDULE XL

RETURN showing the number of transfers of Pastoral Leases, Preferential Occupation Licenses, and Occupation Licenses completed during the year 1898

Division	Pastoral Leases	Preferential Occupation Licenses	Occupation Licenses
Eastern		21	36
Central	44	11	40
Western	23		13
Total	67	32	89

## SCHEDULE XLI.

RETURN giving particulars of Applications received and dealt with during 1893, under Section 8 of the Crown Lands Act of 1895, for the attachment of Resumed Areas to Leasehold Areas

No and Name of Resumed Area	Area to be attached to Leasehold Area	No and Name of Resumed Area	Area to be attached to Leasehold Area
RECEIVED DURING 1898		REFUSED OR WITHDRAWN	
	acres		acres
111. Sussex	46,165	21 Cobham Lake	198 060
113 Glenlyn	108,920	111 Sussex	46 165
143 Mount Manara	110,320	168 Outer Netallie	28,315
168 Outer Natalie	28,315	264 Coolabah	32,596
172 Tonga	76,720		
179 Boober 1	48,272	Total	305,136
181. Belford	48,900		
191. Topar	151,483	NUMBER OUTSTANDING FROM THIS AND PREVIOUS YEARS	
213 Morden	153,460	58 Tolarno	344,908
214 Cuthro	345 687	89. Weinteriga	292 513
230 Wirrlong	95 079	143 Mount Manara	110 320
Total	1,203,321	172 Tonga	76,720
		179 Booberoi	48,272
APPROVED		181. Belford	48,900
113 Glenlyn	108,920	191 Topar	151 483
153 Booroondarra Downs	59,476	213 Morden	153,460
22 Kallara	498,041	214 Cuthro	335,687
232 Bedooba	59,320	230 Wirrlong	95,079
Total	715,757	251 Milga No 1	6 373
		259 Warratta	28,041
		Total	1,691,956

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## SCHEDULE XLII.

RETURN of Occupation Licenses offered for sale by Auction or Tender, showing the number and area offered; the number of times offered; and the number and area sold during the year 1898.

By Auction.						By Tender.							
Division.	No. of times offered during 1898.		Total No. offered.	Area offered.	No. sold.	Area sold.	Division.	No. of times offered during 1898.		Total No. offered.	Area offered.	No. sold.	Area sold.
	1	2						1	2				
Eastern .....	143	14	157	acres. 1,588,685	87	acres. 818,791	Eastern .....	57	1	58	acres. 794,230	18	acres. 312,590
Central .....	13	...	13	533,796	12	503,260							
Western .....	17	...	17	259,465	4	58,865							
Total.....	173	14	187	2,381,946	103	1,380,916							

## Grand Totals.

Total number offered 245; area 3,176,176 acres.  
 ,, ,, sold 121; area 1,693,506 acres.

## SCHEDULE XLIII.

RETURN showing Pastoral Leases, rents of which have been re-determined under the provisions of the 29th section of the Crown Lands Act of 1889.

## WESTERN DIVISION.

No.	Name of Pastoral Lease.	Area.	Annual Rental.		No.	Name of Pastoral Lease.	Area.	Annual Rental.	
			Old Rent.	New Rent.				Old Rent.	New Rent.
		acres.	£ s. d.	£ s. d.			acres.	£ s. d.	£ s. d.
10	Moolah .....	95,360	131 2 5	79 9 4	163	Coombie .....	64,080	106 16 0	80 2 0
25	Kilfera .....	411,398	771 7 6	634 4 10	212	Conoble .....	153,961	641 10 1	641 10 1
26	Tarcoola .....	181,063	392 6 1	301 15 5	219	Moolbong .....	56,004	350 0 6	408 7 3
28	Pan Ban .....	66,560	194 2 8	174 14 5	221	Euston .....	19,687	24 12 2	24 12 2
51	Clare.....	218,876	948 9 3	1,003 3 8	233	Yathong .....	121,230	168 7 6	202 1 0
59	Gunniguldrie .....	37,160	61 18 8	92 18 0	316	Boundary.....	10,200	10 12 6	10 12 6
91	Mallee Cliffs .....	143,440	77 14 0	77 14 0	320	Canally.....	229,423	449 5 9	191 3 9
106	Tapalin.....	252,343	157 14 3	63 1 9	321	Upper Lette.....	61,440	120 6 5	85 6 8
138	Alma.....	72,116	600 19 4	510 16 5					
142	Wangaron .....	31,600	48 5 10	43 17 10					
						Totals.....	2,225,941	5,255 10 1	4,625 11 1

Average rate per acre—Old rate,  $\frac{5s}{100d}$ .; new rate,  $\frac{4s}{100d}$ .

## SCHEDULE XLIV.

RETURN showing Appraisalment of Occupation Licenses of those parts of the Leasehold Areas withdrawn under section 3 of the Crown Lands Act of 1895.

## Central Division.

No. of Occupation License.	Approximate Area.	Annual License Fee.
747, being part of the area withdrawn from the leasehold area of Upper Wyalong, No. 3 .....	acres. 9,750	£ s. d. 7 12 4
749, do do do Barrawang.....	70,100	232 1 8
750, do do do Burburgate .....	33,020	103 3 9
751, do do do Gunningbland .....	18,000	112 10 0
752, do do do Derribong .....	34,200	213 15 0
753, do do do West Mandamah.....	9,500	59 7 6
754, do do do Goobang.....	15,400	128 6 8
756, do do do Burroway .....	28,325	206 10 9
758, do do do Boyd .....	6,500	40 12 6
759, do do do The Troffs.....	32,000	266 13 4
760, do do do Mullah .....	19,000	148 8 9
762, do do do Bulgandramine.....	44,600	325 4 2
766, do do do Euroka .....	31,000	145 6 3
767, do do do Welbungah .....	20,100	209 7 6
769, do do do Kooba.....	12,500	58 11 11
Total .....	383,995	2,317 12 1

## SCHEDULE XLV.

RETURN giving particulars of fresh Appraisements of License Fees determined under the 81st section of the Crown Lands Act of 1884, and gazetted during 1898.

Division of Colony.	Resumed Area		Previous rate per section	Rate per section, as determined after appraisalment.	Area	
	No.	Name.				
Eastern .....	56	Rampsbeck .....	£ s d 2 13 4	£ s. d. 1 6 8	acres. 5,662	} Fresh appraisements, 2; area, 57,076 acres, annual rent, £212 12s. 8d.
	304	Mole River .....	2 13 4	2 10 0	51,414	
Total .....	...	.....	.....	.....	57,076	
Eastern (Preferential) .....	56A	Rampsbeck .....	5 6 8	4 0 0	13,635	} Fresh appraisements, 5; area, 136,982 acres; annual rent, £649 1fs. 2d.
	107A	Attunga .....	2 0 0	1 0 0	8,711	
	304A	Mole River .....	3 4 0	3 0 0	45,071	
	571A	Bonshaw .....	3 6 8	3 6 8	26,045	
	572A	Bonshaw West .....	2 18 8	3 0 0	43,520	
Total .....	...	.....	.....	.....	136,982	
Central .....	31	Boomanoomana .....	21 6 8	16 0 0	2,994	} Fresh appraisements, 2; area, 46,623 acres; annual rent, £211 3s. 9d.
	679	Trigamon .....	3 6 8	2 0 0	43,629	
Total .....	...	.....	.....	.....	46,623	
Central (Preferential) .....	31A	Boomanoomana .....	18 13 4	13 6 8	5,088	} Fresh appraisements, 2; area, 7,927 acres; annual rent, £165 2s. 11d.
	67A	Belubula .....	13 6 8	13 6 8	2,889	
Total .....	...	.....	.....	.....	7,927	
Western .....	25	Kilfera .....	0 6 4½	0 6 10½	411,596	} Fresh appraisements, 3; area, 559,859 acres, annual rent, £358 18s.
	140	Wirchilleba .....	0 16 0	0 8 0	84,686	
	212	Conoble.....	1 12 0	0 17 0	63,627	
Total .....	...	.....	.....	.....	559,859	

## SCHEDULE XLVI.

RETURN showing Pastoral Leases forfeited, &c., during 1898, also Preferential Occupation Licenses, and Occupation Licenses not renewed for that year.

Pastoral Leases.	Preferential Occupation Licenses.	Occupation Licenses
Central Division ... .. 4	Eastern Division .. 6	Eastern Division .. 21
	Central .. 17	Central .. 25
	Western .. 1	Western .. 7
Total .. 4	Total .. 24	Total .. 53

## SCHEDULE XLVII.

RETURN showing Pastoral Leases in the Central Division extended under the provisions of the 43rd section of the Crown Lands Act of 1889, which will expire during 1899.

No.	Name of Pastoral Lease	Date of Expiration of Lease.	Term of Extension	No	Name of Pastoral Lease.	Date of Expiration of Lease	Term of Extension.
13	Benerembah .....	10 July, 1899	4 years.	403	Moonbria .. .. .	10 July, 1899	4 years
21	South Condoublin ..	10 " "	4 " "	413	Curaburrara .....	10 April, "	3 " 9 months.
43	Nyingay .. .. .	10 " "	4 " "	422	Berry Jerry and Arajoel	10 July, "	4 years.
45	Eli Elwah .. .. .	10 " "	4 " "	446	Bundaburrah .....	10 " "	4 " "
58	Dobikin .. .. .	10 " "	4 " "	448	Cuirugundi .. .. .	10 " "	4 " "
65	Weelong .. .. .	10 " "	4 " "	467	Burbugate .. .. .	10 Jan, "	3 " 6 months.
69	Spicer's Creek .....	10 " "	4 " "	473	Brookong .. .. .	10 " "	3 " 6 "
74	Boyd .. .. .	10 " "	4 " "	488	Brue Plains .. .. .	10 Ju'y, "	4 years.
75	Tregalana .. .. .	10 Mar, "	3 " 8 months	494	Morago .. .. .	10 " "	4 " "
86	West Gungalman .....	10 July, "	4 years.	496	Burrandoon .. .. .	10 " "	4 " "
87	Tugland .. .. .	10 " "	4 " "	501	Bungle Gully .....	10 Jan, "	3 " 6 months.
88	Goonal .. .. .	10 Jan, "	3 " 6 months	549	Bocabigal .. .. .	30 July, "	4 years.
113	Yaraldool .. .. .	10 July, "	4 years.	550	Bramble .. .. .	30 " "	4 " "
116	Tonderburine .. .. .	10 " "	4 " "	566	Tchelery .. .. .	30 April, "	3 " 9 months.
121	Willawa .. .. .	10 Jan, "	3 " 6 months.	570	Walla Walla and Caran-		
135	Belgoreen .. .. .	10 July, "	4 years.		gatell .. .. .	30 July, "	4 years.
155	Merkadool .. .. .	10 " "	4 " "	581	Millie .. .. .	30 " "	4 " "
156	Murrulebale .....	10 Jan, "	3 " 6 months.	583	Namma .. .. .	30 " "	4 " "
204	Burrembed .. .. .	10 July, "	4 years.	613	Opposite Derribong ..	30 " "	4 " "
215	Yamma .. .. .	10 " "	4 " "	620	Tubbo .. .. .	30 " "	4 " "
219	Goangra .. .. .	10 " "	4 " "	627	Airah .. .. .	30 " "	4 " "
222	Coubal .. .. .	10 " "	4 " "	630	Yarrabee .. .. .	30 Jan., "	3 " 6 months.
236	Nemby (Upper).....	10 " "	4 " "	634	Kooba .. .. .	30 April, "	3 " 9 "
252	Buttabone .. .. .	10 " "	4 " "	638	Bourke's Creek .....	30 July, "	4 years.
253	Warran Downs .....	10 " "	4 " "	649	Morangarell and Narra		
277	Cobbadah .. .. .	10 Jan, "	3 " 6 months.		burra Creek .....	4 Feb, "	3 " 6 months.
295	Ulumbarella .....	10 July, "	4 years.	663	Tulcumbah .. .. .	4 " "	3 " 6 "
319	Gillinghall .. .. .	10 " "	4 " "	668	Billabong West .....	4 " "	3 " 6 "
325	Sandholes .. .. .	10 Jan, "	3 " 6 months	692	Wallandoon .. .. .	4 " "	3 " 6 "
331	Yarrowah .. .. .	10 July, "	4 years.	743	Euroka South .....	30 Nov., "	4 " 4 "
379	Cowel Murrayan .....	10 " "	4 " "				

## SCHEDULE XLVIII.

RETURN showing Pastoral Leases in the Central Division, extended under the provisions of the 43rd section of the Crown Lands Act of 1889, which expired during the year 1898.

No.	Name of Pastoral Lease.	Area (approximate).	Date of Expiration of Lease.	Remarks.
		acres.		
39	Puckawidge .....	15,397	10 Jan., 1898...	Preferential Occupation License applied for.
44	Gorian .....	36,111	10 July, " ..	do do
51	Coradgery .....	43,408	10 Oct., " ..	do do
62	Yarringerry .....	10,360	10 July, " ..	do do
70	North Malonga .....	15,882	10 " " ..	do do
108	Nyang .....	37,673	10 " " ..	do do
130	Flagstone Creek .....	23,026	10 " " ..	do do
131	Moroco .....	15,926	10 " " ..	do do
132	Egan Creek .....	3,080	10 " " ..	do do
136	Upper Merry Merry .....	6,891	10 Jan., " ..	do do
141	Bogewong .....	22,567	10 " " ..	do do
165	Cocketgedong .....	12,401	10 July, " ..	do do
167	Tala .....	40,923	10 " " ..	do do
176	Pominalarna .....	9,881	10 Jan., " ..	No Preferential Occupation License applied for.
200	Widgiewa .....	11,998	10 " " ..	Preferential Occupation License applied for.
201	Caidmurra .....	62,869	10 July, " ..	do do
214	Bando .....	44,039	10 " " ..	do do
228	Gelam .....	15,854	10 " " ..	do do
231	Singoramba (Block A) .....	5,993	10 " " ..	do do
235	Beremezad .....	24,044	10 Jan., " ..	do do
243	Coolatai .....	44,820	10 July, " ..	do do
249	Spring Creek .....	6,736	10 " " ..	No Preferential Occupation License applied for.
263	Momalong .....	6,327	10 " " ..	Preferential Occupation License applied for.
279	Merrybone .....	11,725	10 " " ..	do do
289	Wentworth Gully .....	22,353	10 April, " ..	do do
303	Mourabic .....	22,040	10 July, " ..	do do
317	Welbon .....	131,225	10 Jan., " ..	do do
347	Burrabogie .....	44,495	10 July, " ..	do do
388	Buckingbong .....	33,246	10 " " ..	do do
400	Old Harbour .....	9,480	10 " " ..	No Preferential Occupation License applied for.
409	Hartwood .....	4,695	10 Jan., " ..	Preferential Occupation License applied for.
414	Tulloona .....	104,633	10 July, " ..	do do
469	Albert Waterhole .....	9,302	10 Nov., " ..	No Preferential Occupation License applied for.
490	The Meadows .....	13,667	10 July, " ..	do do
532	More Devil .....	3,375	10 " " ..	Preferential Occupation License applied for.
563	Edgeroi .....	83,321	30 April, " ..	do do
577	Grubben Plains .....	1,854	30 July, " ..	do do
622	Grong Grong .....	3,875	30 Jan., " ..	No Preferential Occupation License applied for.
625	Ecnaweena .....	47,647	30 " " ..	Preferential Occupation License applied for.
651	Barham .....	37,434	4 Feb., " ..	do do
658	Pullitop .....	14,684	4 " " ..	do do
659	Howlong .....	18,705	4 Aug., " ..	do do
662	North Junee .....	6,490	4 Feb., " ..	No Preferential Occupation License applied for.
667	Merool Baale Creek .....	29,518	4 Aug., " ..	do do
672	Cobran .....	21,092	4 Feb., " ..	Preferential Occupation License applied for.
676	Bumba'dry (Upper) .....	6,446	4 Aug., " ..	do do
694	Bald Hills and Warraderry .....	13,824	4 Feb., " ..	do do
695	Wanganella .....	10,528	4 " " ..	do do
744	Wheoga .....	36,453	10 Sept., " ..	do do
745	Bogo Bogolong .....	8,000	10 Nov., " ..	do do
751	Bomera .....	42,020	10 Jan., " ..	do do

## SCHEDULE XLIX.

RETURN showing the area gazetted as withdrawn from Pastoral Leases, under sections 3 and 6 of the Crown Lands Act of 1895, during the year 1898.

No.	Name of Pastoral Lease.	Area.	Date of Gazettal of withdrawal.	No.	Name of Pastoral Lease.	Area.	Date of Gazettal of withdrawal.
	CENTRAL DIVISION—Section 3.	acres.			CENTRAL DIVISION—Section 3.	acres.	
61	Billabong .....	16,000	25 June, 1898	515	Mungary West .....	34,000	2 July, 1893
96	Ganmain .....	33,500	23 Feb., "	518	Moombooldool .....	19,200	19 Oct., "
260	Tabratong .....	14,700	1 Oct., "	545	Burra Burra .....	29,900	11 June, "
232	Weraí .....	8,400	18 May, "	620	Tubbo .....	8,600	25 June, "
387	Pallal .....	19,000	16 July, "	728	Gonn .....	6,500	16 July, "
437	Canonbar .....	77,000	29 Oct., "				
502	Mimosa .....	23,000	2 July, "			289,800	

## CENTRAL DIVISION.

Cases in which intention to withdraw land from Pastoral Lease was notified during the year 1898.

No.	Leasehold Area.	Land Board District.	No.	Leasehold Area.	Land Board District.
61	Billabong .....	Forbes.	282	Weraí .....	Hay.
109	Boonook .....	Hay.	422	Berry Jerry, Arajoel .....	Wagga Wagga.
160	Tuppall .....	"	437	Canonbar .....	Dubbo.
213	Geurie .....	Dubbo.	515	Mungary West .....	"
260	Tabratong .....	"	518	Moombooldool .....	Wagga Wagga.

## SCHEDULE L.

RETURN showing Appraisements under section 4 of the Crown Lands Act of 1895 of Preferential Occupation Licenses of late Leasehold Areas gazetted in 1898.

## CENTRAL DIVISION.

No.	Name.	Area.	Rental.	No.	Name.	Area.	Rental.
		acres.	£ s. d.			acres.	£ s. d.
44A	Geri n.....	26,111	300 18 6	231A	Singoramba—Block A.....	5,998	87 9 5
62A	Yarringerry .....	10,360	43 3 4	238A	North Goonamble .....	7,202	142 10 10
131A	Moroco .....	15,926	165 17 11	263A	Momalong .....	7,027	131 15 2
197A	Werrina .....	79,600	331 13 4	303A	Mourabie .....	22,040	91 16 8
214A	Bando .....	44,039	550 9 9	676A	Bumbaldry (Upper) .....	6,446	26 17 2
223A	Gelam .....	15,854	158 10 10				

## SCHEDULE LI.

RETURN showing the Number and Area embraced in Applications for Homestead Leases made in 1898, and the action thereon.

Land Board District.	Land District.	No. of Applications received and area embraced by such Applications.		Deposits lodged with Applications for Homestead Leases.	Survey Fee lodged with Applications for Homestead Leases.	1898 Applications.		
		No.	Area in acres.			No. granted.	No. refused.	No. outstanding.
			acres.	£ s. d.	£ s. d.			
Bourke .....	Bourke .....	9	46,632	231 16 0	90 0 0	4	3	2
	Brewarrina .....	3	18,680	77 16 8	30 0 0	.....	1	2
	Cobar .....	2	20,472	85 6 8	20 0 0	2	.....	.....
	Wilcannia .....	13	103,362	411 13 6	130 0 0	6	1	6
	Willyama .....	16	111,541	464 15 1	160 0 0	4	1	11
Hay .....	Hay, North .....	.....	.....	.....	.....	.....	.....	.....
	Balranald .....	3	26,795	111 12 11	30 0 0	1	1	1
	Hillston, North .....	1	5,000	20 16 8	10 0 0	.....	.....	1
	Wentworth .....	3	21,360	89 0 0	30 0 0	1	.....	2
Moree .....	Walgett, North .....	.....	.....	.....	.....	.....	.....	.....
	Total .....	50	353,842	1,492 17 6	500 0 0	18	7	25

## SCHEDULE LII.

RETURN showing the Number and Area of Applications for Homestead Leases granted, refused, and permitted to be withdrawn during 1898, and also the number outstanding at the end of that year.

Land Board District.	Land District.	No. granted.	Area.	Annual Rental.	Number refused and permitted to be withdrawn.	Number outstanding at end of 1898.
			acres.	£ s. d.		
Bourke .....	Bourke .....	7	43,466	174 6 11	3	2
	Brewarrina .....	.....	.....	.....	.....	.....
	Cobar .....	4	35,532	154 8 5	.....	.....
	Wilcannia .....	8	60,808	193 1 9	1	6
	Willyama .....	7	54,034	127 13 11	1	11
Hay .....	Hay, North .....	.....	.....	.....	.....	.....
	Balranald .....	4	36,658	80 19 9	1	1
	Hillston, North .....	2	10,160	40 0 0	.....	1
	Wentworth .....	16	107,182	170 19 11	.....	1
Moree .....	Walgett, North .....	2	14,207	91 11 6	.....	.....
	Total .....	50	362,047	1,033 6 2	6	22

## SCHEDULE LIII.

RETURN showing the Number, Area, and Rent of Homestead Leases forfeited during 1898.

Land Board District.	Land District.	Forfeited.		
		No. of Leases.	Area embraced in such Leases.	Annual Rental.
			acres.	£ s. d.
Bourke .....	Bourke .....	1	10,240	42 13 4
	Cobar .....	2	16,000	83 6 8
	Wilcannia .....	6	33,767	119 5 3
	Willyama .....	6	28,263	64 15 6
Hay .....	Balranald .....	2	7,335	61 2 6
	Wentworth .....	1	10,240	21 6 8
	Total .....	18	105,845	392 9 11

## SCHEDULE LIV.

RETURN showing the Number, Area, and Rent of Homestead Leases in existence at the end of 1893.

Land Board District.	Land District.	No. of Leases.	Area embraced in such Leases.	Rent determined.	
			acres.	£	s. d.
Bourke .....	Bourke .....	364	3,293,463	13,726	10 6
	Brewarrina .....	155	1,405,171	12,282	17 5
	Cobar .....	51	523,011	1,828	5 11
	Wilcannia .....	104	861,903	3,762	18 6
Hay .....	Willyama .....	128	818,624	2,282	17 4
	Balranald .....	86	715,420	3,316	8 6
	Hay, North .....	61	570,415	3,613	11 7
	Hillston, North .....	77	605,450	2,996	2 10
Moree .....	Wentworth .....	88	617,114	1,694	11 10
	Walgett, North .....	123	1,046,097	8,412	7 11
	Totals .....	1,237	10,456,668	53,916	12 4

## SCHEDULE LV.

RETURN giving particulars with reference to Applications received for Settlement Leases during 1898.

Land Board District and Land District.	Applications made during 1898.			Applications confirmed during 1898.			Applications disallowed, withdrawn, &c., during 1898.		No. of Applications outstanding at close of year.
	No.	Area.	Annual Rent.	No.	Area.	Annual Rent.	No.	Area.	
Armidale—		a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	
Armidale .....	5	17,946 2 0	179 11 1	2	7,644 2 0	75 10 9	2	5,875 3 0	1
Inverell .....	5	23,450 1 0	133 17 0	5	23,815 1 0	161 19 2	1	5,360 0 0	1
Tenterfield .....	10	21,453 0 0	141 9 8	5	12,736 0 0	79 6 5	2	3,414 0 0	3
Walcha .....	1	2,180 0 0	27 5 0	2	4,810 0 0	56 0 4	...	.....	...
Total .....	21	65,029 3 0	482 2 9	14	49,005 3 0	372 16 8	5	14,649 3 0	5
Bourke—									
Bourke .....	3	9,401 0 0	65 14 6	2	6,746 0 0	32 10 8	1	2,655 0 0	...
Dubbo—									
Coonamble .....	14	45,496 2 0	589 9 3	7	27,053 3 0	285 18 2	12	35,609 1 0	2
Dubbo .....	107	276,335 2 0	3,709 14 8	50	128,750 2 0	1,644 7 7	53	128,656 0 0	14
Nyngan .....	58	167,685 2 0	2,718 7 4	17	49,069 2 0	805 2 6	19	60,586 3 0	26
Warren .....	43	106,475 0 0	1,610 5 8	12	30,809 0 0	463 6 2	28	69,723 0 0	13
Total .....	222	595,992 2 0	8,627 16 11	86	235,682 3 0	3,198 14 5	112	294,575 0 0	55
Forbes—									
Barmedman .....	6	9,696 0 0	119 5 3	4	6,236 0 0	57 3 10	2	3,012 0 0	1
Condobclin .....	10	18,821 0 0	193 1 6	7	12,866 0 0	125 11 8	...	.....	3
Forbes .....	6	12,210 2 0	131 2 5	6	11,202 2 0	130 1 2	2	4,742 0 0	...
Grenfell .....	11	22,453 1 0	286 16 0	9	18,234 0 0	231 16 4	2	4,219 1 0	...
Parkes .....	16	36,509 0 0	279 17 2	9	22,009 0 0	179 3 4	5	11,819 0 0	2
Total .....	49	99,689 3 0	1,010 2 4	35	70,547 2 0	723 16 4	11	23,792 1 0	6
Goulburn—									
Boorowa .....	1	2,874 0 0	8 19 8	1	2,874 0 0	8 19 8	...	.....	...
Yass .....	...	.....	.....	1	220 0 0	1 0 0	...	.....	...
Total .....	1	2,874 0 0	8 19 8	2	3,094 0 0	9 19 8	...	.....	...
Hay—									
Balranald South .....	...	.....	.....	1	1,030 0 0	16 1 11	2	3,601 1 0	...
Deniliquin .....	9	17,128 3 20	295 18 8	5	10,563 3 20	179 4 2	4	6,565 0 0	...
Hay .....	25	57,612 0 0	870 9 9	17	40,255 2 0	589 16 9	8	17,356 2 0	...
Hillston .....	2	4,934 0 0	46 5 2	2	4,934 0 0	46 5 2	...	.....	...
Total .....	36	79,674 3 20	1,212 13 7	25	56,783 1 20	831 0 0	14	27,522 3 0	...
Maitland—									
Cassilis .....	1	2,280 0 0	14 5 0	...	.....	.....	...	.....	1
Moree—									
Bingara .....	9	16,997 0 0	162 17 10	6	9,731 0 0	101 6 8	3	10,293 0 0	1
Moree .....	76	272,092 0 0	3,534 19 1	46	155,022 0 0	2,075 10 3	23	67,110 0 0	14
Walgett .....	39	99,049 0 0	1,459 7 0	24	59,015 0 0	899 0 7	11	30,354 0 0	4
Warialda .....	10	26,249 2 0	333 17 10	6	17,102 1 0	204 3 3	4	9,147 1 0	...
Total .....	134	414,387 2 0	5,491 1 9	82	240,870 1 0	3,280 0 9	41	116,904 1 0	19

SCHEDULE LV—continued.

Land Board District and Land District	Applications made during 1898.			Applications confirmed during 1898.			Applications disallowed, withdrawn, &c. during 1898		No of Applications outstanding at close of year.
	No	Area.	Annual Rent.	No	Area.	Annual Rent.	No	Area	
Orange—		a r. p.	£ s. d.		a. s. p.	£ s. d.		a r. p.	
Carcoar .....	2	4,120 0 0	24 9 2	1	985 0 0	6 3 1	1	2,045 0 0	1
Molong .....	1	985 0 0	6 3 1						
Total .....	3	5,105 0 0	30 12 3	1	985 0 0	6 3 1	1	2,045 0 0	1
Tamworth—									
Coonabarabran .....	6	25,207 2 0	243 19 11	5	18,447 2 0	196 12 5	1	2,800 0 0	3
Gunnedah .....	13	38,497 3 0	492 17 7	8	23,698 2 0	297 2 0	6	14,869 1 0	1
Murrurundi .....	2	6,810 0 0	104 3 9						2
Narrabri .....	19	51,719 3 0	870 14 10	9	22,217 3 0	495 1 7	2	8,828 0 0	8
Tamworth .....	6	18,689 2 0	233 12 5	2	7,009 2 0	87 12 5	1	2,130 0 0	3
Total .....	46	140,924 2 0	1,945 8 6	24	71,373 1 0	986 8 5	10	28,627 1 0	17
Wagga Wagga—									
Narrandera .....				1	4,395 0 0	24 14 6			
Urana .....	4	6,657 3 0	156 0 4	2	3,331 3 0	72 17 4	2	3,326 0 0	
Wagga Wagga .....	11	25,063 0 0	233 16 10	6	14,452 0 0	157 14 6	2	4,367 0 0	3
Total .....	15	31,720 3 0	389 17 2	9	22,178 3 0	255 6 4	4	7,693 0 0	3

SUMMARY.

Armidale .....	21	65,029 3 0	482 2 9	14	49,005 3 0	372 16 8	5	14,649 3 0	5
Bourke .....	3	9,401 0 0	65 14 6	2	6,746 0 0	32 10 8	1	2,655 0 0	
Dubbo .....	222	595,992 2 0	8,627 16 11	89	235,652 3 0	3,198 14 5	112	204,575 0 0	55
Forbes .....	49	99,689 3 0	1,010 2 4	35	70,547 2 0	723 16 4	11	23,792 1 0	6
Goulburn .....	1	2,874 0 0	8 19 8	2	3,094 0 0	9 19 8			
Hay .....	36	79,674 3 20	1,212 13 7	25	56,788 1 20	831 0 0	14	27,522 3 0	
Matland .....	1	2,280 0 0	14 5 0						1
Moree .....	134	414,387 2 0	5,491 1 9	82	240,870 1 0	3,280 0 9	41	116,904 1 0	19
Orange .....	3	5,105 0 0	30 12 3	1	985 0 0	6 3 1	1	2,045 0 0	1
Tamworth .....	46	140,924 2 0	1,945 8 6	24	71,373 1 0	986 8 5	10	28,627 1 0	17
Wagga Wagga .....	15	31,720 3 0	389 17 2	9	22,178 3 0	255 6 4	4	7,693 0 0	3
	531	1,447,479 2 20	19,278 14 5	280	757,266 2 20	9,696 16 4	199	518,464 1 0	107

SCHEDULE LVI.

RETURN showing Number, Area, and Rent of Settlement Leases current on 31st December, 1898, in cases where Leases have issued.

Land Board District and Land District.	No of Leases.	Area.	Annual Rent.	Land Board District and Land District.	No of Leases	Area.	Annual Rent
		acres.	£ s. d.			acres.	£ s. d.
Armidale—				Hay—			
Armidale.....	4	15,194½	147 0 3	Balranald South .....	1	1 030	16 1 11
Inverell .....	3	16,669	133 10 5	Denilquin .....	6	10,553	183 15 4
Tenterfield .....	3	9,710	55 13 6	Hay .....	14	45,788	633 4 6
Walcha .....	2	4,810	56 0 4	Hillston .....	4	9,791	76 15 9
Bourke—				Moree—			
Bourke .....	2	12,075	54 2 9	Bingara .....	10	27,344	244 10 11
Brewarrina .....	2	6,071	75 17 9	Moree .....	110	332,574	4,508 10 2
Brewarrina, East .....	16	55,888	665 9 3	Walgett .....	52	145,411	2,020 9 9
Cobar .....	3	10,760	57 1 11	Warialda .....	26	70,682½	958 18 7
W'caama .....	1	3,480	14 10 0	Orange—			
Dubbo—				Molong .....	1	985	6 3 1
Coonamble .....	34	97,366½	1,203 12 8	Mudgee .....	2	4,417	28 5 1
Dubbo .....	77	189,405½	2,502 6 8	Tamworth—			
Nyngan .....	26	72,257	834 7 2	Coonabarrabran .....	31	109,641½	1,065 15 10
Warren .....	47	119,509½	1,734 14 9	Gunnedah .....	23	44,978½	628 5 4
Forbes—				Murrurundi .....	1	(64)	24 0 0
Barmedman .....	24	50,833½	512 3 11	Narrabri .....	56	141,82½	1,448 18 7
Condobolin .....	34	100,723½	942 16 10	Tamworth .....	4	4,088½	53 15 6
Forbes .....	10	17,883½	193 3 9	Wagga Wagga—			
Grenfell .....	18	40,623	449 9 10	Narrandera.....	2	5,848	37 5 1
Parkes .....	17	49,758	450 17 5	Urana .....	8	11,61½	187 7 9
Goulburn—				Wagga Wagga .....	5	12,660	135 6 6
Boorowa .....	2	5,229	16 6 10				
Yass .....	1	220	1 0 0	Total .....	682	1,858,367½	22,364 15 8



## SCHEDULE LVII.

RETURN showing Number, Area, and Rent of Settlement Leases, declared forfeited during the year ending 31st December, 1898.

Land Board District.	Land District.	No. of Leases.	Area.	Annual Rent.
Bourke .....	Bourke.....	1	8,864	£ 36 13 8
" .....	Brewarrina, East .....	1	8,025	100 6 3
Forbes .....	Barmedman.....	1	2,054	17 2 4
" .....	Condoblin .....	1	3,340½	34 15 11
Moree .....	Moree .....	1	4,563	49 18 2
" .....	Walgett .....	1	2,778	25 0 11
" .....	Warialda .....	1	2,560	40 0 0
Tamworth .....	Gunnedah .....	1	2,930	36 12 6
" .....	Narrabri .....	1	3,226	60 9 9
	Totals .....	9	38,340½	402 4 6

RETURN showing Number, Area, and Rent of Settlement Leases, declared null and void during the year ending 31st December, 1898.

Land Board District.	Land District.	No. of Leases.	Area.	Annual Rent.
Forbes.....	Condoblin .....	2	5,120	£ 66 0 0
Tamworth .....	Coonabarabran .....	1	3,300	27 10 0
	Totals.....	3	8,420	93 10 0

## SCHEDULE LVIII.

RETURN giving particulars as to notification and disposal of Settlement Lease Areas from 1st June, 1895, to 31st December, 1898.

Land Board District and Land District.	Total acreage in Settlement Lease Areas when notified.			Area notified but not yet available for Settlement Lease, or rendered unavailable since notification, by reservation or other cause.			Area available for Selection.			Area Selected.			Area Unselected on 31st December, 1898.		Capital Value represented by Land Selected.		Percentage of area selected to area available for Selection.
	No. of Farms.	a.	r. p.	No. of Farms.	a.	r. p.	a.	r. p.	No. of Farms.	a.	r. p.	a.	r.	£	s. d.		
Armidale—																	
Armidale.....	9	35,169	0 0	1	3,032	2 0	32,136	2 0	5	19,520	3 0	12,615	3	14,644	18 4	61	
Glen Innes .....	6	9,640	0 0	*6	9,640	0 0	.....	.....	7	34,586	1 0	5,360	0	18,709	3 3	87	
Inverell .....	9	44,865	2 0	1	4,919	1	39,946	1 0	8	17,999	0 0	8,805	0	9,189	7 6	67	
Tenterfield .....	11	26,844	0 0	.....	40	0	26,804	0 0	8	17,999	0 0	8,805	0	9,189	7 6	67	
Walcha .....	8	39,020	0 0	.....	.....	.....	39,020	0 0	2	4,810	0 0	34,210	0	4,481	5 0	12	
Total .....	43	155,538	2 0	8	17,631	3	137,906	3 0	22	76,916	0 0	60,990	3	47,024	14 1	56	
Dubbo—																	
Coonamble .....	50	155,585	0 0	3	8,886	3	146,698	1 0	37	109,727	1 0	36,971	0	105,804	18 9	74	
Dubbo .....	141	380,274	3 0	†2	45,795	3	334,479	0 0	98	239,593	0 0	94,886	0	255,230	16 8	71	
Nyngan .....	56	149,808	0 0	10	25,790	0	124,018	0 0	43	115,813	0 0	8,205	0	122,434	13 4	93	
Warren .....	71	177,661	0 0	†21	50,650	2	127,010	2 0	50	127,010	2 0	.....	.....	148,154	7 9	100	
Total .....	318	863,328	3 0	56	131,123	0	732,205	3 0	228	592,143	3 0	140,062	0	631,674	16 6	80	
Bourke—																	
Bourke .....	13	87,060	0 0	5	48,498	0	38,562	0 0	3	16,982	0 0	21,580	0	5,968	3 4	44	
Brewarrina .....	5	29,162	0 0	2	15,138	0	14,024	0 0	3	14,024	0 0	.....	.....	11,373	0 0	100	
" East.....	18	60,768	0 0	3	12,833	0	47,935	0 0	15	47,935	0 0	.....	.....	47,935	0 0	100	
Cobar .....	15	92,299	0 0	9	65,900	0	26,399	0 0	3	10,770	0 0	15,629	0	4,567	0 10	40	
Wilcannia .....	3	23,958	0 0	2	20,478	0	3,480	0 0	1	3,480	0 0	.....	.....	1,160	0 0	100	
Total .....	54	293,247	0 0	21	162,847	0	130,400	0 0	25	93,191	0 0	37,209	0	71,033	4 2	71	
Forbes—																	
Barmedman .....	55	133,125	3 0	13	§33,943	1	99,182	2 0	24	50,833	2 0	48,349	0	40,079	15 5	51	
Condoblin .....	39	213,560	2 0	8	41,862	3	171,697	3 0	37	105,388	1 0	66,800	2	87,378	7 11	61	
Forbes .....	14	25,456	3 0	4	7,679	0	17,777	3 0	10	17,777	3 0	.....	.....	15,224	15 2	100	
Grenfell .....	26	58,905	3 0	3	¶7,592	0	51,313	3 0	21	46,164	1 0	5,149	2	41,569	5 0	89	
Parkes .....	47	103,484	0 0	25	¶43,577	0	59,907	0 0	21	58,206	0 0	1,701	0	41,141	2 6	97	
Total .....	181	534,532	3 0	43	134,654	0	399,878	3 0	113	278,369	3 0	121,509	0	225,393	6 0	70	
Goulburn—																	
Boorowa .....	2	5,229	0 0	.....	.....	.....	5,229	0 0	2	5,229	0 0	.....	.....	1,207	5 0	100	
Braidwood .....	1	1,850	0 0	1	1,850	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Eden .....	6	29,670	0 0	.....	.....	.....	29,670	0 0	.....	.....	.....	29,670	0	.....	.....	.....	
Goulburn.....	12	17,988	1 0	.....	.....	.....	17,988	1 0	.....	.....	.....	17,988	1	.....	.....	.....	
Moss Vale .....	1	963	0 0	.....	.....	.....	963	0 0	.....	.....	.....	963	0	.....	.....	.....	
Yass .....	8	5,011	3 0	.....	.....	.....	5,011	3 0	1	220	0 0	4,791	3	79	15 0	4	
Total .....	30	60,712	0 0	1	1,850	0	58,862	0 0	3	5,449	0 0	53,413	0	1,287	0 0	9	

\* 6 farms, containing 9,640 acres, did not become available in 1898. † 12 farms, containing 25,519 acres 3 roods, did not become available during 1898. ‡ 10 farms, containing 30,046 acres 2 roods, did not become available during 1898. § 3 farms, containing 5,960 acres, did not become available in 1898. ¶ 1 farm, containing 2,391 acres, did not become available in 1898. ¶ 21 farms, containing 25,307 acres, did not become available in 1898.

## SCHEDULE LVIII—continued.

Land Board District and Land District.	Total acreage in Settlement Lease Areas when notified.		Area notified but not yet available for Settlement Lease, or rendered unavailable since notification by reservation or other cause.		Area available for Selection.		Area Selected.		Area Unselected on 31st December, 1898.	Capital value represented by Land Selected.	Percentage of area selected to area available for selection.
	No. of Farms.	Area.	No. of Farms.	Area.	No. of Farms.	Area.	No. of Farms.	Area.			
		a. r. p.		a. r.	a. r. p.		a. r. p.		a. r.	£ s. d.	
<b>Hay—</b>											
Balranald South.....	28	166,356 1 0	18	85,166 1	81,190 0 0	1	1,030 0 0	80,160 0	1,287 10 0	1	
Deniliquin .....	14	23,848 2 20	*2	1,930 0	21,868 2 20	8	14,601 1 20	7,267 1	20,596 1 4	67	
Hay .....	29	80,995 2 0	...	...	80,995 2 0	28	78,165 2 0	2,830 0	90,599 5 0	97	
Hillston .....	47	118,668 0 0	32	85,740 0	32,928 0 0	4	9,791 0 0	23,137 0	6,142 7 6	29	
<b>Total .....</b>	<b>118</b>	<b>389,868 1 20</b>	<b>52</b>	<b>172,886 1</b>	<b>216,982 0 20</b>	<b>41</b>	<b>103,587 3 20</b>	<b>113,394 1</b>	<b>118,625 3 10</b>	<b>48</b>	
<b>Maitland—</b>											
Cassilis .....	3	6,776 1 0	...	...	6,776 1 0	1	2,280 0 0	4,496 1	1,140 0 0	33	
Raymond Terrace ...	3	1,466 1 0	...	...	1,466 1 0	...	...	1,466 1	...	...	
Scone .....	3	7,660 0 0	...	...	7,660 0 0	...	...	7,660 0	...	...	
Stroud .....	1	711 0 0	...	...	711 0 0	...	...	711 0	...	...	
Wollombi .....	6	12,955 3 0	...	...	12,955 3 0	...	...	12,955 3	...	...	
<b>Total .....</b>	<b>16</b>	<b>29,569 1 0</b>	<b>...</b>	<b>...</b>	<b>29,569 1 0</b>	<b>1</b>	<b>2,280 0 0</b>	<b>27,289 1</b>	<b>1,140 0 0</b>	<b>8</b>	
<b>Moree—</b>											
Bingara .....	21	71,688 3 0	†5	26,166 3	45,492 0 0	14	35,092 0 0	10,400 0	25,023 12 6	77	
Moree .....	172	614,305 3 0	†28	78,170 1	536,135 2 0	109	352,552 2 0	183,583 0	356,129 9 1	65	
Walgett .....	72	196,919 3 0	4	10,169 0	186,750 3 0	68	186,750 3 0	...	209,178 8 6	100	
Warialda .....	37	108,184 0 0	§8	29,432 2	78,751 2 0	26	72,795 2 0	5,956 0	78,867 14 7	92	
<b>Total .....</b>	<b>302</b>	<b>991,098 1 0</b>	<b>45</b>	<b>143,968 2</b>	<b>847,129 3 0</b>	<b>217</b>	<b>647,190 3 0</b>	<b>199,939 0</b>	<b>649,199 4 8</b>	<b>76</b>	
<b>Orange—</b>											
Bathurst .....	3	3,807 0 0	...	...	3,807 0 0	...	...	3,807 0	...	...	
Carcoar .....	10	20,062 0 0	...	...	20,072 0 0	1	2,065 0 0	18,007 0	929 5 0	10	
Lithgow .....	1	11,345 0 0	1	1,345 0	...	...	...	...	...	...	
Molong .....	1	985 0 0	...	...	985 0 0	1	985 0 0	...	492 10 0	100	
Mudgee .....	3	7,092 0 0	...	...	7,092 0 0	2	4,417 0 0	2,675 0	2,260 1 6	62	
Rylstone .....	16	29,952 0 0	16	29,952 0	...	...	...	...	...	...	
<b>Total .....</b>	<b>34</b>	<b>63,253 0 0</b>	<b>17</b>	<b>31,297 0</b>	<b>31,956 0 0</b>	<b>4</b>	<b>7,467 0 0</b>	<b>24,489 0</b>	<b>3,681 16 6</b>	<b>23</b>	
<b>Sydney—</b>											
Windsor .....	3	6,730 0 0	...	...	6,730 0 0	...	...	6,730 0	...	...	
<b>Tamworth—</b>											
Coonabarabran .....	63	230,334 0 0	7	16,053 0	214,781 0 0	37	132,229 0 0	82,552 0	98,199 0 0	61	
Gunnedah .....	46	123,147 0 0	3	8,273 0	114,874 0 0	27	58,688 0 0	56,186 0	61,151 0 0	51	
Murrurundi.....	5	11,634 0 0	1	1,304 0	10,330 0 0	3	7,450 0 0	2,880 0	10,255 0 0	72	
Narrabri .....	110	398,861 0 0	**13	38,478 0	360,383 0 0	73	186,136 0 0	174,247 0	262,462 0 0	51	
Tamworth .....	23	63,383 0 0	5	10,848 0	52,540 0 0	8	19,995 0 0	32,545 0	19,676 0 0	38	
<b>Total .....</b>	<b>247</b>	<b>827,864 0 0</b>	<b>29</b>	<b>74,956 0</b>	<b>752,908 0 0</b>	<b>148</b>	<b>404,493 0 0</b>	<b>348,410 0</b>	<b>451,743 0 0</b>	<b>54</b>	
<b>Wagga Wagga—</b>											
Cootamundry Central	1	2,615 2 0	...	...	2,615 2 0	...	...	2,615 2	...	...	
Narrandera .....	7	26,276 0 0	...	...	26,276 0 0	3	12,447 0 0	13,829 0	6,109 14 0	47	
Urana .....	10	14,972 1 0	...	...	14,972 1 0	10	14,972 1 0	...	20,818 14 11	100	
Wagga Wagga .....	16	33,020 2 0	...	...	33,020 2 0	7	16,128 0 0	16,892 2	13,734 16 8	48	
<b>Total .....</b>	<b>34</b>	<b>76,884 1 0</b>	<b>...</b>	<b>...</b>	<b>76,884 1 0</b>	<b>20</b>	<b>43,547 1 0</b>	<b>33,337 0</b>	<b>40,663 5 7</b>	<b>56</b>	

## SUMMARY.

Armidale .....	43	155,538 2 0	8	17,631 3	137,906 3 0	22	76,916 0 0	60,990 3	47,024 14 1	56
Bourke .....	54	293,287 0 0	21	162,847 0	130,400 0 0	25	93,191 0 0	37,209 0	71,033 4 2	71
Dubbo .....	318	863,328 3 0	56	131,123 0	732,205 3 0	228	592,143 3 0	140,062 0	631,674 16 6	80
Forbes .....	181	534,532 3 0	43	134,654 0	399,878 3 0	113	278,369 3 0	121,509 0	225,393 6 0	70
Goulburn.....	30	60,712 0 0	1	1,850 0	58,862 0 0	3	5,449 0 0	53,413 0	1,287 0 0	9
Hay .....	118	389,868 1 20	52	172,886 1	216,982 0 20	41	103,587 3 20	113,394 1	118,625 3 10	48
Maitland .....	16	29,569 1 0	...	...	29,569 1 0	1	2,280 0 0	27,289 1	1,140 0 0	8
Moree .....	302	991,098 1 0	45	143,968 2	847,129 3 0	217	647,190 3 0	199,939 0	649,199 4 8	76
Orange .....	34	63,253 0 0	17	31,297 0	31,956 0 0	4	7,467 0 0	24,489 0	3,681 16 6	23
Sydney.....	3	6,730 0 0	...	...	6,730 0 0	...	...	6,730 0	...	...
Tamworth .....	247	827,864 0 0	29	74,956 0	752,908 0 0	148	404,493 0 0	348,410 0	451,743 0 0	54
Wagga Wagga .....	34	76,884 1 0	...	...	76,884 1 0	20	43,547 1 0	33,337 0	40,663 5 7	56
<b>Total.....</b>	<b>1380</b>	<b>4,292,666 0 20</b>	<b>272</b>	<b>891,213 2</b>	<b>3,421,412 2 20</b>	<b>822</b>	<b>2,254,640 1 20</b>	<b>1,166,772 1</b>	<b>2,241,465 11 4</b>	<b>66</b>

\* 393 acres did not become available during 1898. † 1 farm, containing 4,006 acres 3 roods, did not become available during 1898. ‡ 18 farms, containing 67,089 acres, did not become available during 1898. § 4 farms, containing 16,421 acres 2 roods, did not become available during 1898. ¶ 1 block, containing 1,345 acres, did not become available during 1898. ¶ 16 blocks, containing 29,952 acres, did not become available during 1898. \*\* 6 farms, containing 17,462 acres, did not become available during 1898.

## SCHEDULE LIX.

RETURN giving particulars of Improvement Leases sold by Auction and let by Tender during the year 1898.

## PART A.

Leases Sold by Auction.					Leases Let by Tender.				
Division and Land District.	No. of Leases.	Area.	Rental Realised.	Average Rate per Acre.	Division and Land District.	No. of Leases.	Area.	Rental Realised.	Average Rate per Acre.
		a. r. p.	£ s. d.	pence.			a. r. p.	£ s. d.	pence.
<b>Eastern—</b>					<b>Eastern—</b>				
Armidale .....	4	8,352 2 1	56 10 0	1 $\frac{59}{100}$	Lithgow .....	2	2,960 0 0	17 6 8	1 $\frac{40}{100}$
Bombala .....	3	23,070 0 0	36 11 0	1 $\frac{38}{100}$	Wellington .....	4	18,300 0 0	62 7 11	3 $\frac{1}{100}$
Cooma .....	2	10,790 0 0	35 1 3	1 $\frac{77}{100}$		6	21,260 0 0	79 14 7	3 $\frac{0}{100}$
Cootamundra.....	1	2,000 0 0	16 13 4	2 $\frac{31}{100}$					
Eden .....	6	23,850 0 0	30 17 0	1 $\frac{51}{100}$					
Glen Innes .....	1	2,780 0 0	28 19 2	2 $\frac{50}{100}$					
Inverell .....	2	3,850 0 0	24 12 5	1 $\frac{100}{100}$					
Molong .....	4	7,540 0 0	29 17 1	1 $\frac{95}{100}$					
Murrurundi .....	1	950 0 0	10 0 0	2 $\frac{52}{100}$	<b>Central—</b>				
Scone .....	2	372 0 0	30 5 0	1 $\frac{71}{100}$	Condobolin .....	1	2,750 0 0	6 10 0	1 $\frac{50}{100}$
Tamworth .....	7	26,448 0 0	166 6 9	1 $\frac{50}{100}$	Gunnedah .....	1	1,950 0 0	8 11 0	1 $\frac{5}{100}$
Tumut.....	2	11,300 0 0	5 18 2	1 $\frac{12}{100}$	Nyngan .....	53	233,884 0 0	1,693 1 3	1 $\frac{73}{100}$
	35	121,302 2 1	471 11 4	1 $\frac{73}{100}$		55	238,584 0 0	1,708 2 3	1 $\frac{71}{100}$
<b>Central—</b>									
Bingara .....	4	15,459 0 0	98 0 0	1 $\frac{53}{100}$					
Condobolin.....	8	13,694 0 0	60 15 2	1 $\frac{78}{100}$					
Coonabarrabran..	4	43,200 0 0	43 14 0	1 $\frac{44}{100}$					
Gunnedah .....	3	20,067 2 0	93 2 6	1 $\frac{11}{100}$					
Hay .....	4	42,050 0 0	66 10 9	1 $\frac{37}{100}$					
Hillston .....	6	95,580 0 0	25 6 1	1 $\frac{90}{100}$					
Parkes.....	1	1,100 0 0	4 11 8	1 $\frac{100}{100}$					
Moree .....	6	16,448 2 0	50 13 0	1 $\frac{73}{100}$					
Urana .....	1	1,700 0 0	31 17 6	4 $\frac{90}{100}$					
Wagga Wagga ...	7	19,981 2 0	256 9 6	3 $\frac{8}{100}$					
Warialda .....	10	43,620 0 0	214 7 11	1 $\frac{100}{100}$					
	54	317,900 2 0	945 8 1	1 $\frac{71}{100}$					
<b>Western—</b>									
Balranald .....	4	41,780 0 0	201 12 0	1 $\frac{15}{100}$					
Bourke .....	4	45,016 0 0	164 2 0	1 $\frac{70}{100}$					
Cobar .....	8	128,144 0 0	185 15 9	1 $\frac{34}{100}$					
Wentworth .....	3	41,290 0 0	49 10 0	1 $\frac{38}{100}$					
Wilcannia .....	1	12,500 0 0	3 0 0	1 $\frac{5}{100}$					
Willyama .....	4	78,840 0 0	20 0 0	1 $\frac{100}{100}$					
	24	347,570 0 0	623 19 9	1 $\frac{43}{100}$					
<b>Total .....</b>	113	786,773 0 1	2,040 19 2	1 $\frac{71}{100}$	<b>Total.....</b>	61	259,844 0 0	1,787 16 10	1 $\frac{65}{100}$
					<b>Grand Total.....</b>	174	1,046,617 0 1	3,828 16 0	1 $\frac{67}{100}$

## PART B.

RETURN showing Number, Area, and Rent of Improvement Leases current on 31st December, 1898, and Leases declared void and forfeited during 1898.

Leases declared void during 1898.				Leases declared forfeited during 1898.			Leases current on 31st December, 1898.		
Division.	No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.
		a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.
Eastern .....	5	37,298 0 0	82 10 0	2	11,760 0 0	18 9 7	81	266,949 1 0	848 0 2
Central .....	2	25,620 0 0	57 2 6	3	33,500 0 0	36 4 2	201	1,213,540 2 0	3,858 3 7
Western.....	1	20,480 0 0	16 0 0	...	.....	.....	131	2,343,431 0 0	2,947 19 9
<b>Total .....</b>	8	83,398 0 0	155 12 6	5	45,260 0 0	54 13 9	413	3,823,950 3 0	7,654 3 6

SCHEDULE LX.

RETURN of Applications for Special Leases, and action taken thereon during the year 1898.

Land Board District.	Land District.	Number of Applications.			Applications granted.			Declined, lapsed, &c.			Pending.		
		Outstanding in 1897.	Made during 1898.	Total.	Number.	Area.	Rent.	Number.	Area.	Number.	Area.		
Armidale.....	Armidale .....	2	8	10	2	62 3 0	5 18 9	2	55 0 0	6	410 2 20		
	Inverell .....	..	39	39	..	..	..	9	2,560 0 0	30	6,155 1 0		
	Tenterfield .....	2	14	16	2	220 2 0	4 13 6	9	1,999 0 0	5	946 0 0		
Bourke .....	Walcha .....	2	..	2	1	20 0 0	1 10 0	..	..	1	10 0 0		
	Bourke .....	5	14	19	7	1,611 0 0	27 0 0	3	460 1 30	9	2,494 0 0		
	Brewarrina .....	1	2	3	1	2 0 19	1 0 0	..	..	2	30 0 0		
	Cobar .....	2	2	4	1	320 0 0	4 0 0	..	..	3	149 1 25		
	Wilcannia .....	2	4	6	3	17 0 0	10 10 0	1	4 0 0	2	30 0 0		
Dubbo .....	Willyama .....	7	3	10	5	37 2 6	36 2 5	..	..	5	107 1 29		
	Coonamble .....	8	2	10	12	3,318 2 2	60 19 6	9	2,455 0 0	..	..		
	Dubbo .....	1	7	8	..	..	..	3	558 0 0	5	1,350 0 0		
	Nyngan .....	..	4	4	..	..	..	..	..	4	26 2 0		
Forbes.....	Warren.....	2	1	3	2	242 0 0	7 12 6	1	179 0 0	..	..		
	Condobolin .....	..	3	3	..	..	..	..	..	3	720 0 0		
	Forbes .....	4	26	30	2	595 0 0	15 17 6	14	4,724 3 0	14	2,994 3 20		
Goulburn .....	Grenfell .....	..	2	2	..	..	..	..	..	2	135 0 0		
	Parkes .....	2	3	5	2	413 2 0	11 6 9	..	..	3	509 0 0		
	Bega .....	8	18	26	5	313 0 33½	40 2 0	6	211 2 0	15	1,322 2 0		
	Bombala .....	1	3	4	..	..	..	..	..	4	92 2 0		
	Boorowa .....	1	4	5	1	20 0 0	2 0 0	1	42 0 0	3	443 0 20		
	Braidwood .....	..	19	19	1	20 0 0	2 0 0	2	38 3 24	16	1,730 1 9		
	Cooma .....	1	7	8	1	14 3 10	3 0 0	4	440 0 0	3	255 0 0		
	Eden .....	7	11	18	7	196 2 20	13 5 0	2	100 0 4	9	332 0 0		
	Goulburn .....	..	10	10	..	..	..	..	..	10	1,187 0 0		
	Gunning .....	1	1	2	..	..	..	1	320 0 0	1	1 0 0		
	Moruya .....	3	6	9	1	109 0 0	3 0 0	1	320 0 0	7	1,034 0 0		
	Moss Vale.....	1	..	1	..	..	..	..	..	1	68 0 0		
	Queanbeyan .....	..	1	1	..	..	..	..	..	1	0 2 0		
	Yass .....	..	2	2	1	1 3 37½	1 0 0	..	..	1	16 0 0		
	Grafton .....	Young .....	..	1	1	..	..	..	..	..	1	24 2 0	
Bellingen .....		3	2	5	3	24 0 0	13 17 6	1	300 0 0	1	Small area.		
Casino .....		6	10	16	6	126 0 0	73 0 0	1	40 0 0	9	1,768 3 0		
Grafton .....		35	54	89	27	1,223 2 16¾	206 4 3	32	1,978 1 0	37	1,888 2 20		
Kempsey .....		4	7	11	1	0 2 0	2 0 0	2	8 0 0	8	651 1 0		
Lismore.....		12	22	34	7	6 1 2	24 0 0	7	298 2 0	20	544 0 0		
Murwillumbah .....		10	11	21	3	32 0 1	8 2 0	7	568 2 7	11	256 0 6		
Port Macquarie .....		7	2	9	5	59 0 16	32 10 0	2	3 2 5	2	0 2 23		
Hay .....		Balranald .....	..	2	2	1	3 1 24	4 0 0	..	..	1	320 0 0	
		Demiquin .....	2	24	26	4	473 0 0	37 7 0	8	1,722 2 0	14	2,642 3 9	
	Hay .....	5	4	9	3	409 3 0	35 5 0	2	184 0 0	4	31 0 0		
	Hillston.....	1	4	5	1	10 0 0	1 0 0	..	..	4	710 0 0		
	Wentworth .....	1	2	3	2	42 0 0	10 5 0	1	310 0 0	1	5 0 0		
Maitland .....	Cassilis .....	1	3	4	1	1 2 0	10 0 0	2	610 0 0	1	320 0 0		
	Dungog .....	..	..	..	1	3 2 12	1 10 0	..	..	..	..		
	Gosford .....	1	4	5	4	4 3 25¾	26 10 0	1	0 0 24	..	..		
	Muswellbrook .....	1	1	2	..	..	..	..	..	2	6 0 3		
	Newcastle .....	3	23	26	3	0 2 17	9 10 0	2	30 0 0	21	8 2 3½		
	Paterson .....	3	..	3	3	0 1 0	12 0 0	..	..	..	..		
	Raymond Terrace .....	1	6	7	4	34 0 0	10 0 0	1	10 0 0	2	200 0 0		
	Scone .....	..	1	1	..	..	..	1	33 2 30	1	..		
	Stroud .....	6	3	9	4	101 3 13	43 3 0	1	40 0 0	4	14 3 26		
	Taree .....	5	12	17	6	24 3 14½	68 5 0	3	25 0 0	8	378 1 20		
Moree .....	Bingara .....	..	4	4	..	..	..	..	..	4	1,000 0 0		
	Moree .....	6	16	22	9	1,451 0 10	93 12 0	7	63 3 30	11	1,030 0 0		
	Walgett.....	2	2	4	1	2 0 0	4 0 0	..	..	3	131 0 0		
	Walgett, North .....	1	1	2	1	50 0 0	6 5 0	..	..	1	240 0 0		
	Warraldra .....	3	12	15	8	1,037 0 10	46 6 0	2	322 0 0	5	623 3 0		
Orange .....	Bathurst .....	1	5	6	3	70 0 0	7 7 6	1	15 0 0	3	51 0 20		
	Carcoar .....	1	17	18	1	40 0 0	2 0 0	1	39 0 0	16	3,865 0 0		
	Cowra .....	27	12	39	4	367 0 0	23 11 9	30	7,634 2 0	5	1,000 0 0		
	Lithgow .....	3	2	5	1	9 3 30	19 0 0	1	2 0 0	3	139 2 2		
	Molong .....	4	11	15	1	4 3 28	5 0 0	4	770 2 0	10	831 1 0		
	Mudgee .....	9	17	26	3	241 2 0	6 15 0	11	2,860 0 0	14	3,936 0 0		
	Orange .....	9	24	33	5	365 2 22	13 10 0	13	1,211 0 28	15	853 1 28½		
	Rylstone .....	6	9	15	2	27 0 0	15 0 0	3	450 0 0	10	1,085 0 0		
	Wellington .....	35	14	49	3	343 0 8	17 0 0	29	4,161 1 0	17	1,328 1 22		
	Sydney .....	Kiama .....	18	15	33	3	11 1 10	11 4 0	7	98 1 0	23	593 2 10	
Liverpool .....		2	1	3	1	0 0 7	5 0 0	1	0 0 27¾	1	0 0 7½		
Metropolitan .....		35	59	94	35	7 1 0	748 0 0	15	51 2 16½	44	174 1 21½		
Milton .....		4	..	4	4	59 2 0	9 0 0	..	..	..	..		
Nowra .....		4	..	4	..	..	..	3	14 2 27	1	153 0 0		
Parramatta .....		11	6	17	9	2 2 24½	128 10 0	4	25 1 19	4	3 1 6		
Penrith .....		2	..	2	..	..	..	..	..	2	78 0 0		
Windsor .....		7	5	12	..	..	..	6	64 0 0	6	418 3 0		
Tamworth .....	Wollongong .....	..	1	1	..	..	..	..	..	1	0 2 14		
	Murrurundi .....	1	1	2	1	10 0 0	4 0 0	..	..	1	4 0 0		
	Narrabri .....	7	9	16	4	46 0 0	25 0 0	6	1,605 0 0	6	389 0 0		
	Tamworth.....	4	2	6	3	559 0 0	14 0 0	2	35 0 0	1	2 0 0		

## SCHEDULE LX—continued.

Land Board District.	Land District.	Number of Applications.			Applications granted.			Declined, lapsed, &c.		Pending.	
		Outstanding in 1897.	Made during 1898.	Total.	Number.	Area.	Rent.	Number.	Area.	Number.	Area.
Wagga Wagga .....	Albury .....	1	1	2	...	a. r. p.	£ s. d.	...	a. r. p.	1	2 0 0
	Cootamundry .....	...	4	4	...	...	...	1	48 0 0	3	597 0 0
	Corowa .....	4	6	10	1	31 2 0	2 0 0	1	5 0 0	8	488 3 0
	Gundagai .....	23	27	50	14	296 2 0	115 15 8	7	282 0 0	29	3,203 2 0
	Narrandera .....	5	11	16	2	21 2 0	15 0 0	4	150 1 0	10	2,248 0 0
	Tumbarumba, North..	1	4	5	1	20 0 0	5 0 0	4	.....	4	249 0 0
	Tumut .....	4	8	12	1	24 2 0	6 5 0	3	345 0 0	8	4'3 3 20
	Urana .....	5	2	7	5	13 1 19	15 0 0	2	640 0 0	...	.....
Wagga Wagga.....	9	21	30	3	521 0 38	30 0 0	9	1,229 1 10	18	2,729 2 10	
Totals .....		424	743	1,167	275	15,776 1 1 $\frac{3}{4}$	2,303 8 7	316	43,338 2 20 $\frac{1}{2}$	604	60,858 0 31 $\frac{1}{2}$

NOTE.—Twenty-seven leases granted were by purchase at auction, and one by tender. No preliminary applications.

## SCHEDULE LXI.

RETURN showing Number, Area, and Rental of Special Leases forfeited during 1898.

Land Board District and Land District.	No. of Leases.	Area.	Rent.	Land Board District and Land District.	No. of Leases.	Area.	Rent.
Bourke—		a. r. p.	£ s. d.	Moree—		a. r. p.	£ s. d.
Bourke .....	1	40 0 0	10 0 0	Moree .....	1	80 0 0	10 0 0
Wilcannia .....	2	6 0 0	14 0 0				
Willyama .....	1	250 0 0	10 0 0	Orange—			
Dubbo—				Bathurst .....	1	11 2 20	10 0 0
Dubbo .....	1	2 0 0	10 0 0	Lithgow .....	1	2 0 0	10 0 0
Nyngan .....	1	4 2 0	10 0 0	Mudgee .....	1	20 0 0	10 0 0
Forbes—				Sydney—			
Forbes .....	1	10 0 0	2 10 0	Campbelltown .....	2	280 0 0	40 10 0
Goulburn—				Metropolitan .....	4	17 1 1 $\frac{1}{4}$	29 0 0
Cooma .....	1	5 0 0	12 10 0	Milton .....	1	6 0 0	5 0 0
Goulburn .....	1	7 0 0	10 0 0	Parramatta .....	1	1 3 3	3 0 0
Grafton—				Tamworth—			
Casino .....	1	88 0 0	4 8 0	Gunnedah .....	1	25 2 30	10 0 0
Grafton .....	3	99 0 0	66 10 0	Wagga Wagga—			
Lismore .....	4	122 0 0	108 10 0	Cootamundry .....	1	5 0 0	10 0 0
Murwillumbah .....	1	67 0 0	4 3 7	Gundagai .....	1	9 2 16	5 0 0
Hay—				Narrandera .....	1	2 0 0	10 0 0
Bahranald .....	1	1 1 0	10 0 0				
Deniliquin .....	1	2 0 0	10 0 0	Totals .....	39	1,171 0 25	480 11 7
Maitland—							
Newcastle .....	2	1 1 34 $\frac{3}{4}$	33 0 0				
Stroud .....	1	5 0 0	12 10 0				

## SCHEDULE LXII.

NUMBER, Area, and Rent of Special Leases which terminated during 1898.

Land Board District and Land District.	No. of Leases.	Area	Rent.	Land Board District and Land District.	No. of Leases	Area	Rent.
Armidale—		a. r. p.	£ s. d.	Orange—		a. r. p.	£ s. d.
Inverell .....	2	122 0 0	12 0 0	Lithgow .....	5	25 1 22	82 10 0
Bourke—				Wellington .....	1	5 0 0	10 0 0
Bourke .....	2	1 2 36	30 0 0	Sydney—			
Wilcannia .....	1	249 2 0	30 0 0	Liverpool .....	2	0 0 38½	16 0 0
Dubbo—				Metropolitan .....	33	5 0 19½	1,041 0 0
Dubbo .....	1	200 0 0	10 0 0	Parramatta .....	6	3 1 22½	35 0 0
Grafton—				Wollongong .....	1	0 0 7½	2 0 0
Bellingen .....	1	10 0 0	10 0 0	Tamworth—			
Casino .....	2	40 0 2	45 0 0	Narrabri .....	1	10 0 0	10 0 0
Grafton .....	1	20 0 0	10 0 0	Tamworth .....	1	0 2 0	10 0 0
Kempsey .....	1	10 0 0	10 0 0	Wagga Wagga—			
Lismore .....	1	0 0 10½	15 0 0	Gundagai .....	1	10 0 0	1 0 0
Hay—				Tumbarumba .....	1	2 0 0	10 0 0
Balranald .....	1	2 1 16	10 0 0	Urana .....	2	6 1 25	15 0 0
Deniliquin .....	2	90 0 0	25 0 0				
Hay .....	4	523 0 0	50 0 0	Totals.....	79	1,540 0 3½	1,539 0 0
Maitland—							
Maitland .....	1	0 0 3¾	2 0 0				
Newcastle .....	2	1 0 23	10 10 0				
Raymond Terrace .....	1	0 0 4½	2 0 0				
Singleton .....	1	200 0 0	15 0 0				
Taree .....	1	2 0 13	20 0 0				

## SCHEDULE LXIII.

RETURN of Special Leases current on 31st December, 1898, inclusive of Special Leases which terminated on 31st December, 1898.

Land Board District and Land District.	No. of Leases.	Area.	Rent.	Land Board District and Land District.	No. of Leases	Area.	Rent.
Armidale—		a. r. p.	£ s. d.	Maitland— <i>continued.</i>		a. r. p.	£ s. d.
Armidale .....	9	455 1 26	57 18 9	Newcastle .....	33	112 1 29½	390 11 0
Glen Innes .....	2	29 0 0	12 0 0	Paterson .....	5	3 0 35	18 0 0
Inverell .....	8	708 0 0	52 15 0	Raymond Terrace .....	9	74 0 22½	62 10 0
Tenterfield .....	3	280 3 0	5 18 6	Scone .....	3	650 0 0	16 13 4
Walcha .....	1	20 0 0	1 10 0	Singleton .....	6	277 3 0	46 10 0
Bourke—				Stroud .....	10	351 2 3	138 3 0
Bourke .....	40	4,850 2 19	417 14 8	Taree .....	19	78 1 14	228 5 0
Brewarrina .....	11	442 1 20	113 0 0	Moree—			
Cobar .....	7	1,314 0 0	66 10 0	Bingara .....	1	15 0 0	2 0 0
Wilcannia .....	12	772 0 30	90 10 0	Moree .....	28	4,151 0 1	360 11 11
Willyama .....	28	1,290 3 36	293 2 5	Walgett .....	8	235 0 0	30 18 3
Dubbo—				North .....	9	641 0 0	83 15 0
Coonamble .....	12	3,318 2 2	60 19 6	Warialda .....	12	1,220 0 10	61 1 0
Dubbo .....	3	204 3 0	35 0 0	Orange—			
Nyngan .....	2	97 3 0	5 0 0	Bathurst .....	7	94 0 0	15 4 6
Warren .....	5	318 0 0	47 12 6	Carecar .....	6	219 3 9	18 6 0
Forbes—				Cowra .....	7	456 2 0	46 18 6
Barmedman East .....	1	50 0 0	3 15 0	Lithgow .....	13	126 1 3	169 10 0
Forbes .....	5	786 2 0	52 15 6	Molong .....	4	108 3 28	13 6 0
Parkes .....	5	443 2 0	37 6 9	Mudgee .....	5	317 0 30	14 10 0
Goulburn—				Orange .....	9	418 1 5	41 7 0
Bega .....	8	352 0 18½	63 2 0	Rylstone .....	5	221 0 15	34 2 0
Boorowa .....	2	100 0 0	13 0 0	Wellington .....	7	637 2 8	58 12 0
Braidwood .....	1	20 0 0	2 0 0	Sydney—			
Cooma .....	11	133 0 35	37 15 0	Campbelltown .....	4	227 0 10	58 5 0
Eden .....	13	348 2 34½	82 1 0	Kiama .....	6	11 2 9	33 4 0
Goulburn .....	2	10 0 0	21 5 0	Liverpool .....	5	0 1 12½	22 0 0
Gunning .....	1	5 0 0	2 0 0	Metropolitan .....	231	144 0 19½	10,712 0 0
Moruya .....	2	100 0 3	13 0 0	Milton .....	6	70 2 6½	49 0 0
Queanbeyan .....	1	10 2 20	6 10 0	Nowra .....	4	296 1 25	31 0 0
Young .....	1	226 0 0	11 0 0	Parramatta .....	36	18 3 30½	339 10 0
Grafton—				Wollongong .....	3	1 0 33½	37 0 0
Bellingen .....	9	54 0 0	61 17 6	Tamworth—			
Casino .....	15	992 0 6	155 2 5	Coonabarabran .....	2	52 0 0	22 0 0
Grafton .....	64	1,530 3 2¾	546 18 1	Gunnedah .....	5	120 0 20	41 0 0
Kempsey .....	3	20 3 20	27 0 0	Murrurundi .....	2	69 0 0	9 0 0
Lismore .....	26	327 2 19¾	251 18 0	Narrabri .....	19	1,661 2 0	175 0 0
Murwillumbah .....	7	149 0 7	22 10 8	Tamworth .....	6	589 2 0	32 0 0
Port Macquarie .....	9	65 1 14½	76 10 0	Wagga Wagga—			
Hay—				Cootamundry .....	7	198 0 0	51 0 0
Balranald .....	3	7 0 0	24 0 0	Corowa .....	5	39 0 35	22 0 0
Deniliquin .....	18	1,701 1 0	213 9 0	Gundagai .....	26	517 2 5	210 5 8
Hay .....	11	1,327 0 17	151 5 0	Narrandera .....	13	1,077 2 26	66 19 3
Hillston .....	3	17 0 0	16 0 0	Tumbarumba .....	2	32 0 0	11 10 0
Wentworth .....	3	47 0 0	12 15 0	Tumbarumba, North .....	1	20 0 0	5 0 0
Maitland—				Tumut .....	3	45 0 38	12 5 0
Cassilis .....	1	1 2 0	10 0 0	Urana .....	10	53 3 34	45 5 0
Dungog .....	2	3 2 26	11 10 0	Wagga Wagga .....	6	565 1 6	55 12 6
Go ford .....	7	210 3 35½	67 0 0				
Maitland .....	3	0 1 2	117 0 0				
Muswellbrook .....	1	0 3 0	10 0 0				
					992	39,364 1 28	17,271 7 2

NOTE.—Two leases terminated on 31st December, 1897, have been restored One lease forfeited in 1897 has been restored.

SCHEDULE LXIV.

RETURN of Scrub Leases under Section 35 of the Crown Lands Act of 1889 current on the 31st December, 1898, and of applications received, leases granted and expired, during 1898.

Land Board District.	Land District.	No. of Application.			Area of out-standing applications.	Area applied for during 1898.	Total area.	Applications declined or withdrawn.				Leases granted during 1898.			Leases forfeited during 1898.			Leases expired during 1898.			Leases current on 31st Dec., 1898		
		Outstanding from 1897.	Received during 1898.	Total.				Outstanding for 1897.	Received during 1898.	Total.	No. not finally dealt with.	No.	Area.	Annual rent.	No.	Area.	Annual Rent.	No.	Area.	Annual Rent.	No.	Area.	Annual Rent.
												acres.	£ s. d.	acres.	£ s. d.	acres.	£ s. d.	acres.	£ s. d.				
Dubbo .....	Dubbo .....	...	2	2	.....	16,099	16,099	...	...	...	21	...	.....	...	.....	...	.....	...	.....				
	Nyngan .....	8	3	11	389,413	168,638	558,051	1	...	...	10	...	.....	...	.....	...	.....	...	.....				
Forbes .....	Barmedman ...	2	3	5	38,486	25,543	64,029	1	...	...	2	2	16,400	42 7 11	...	.....	...	.....	2	16,440	42 7 11		
	Condobolin ...	10	7	17	143,857	60,330	204,187	3	2	...	6	6	85,250	255 18 4	...	.....	...	.....	7	85,929	257 6 8		
	Forbes .....	3	8	11	22,270	43,630	70,900	...	3	...	6	2	14,250	44 10 8	...	.....	...	.....	2	14,250	44 10 8		
	Grenfell .....	...	9	9	.....	38,756	38,756	...	3	...	6	...	.....	...	.....	...	.....	...	.....	...	.....		
	Parkes .....	9	7	16	277,180	36,165	313,345	...	2	...	8	6	88,596	288 0 10	...	.....	...	.....	7	102,064	316 2 0		
Hay .....	Deniliquin ...	1	...	1	4,960	.....	4,960	1	...	...	...	.....	...	.....	...	.....	...	.....	1	640	0 18 2		
	Hay .....	1	...	1	10,230	.....	10,230	...	...	...	1	...	.....	...	.....	...	.....	1	2,630½	2 3 10			
	Hillston .....	...	2	2	.....	96,000	96,000	...	1	...	1	...	.....	1	10,240	38 8 0	...	.....	1	5,000	4 3 4		
	Hillston North .....	...	...	...	.....	.....	.....	...	...	...	...	...	.....	...	.....	...	.....	2	16,040	71 2 0			
	Wentworth ...	...	...	...	.....	.....	.....	...	...	...	...	...	.....	...	.....	...	.....	1	1,391	1 9 0			
Maitland .....	Scone .....	...	...	...	.....	.....	.....	...	...	...	...	.....	...	.....	...	.....	...	.....	1	560	1 0 0		
	Singleton .....	...	...	...	.....	.....	.....	...	...	...	...	.....	...	.....	...	.....	...	.....	2	1,072	30 0 0		
Moree .....	Bingera .....	...	...	...	.....	.....	.....	...	...	...	...	.....	...	.....	...	.....	...	.....	1	3,910	3 1 2		
	Moree .....	1	1	2	400	7,500	7,900	...	...	...	1	1	900	4 4 5	...	.....	...	.....	18	141,728	132 13 7		
	Walgett North .....	...	1	1	.....	4,000	4,000	...	...	...	...	.....	...	.....	...	.....	...	.....	...	.....			
	Warialda .....	1	1	2	1,000	4,000	5,000	1	...	...	1	...	.....	1	2,500	0 19 6	...	.....	4	20,038	30 0 0		
Orange .....	Carcoar .....	...	1	1	.....	15,290	15,290	...	...	...	1	...	.....	...	.....	...	.....	...	.....				
Sydney .....	Nowra .....	...	...	...	.....	.....	.....	...	...	...	...	.....	...	.....	...	.....	...	.....	1	1,920	3 0 0		
Tamworth .....	Narrabri .....	...	...	...	.....	.....	.....	...	...	...	...	.....	...	.....	...	.....	...	.....	3	9,810	2 16 4		
Wagga Wagga...	Narrandera ...	...	1	1	.....	128,083	128,083	...	...	...	1	...	.....	...	.....	...	.....	...	.....	...	.....		
	Tumut .....	...	...	...	.....	.....	.....	...	...	...	...	.....	...	.....	...	.....	...	.....	1	175	0 6 3		
	Wagga Wagga	...	1	1	.....	15,454	15,454	...	1	...	...	...	.....	...	.....	...	.....	...	.....	...	.....		
Totals .....	.....	36	47	83	892,796	659,488	1,552,284	7	12	19	47	17	205,396	635 2 2	2	12,740	39 7 6	...	.....	.....	55	423,557½	943 0 11

SCHEDULE LXV.

RETURN showing Number, Area, and Rent of Leases of Inferior Crown Lands current on 31st December, 1898, and of Leases granted and forfeited during 1898.

Land Board District.	Land District.	Leases granted during 1898.			Leases declared forfeited and cancelled during 1898.			Leases current on 31st December, 1898.		
		No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.
			acres.	£ s. d.		acres.	£ s. d.		acres.	£ s. d.
Forbes .....	Parkes .....	...	.....	.....	...	.....	.....	2	6,120	25 10 0
Goulburn .....	Bombala .....	...	.....	.....	...	.....	.....	8	82,490	128 8 1
	Eden .....	6	18,010	12 10 0	...	.....	.....	6	18,010	12 10 0
	Queanbeyan .....	...	.....	.....	...	.....	.....	2	23,000	23 19 2
Hay .....	Balranald .....	...	.....	.....	...	.....	.....	2	23,500	43 15 0
	Hillston North .....	...	.....	.....	...	.....	.....	1	45,450	17 15 0
	Wentworth .....	...	.....	.....	...	.....	.....	1	141,000	27 10 0
Wagga Wagga .....	Narrandera .....	...	.....	.....	5	62,205	46 11 6	16	39,010	21 6 0
		6	18,010	12 10 0	5	62,205	46 11 6	33	378,580	300 13 3

SCHEDULE LXVI.

RETURN showing the action taken during 1898 in respect of Residential Leases.

Land Board District and Land District.	Number of Applications.			Area applied for.	No. of applications disallowed and withdrawn.	No. of applications in course of act on 31st Dec, 1898.	Leases granted during 1898.			Leases declared forfeited during 1898.			Leases current on 31st December, 1898.		
	Outstanding on 31st Dec., 1897.	Received during 1898.	Total to be dealt with.				No.	Area.	Annual Rent.	No.	Area.	Annual Rent.	No.	Area.	Annual Rent.
Armidale—				a. r. p.				a. r. p.	£ s. d.		a. r. p.	£ s. d.		a. r. p.	£ s. d.
Armidale .....	1	4	4	70 0 0	1	2	2	25 1 37	3 0 0	..	..	..	21	275 1 37	33 5 0
Inverell .....	1	3	3	40 0 0	1	1	1	10 0 0	1 0 0	..	..	..	13	130 0 0	14 0 0
Tenterfield .....	..	..	..	40 0 0	..	..	..	..	..	..	..	..	2	20 0 0	2 15 0
Glen Innes .....	..	..	..	40 0 0	..	..	..	..	..	..	..	..	4	40 0 0	3 15 0
Walcha .....	4	2	6	40 0 0	1	2	3	18 3 30	1 17 6	..	..	..	4	28 3 30	4 17 6
Bourke—															
Cobar .....	1	..	1	..	..	1	..	..	..	..	..	..	1	10 0 0	0 10 0
Willyama .....	1	..	1	..	..	1	1	10 0 0	1 0 0	1	10 0 0	2 10 0	11	130 0 0	17 15 0
Wilcanma .....	1	..	1	..	..	1	1	10 0 0	1 0 0	..	..	..	1	10 0 0	1 0 0
Forbes—															
Forbes .....	1	..	1	..	1	..	..	..	..	..	..	..	7	90 0 0	14 18 0
Grenfell .....	..	..	..	..	..	..	..	..	..	..	..	..	5	50 0 0	11 5 0
Parkes .....	1	..	1	..	..	1	1	10 0 0	1 5 0	..	..	..	4	40 0 0	7 10 0
Goulburn—															
Bega .....	..	..	..	..	..	..	..	..	..	..	..	..	1	10 0 0	1 0 0
Bombala .....	..	..	..	..	..	..	..	..	..	..	..	..	1	10 0 0	2 0 0
Braidwood .....	5	5	10	65 0 0	..	6	4	40 1 9	5 10 0	..	..	..	8	77 3 17	12 10 0
Cooma .....	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Moruya .....	5	4	9	39 0 0	..	12	7	43 2 20	7 10 0	..	..	..	12	82 3 25	13 5 0
Queanbeyan .....	1	..	1	..	..	1	..	..	..	..	..	..	1	10 0 0	1 10 0
Booroooa .....	1	..	1	..	..	1	..	..	..	..	..	..	2	20 0 0	4 5 0
Goulburn .....	..	..	..	..	..	..	..	..	..	..	..	..	1	5 0 0	1 0 0
Young .....	2	1	3	9 1 20	..	1	2	34 0 20	4 5 4	..	..	..	23	256 3 26	48 0 4
Grafton—															
Bellingen .....	1	1	2	10 0 0	..	1	1	20 0 0	3 0 0	..	..	..	4	70 0 0	12 10 0
Casino .....	2	..	2	..	2	..	..	..	..	..	..	..	..	..	..
Moree—															
Bingaia .....	..	..	..	..	..	..	..	..	..	..	..	..	5	49 0 0	8 10 0
Orange—															
Bathurst .....	14	14	28	252 0 0	2	12	14	200 0 34	18 7 0	5	50 2 13	5 16 0	20	239 0 37	23 16 0
Carcoar .....	1	3	4	30 0 0	..	4	..	..	..	..	..	..	10	90 0 0	10 15 0
Cowra .....	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Molong .....	..	1	1	10 0 0	..	1	..	..	..	..	..	..	1	20 1 6	0 18 6
Mudgee .....	11	19	30	310 0 0	2	19	3	21 2 20	3 15 0	3	37 3 6	4 13 5	41	380 3 20	47 18 0
Orange .....	4	3	7	..	2	4	1	10 0 0	1 0 0	..	..	..	5	60 0 0	5 0 0
Wellington .....	5	2	7	40 0 0	..	2	5	52 0 0	6 7 6	..	..	..	8	92 0 0	9 7 6
Tamworth—															
Tamworth .....	2	1	3	10 0 0	1	2	19 2 30	6 0 0	..	..	..	..	7	78 0 30	14 15 0
Wagga Wagga—															
Cootamundra .....	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..
Gundagai .....	22	24	46	322 0 0	3	28	15	224 2 25	25 18 0	1	10 0 0	1 0 0	29	380 0 8	48 5 0
Tumberumba .....	2	7	9	122 1 6	..	8	1	20 0 0	2 10 0	..	..	..	7	103 0 0	9 10 0
Tumberumba North .....	7	1	8	20 0 0	2	6	..	..	..	..	..	..	..	..	..
Tumut .....	18	13	31	210 0 0	2	24	5	90 0 0	11 5 0	..	..	..	13	210 0 0	21 10 0
	117	111	228	1,639 2 26	26	133	69	860 2 25	104 10 4	10	103 1 24	13 19 5	272	3,046 2 36	412 15 10

SCHEDULE LXVII.

RETURN showing Number, Area, and Rental of Snow Leases current on 31st December, 1898, and of Snow Leases granted and forfeited during 1898.

Land Board District.	Land District.	Leases granted during 1898.			Leases declared forfeited during 1898.			Leases current on 31st December, 1898.		
		No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.
Goulburn .....	Cooma .....	..	.....	.....	2	acres.	£ s. d.	11	acres.	£ s. d.
Wagga Wagga .....	Tumberumba .....	..	.....	.....	..	.....	.....	5	27,280	102 17 1
	Tumut .....	..	.....	.....	..	.....	.....	3	24,157	330 10 3
		..	.....	.....	2	5,230	46 1 11	19	89,767	782 19 7



## SCHEDULE LXVIII.

RETURN showing Number and Area of Annual Leases applied for and granted under Section 33 of Crown Lands Act of 1889, and the number disallowed and withdrawn during 1898.

Land Board District.	Land District.	No. of Applications received during 1898.	Area applied for during 1898.	No. of Applications disallowed and withdrawn during 1898, including applications made during previous years.	No. of Applications approved, and in virtue of which Leases have been granted during 1898, including applications made during previous years.	Area of Leases Granted.	Rent.
			a. r. p.			a. r. p.	£ s. d.
Armidale .....	Armidale .....	52	30,758 0 0	3	31	16,267 1 0	112 14 9
	Glen Innes .....	29	17,407 0 0	5	19	9,802 2 0	77 13 0
	Inverell .....	34	23,518 0 0	12	24	17,610 0 0	110 11 6
	Tenterfield .....	51	33,740 0 0	9	18	9,085 0 0	54 14 6
	Walcha .....	29	21,307 0 0	2	9	5,675 1 0	46 11 4
	Totals .....	195	126,730 0 0	31	101	58,440 0 0	402 5 1
Bourke .....	Bourke .....	1	443 0 0	.....	.....	.....	.....
	Brewarrina .....	4	6,278 0 0	4	1	850 0 0	8 17 1
	Brewarrina East .....	.....	.....	.....	.....	.....	.....
	Wilcannia .....	.....	.....	.....	1	1,280 0 0	6 13 4
	Willyama .....	1	672 0 0	.....	.....	.....	.....
	Totals .....	6	7,393 0 0	4	2	2,130 0 0	15 10 5
Dubbo .....	Coonamble .....	16	13,550 0 0	4	6	6,225 0 0	73 9 2
	Dubbo .....	50	43,490 3 0	22	23	13,810 1 0	98 6 3
	Nyngan .....	6	3,575 0 0	3	2	723 0 0	12 1 0
	Warren .....	9	4,317 3 0	5	10	4,002 1 0	76 16 5
		Totals .....	81	64,833 2 0	34	41	24,760 2 0
Forbes .....	Barmed-man .....	13	18,557 0 0	2	13	16,927 0 0	69 10 2
	Condobolin .....	1	245 0 0	.....	1	255 0 0	3 0 0
	Forbes .....	6	2,790 0 0	4	7	4,628 0 0	36 1 10
	Grenfell .....	4	1,160 0 0	2	1	390 0 0	6 10 0
	Parke .....	5	5,123 0 0	1	3	3,597 0 0	16 9 3
	Totals .....	29	27,875 0 0	9	25	25,797 0 0	131 11 3
Goulburn .....	Bega .....	19	6,868 0 0	3	17	6,572 0 0	37 3 8
	Bombala .....	43	29,176 2 0	11	25	11,681 0 0	68 5 0
	Booroowa .....	22	8,259 0 0	5	20	6,503 3 0	53 10 10
	Braidwood .....	94	40,585 1 0	5	54	22,911 0 0	167 12 0
	Cooma .....	170	112,462 3 0	19	182	141,037 0 0	836 14 7
	Eden .....	9	3,667 0 0	4	8	2,881 0 0	21 13 0
	Goulburn .....	110	58,886 2 0	4	93	53,517 1 0	276 2 6
	Gunning .....	33	14,514 0 0	2	33	15,795 1 0	84 9 5
	Moruya .....	15	5,790 0 0	1	14	5,188 0 0	39 0 10
	Moss Vale .....	13	5,411 0 0	.....	18	8,375 0 0	46 11 5
	Queanbeyan .....	90	46,823 3 0	13	69	37,929 3 0	242 15 3
	Yass .....	42	23,987 1 0	5	28	15,286 1 0	91 0 0
	Young .....	16	3,897 1 0	4	15	2,972 2 0	43 15 3
		Totals .....	676	360,338 1 0	76	576	330,619 3 0
Grafton .....	Bellingen .....	12	3,440 0 0	.....	5	1,729 0 0	14 5 0
	Casino .....	60	34,710 2 0	6	57	34,498 3 0	235 14 0
	Grafton .....	56	30,436 0 0	8	41	14,762 3 0	109 9 3
	Kempsey .....	9	4,066 2 0	.....	9	4,676 2 0	36 19 8
	Lismore .....	9	1,668 0 0	.....	7	3,644 0 0	31 11 8
	Murwillumbah .....	2	790 0 0	.....	1	150 0 0	3 15 0
	Port Macquarie .....	14	7,848 0 0	2	15	12,123 0 0	81 11 6
		Totals .....	162	82,959 0 0	16	135	71,584 0 0
Hay .....	Balranald .....	1	203 2 0	.....	1	203 2 0	2 0 0
	Deniliquin .....	3	1,409 2 0	.....	3	9,842 0 0	21 10 0
	Hillston and Hillston North .....	6	6,425 1 0	1	3	1,808 2 0	30 2 8
	Hay and Hay North .....	12	9,692 3 0	1	5	4,668 0 0	29 16 3
		Totals .....	22	17,731 0 0	2	12	16,522 0 0
Maitland .....	Cassilis .....	25	13,558 2 0	1	21	10,899 2 0	61 8 5
	Dungog .....	7	1,759 2 0	1	4	1,659 2 0	11 16 3
	Gosford .....	2	540 0 0	1	1	300 0 0	1 11 3
	Maitland .....	5	966 2 0	2	2	549 0 0	17 2 9
	Muswellbrook .....	3	249 3 0	1	4	1,005 0 0	8 10 0
	Paterson .....	4	1,329 2 0	.....	3	1,342 0 0	8 6 8
	Scone .....	18	9,319 0 0	2	14	7,342 0 0	42 18 9
	Singleton .....	2	905 0 0	1	2	851 0 0	17 13 4
	Stroud .....	17	9,393 0 0	2	16	8,400 0 0	41 3 8
	Three .....	22	10,544 3 0	4	18	10,583 3 0	51 7 0
	Wollombi .....	7	2,308 0 0	.....	2	1,138 0 0	7 8 9
		Totals .....	112	50,873 2 0	15	87	44,069 3 0



## SCHEDULE LXX.

RETURN showing Number, Area, and Rental of Annual Leases notified as Lapsed and Cancelled during 1898.

Lapsed.			Cancelled.		
No.	Area.	Rent.	No.	Area.	Rent.
	a. r. p.	£ s. d.		a. r. p.	£ s. d.
1,120	697,183 0 17	4,605 14 10	31	16,885 3 0	108 0 3

## SCHEDULE LXXI.

RETURN showing Number, Area, and Rental of Annual Leases current on 31st December, 1898.

Land Board District and Land District.	Number.	Area.	Rent.	Land Board District and Land District.	Number.	Area.	Rent.
		a. r. p.	£ s. d.			a. r. p.	£ s. d.
Armidale—				CENTRAL DIVISION.			
Armidale .....	240	154,136 2 0	1,109 7 2	Dubbo—			
Glen Innes .....	105	81,379 1 6	468 11 10	Coonamble .....	41	36,805 0 0	535 5 8
Inverell .....	154	129,335 0 0	914 12 5	Dubbo .....	153	123,543 0 0	1,138 15 5
Tenterfield .....	359	251,847 0 0	1,346 5 4	Forbes .....	19	18,837 2 0	225 19 5
Walcha .....	90	70,162 2 0	455 16 0	Nyngan .....	33	20,186 3 0	299 9 6
Goulburn—				Warren .....			
Bega .....	56	24,196 0 0	190 7 1	Forbes—			
Bombala .....	81	36,910 1 0	282 7 3	Barmedman .....	21	22,475 0 0	91 6 16
Braidwood .....	247	140,227 0 28	667 7 9	Condobolin .....	22	16,524 0 0	236 8 4
Boorowa .....	153	63,714 2 35	534 2 9	Forbes .....	22	8,650 0 23	83 11 10
Cooma .....	504	330,579 2 14	2,016 13 2	Grenfell .....	38	22,556 3 33	214 7 11
Eden .....	27	6,906 3 0	63 9 0	Parkes .....	11	10,389 2 0	45 11 2
Goulburn .....	424	224,744 0 30	1,422 17 3	Hay—			
Gunning .....	177	78,226 3 8	469 10 2	Balranald South .....	1	581 0 0	9 1 7
Milton .....	22	11,895 0 0	61 15 10	Deniliquin .....	42	21,418 2 0	142 0 8
Moruya .....	27	11,201 0 28	59 11 2	Hay .....	35	25,323 3 0	271 16 11
Moss Vale .....	42	25,947 0 0	141 4 3	Hillston .....	63	53,532 3 0	308 13 7
Queanbeyan .....	209	119,528 3 2	788 0 9	Moree—			
Yass .....	160	87,148 3 3	480 16 8	Bingara .....	25	4,969 0 0	88 19 2
Young .....	85	14,535 0 10	276 10 4	Moree .....	43	40,762 1 0	335 7 7
Grafton—				Walgett .....	17	11,495 0 0	153 18 7
Bellingen .....	29	1,792 0 0	110 4 3	Warialda .....	32	27,392 3 20	161 6 3
Casino .....	332	187,418 1 18	1,479 15 1	Tamworth—			
Grafton .....	296	172,169 0 36	973 16 9	Coonabarabran .....	103	81,782 1 0	385 10 0
Kempsey .....	40	26,372 3 0	124 7 3	Gunnedah .....	46	22,089 2 0	304 3 5
Lismore .....	21	4,602 3 5	61 0 3	Narrabri .....	152	132,614 2 32	1,020 19 11
Murwillumbah .....	2	1,550 0 0	6 13 4	Wagga Wagga—			
Port Macquarie .....	37	25,167 0 0	140 7 6	Corowa .....	10	1,679 3 0	80 10 11
Maitland—				Narrandera .....	34	14,749 2 0	365 0 1
Cassilis .....	357	193,164 3 0	1,154 15 6	Tumbarumba and	43	100,738 0 0	599 15 11
Dungog .....	14	6,814 3 0	42 15 4	Tumbarumba North .....	109	73,198 2 0	480 0 3
Gosford .....	10	4,160 0 17	37 16 2	Tumut .....	10	12,405 0 10	305 3 6
Maitland .....				Urana .....	30	10,193 1 0	219 13 8
Muswellbrook .....	66	34,280 1 0	238 17 6	Wagga Wagga .....			
Newcastle .....	4	638 0 0	19 2 3	Totals .....	1,155	1,154,893 1 38	8,102 18 1
Paterson .....	26	9,019 0 0	62 17 6	WESTERN DIVISION.			
Raymond Terrace .....	1	285 3 31½	3 3 8	Bourke—			
Scone .....	210	150,856 1 0	841 3 7	Bourke .....	16	13,140 0 0	64 8 9
Singleton .....	38	17,363 2 0	107 10 10	Brewarrina .....	27	16,856 0 0	257 9 6
Stroud .....	115	82,215 0 0	434 14 1	Cobar .....	1	1,920 0 0	6 0 0
Taree .....	74	42,904 2 0	251 10 8	Wilcannia .....	2	2,140 0 0	15 12 6
Wollombi .....	24	11,638 0 0	59 15 5	Willyama .....	6	11,520 0 0	16 4 0
Orange—				Hay—			
Bathurst .....	798	480,230 0 30	2,874 10 3	Balranald .....	3	1,023 2 0	5 13 0
Carcoar .....	611	377,000 3 37	2,283 1 8	Hay North .....	10	5,150 0 0	81 8 0
Cowra .....	109	52,719 3 0	547 9 3	Wentworth .....	3	3,329 0 0	9 6 4
Lithgow .....	285	156,670 3 0	851 6 5	Moree—			
Molong .....	149	83,807 3 12	672 7 11	Walgett North .....	10	12,195 0 0	100 6 8
Mudgee .....	579	268,407 1 39	1,648 7 11	Totals .....	78	67,273 2 0	556 8 9
Orange .....	204	85,898 1 12	618 3 1	Eastern Division .....			
Rylstone .....	415	196,462 3 0	1,191 11 7	9,322	5,268,355 1 9½	34,306 12 7	
Wellington .....	444	272,103 2 0	1,959 4 11	Central Division .....			
Sydney—				1,155	1,154,893 1 38	8,102 18 1	
Campbelltown .....	1	150 0 0	1 10 0	Western Division .....			
Liverpool .....	1	1,637 0 0	12 0 0	78	67,273 2 0	556 8 9	
Nowra .....	75	39,156 0 0	193 7 0	Grand Totals .....			
Parramatta .....	1	250 0 0	1 0 0	10,555	6,490,522 1 7½	42,965 19 5	
Penrith .....	10	5,077 0 0	30 10 0				
Picton .....	57	37,367 0 0	750 1 3				
Sydney .....	1	44 0 0	2 10 0				
Windsor .....	12	7,153 0 0	29 12 0				
Tamworth—							
Murrurundi .....	46	25,058 2 20	198 19 6				
Tamworth .....	391	166,241 1 0	1,025 17 1				
Wagga Wagga—							
Albury .....	102	48,120 1 30	427 14 8				
Cootamundra .....	69	26,801 1 20	399 10 5				
Gundagai .....	104	42,964 1 18	728 4 7				
Totals .....	9,322	5,268,355 1 9½	34,306 12 7				

## SCHEDULE LXXII.

RETURN showing the Number, Area, and Rental of Permissive Occupancies current on 31st December, 1898.

Land Board District.	No.	Area	Annual Rental.	Land Board District.	No.	Area.	Annual Rental.
		a r. p.	£ s. d.			a. r. p.	£ s. d.
Armidale .....	13	631 1 32	11 10 0	Moree .....	5	1,107 0 0	51 0 0
Bourke .....	33	210 3 22	72 10 4	Orange .....	11	50 3 21	18 10 0
Dubbo .....	16	25,925 3 10	67 15 6	Sydney .....	161	213 1 12	397 5 6
Forbes .....	1	26 0 0	0 10 0	Tamworth .....	9	39,117 0 0	198 13 0
Goulburn .....	50	330 1 23	50 17 0	Wagga Wagga .....	28	275 0 0	122 3 6
Grafton .....	96	104 1 39	113 7 0				
Hay .....	19	30,695 0 3	109 3 0				
Maitland .....	176	80 2 4	191 1 0	Total .....	615	98,767 3 11	1,404 5 10

## SCHEDULE LXXIII.

NEWCASTLE PASTURAGE RESERVE.

RETURN showing, up to 31st December, 1898, the state of Applications to Purchase under the Newcastle Pasturage Reserve Acts.

Total number of Applications received	Number of Applications in which sale has been gazetted or disallowed.		Total area of Applications gazetted for sale.	Total amount of purchase money.	Applications declared forfeited for non receipt of instalment money		Applications to purchase in which purchase money has been paid in full *		Applications now current *	
	Sale gazetted	Disallowed			No.	Purchase money.	No.	Purchase money.	No.	Purchase money.
1,163	964	205	a. r. p. 226 1 17½	£ 61,314	103	£ s. d. 6,734 12 10	337	£ s. d. 20,389 3 3	519	£ s. d. 34,191 3 11

\* This amount is exclusive of interest

## SCHEDULE LXXIV.

RETURN of Lands resumed during 1898 under the 105th section of the Crown Lands Act of 1894, the 41st section of the Crown Lands Act of 1889, and the 7th section of the Public Trusts Act of 1897.

Originally dedicated or reserved for—	Place	Area.	How disposed of
Public school site .....	Jingellic East .....	a r. p. 2 0 0	Included in an area to be exchanged.
" .....	Tinandra .....	2 0 0	Included in a special area.
" .....	Larry's Flat .....	2 0 0	To be sold by auction
" .....	Weebo .....	2 0 0	To be included in a special lease.
" .....	Bimbi .....	2 0 0	Included in a camping reserve
" .....	Bendick Murrell .....	2 0 0	To be sold or otherwise appropriated under the C. L. Acts.
" .....	Wyangle .....	2 0 0	" "
School of Arts site .....	Drake .....	0 2 21	Sold by auction
" .....	Carrathool West .....	0 2 0	Reserved for public buildings.
General cemetery .....	Yantabulla .....	24 0 0	Included in a reserve for suburban settlement.
" .....	Guyra .....	8 1 8	Rededicated in slightly amended form.
" .....	Kiama .....	6 2 19	" "
" .....	East Ballina .....	10 0 0	To be sold or otherwise appropriated under the C. L. Acts.
Public recreation .....	Baradine .....	120 0 0	Made available for settlement.
" .....	Inverell .....	6 0 8	To be sold by auction.
" .....	Jerry's Plains .....	1 3 9	Dedicated for public school site.
" .....	Botany (Banks' Meadow) .....	0 0 18½	Let as a special lease.
" .....	Botany (Banks' Meadow) .....	0 0 36	Included in a road.
" .....	Kiama .....	37 1 22	Rededicated in slightly amended form
" .....	Hay .....	10 0 0	Dedicated for athletic sports ground.
" .....	Yass .....	0 3 34	To be sold or otherwise appropriated under the C. L. Acts.
Public recreation and water .....	Orange .....	0 2 0	Reserved for public buildings.
Racecourse .....	June Junction .....	360 0 0	Included in a special area.
" .....	Moree .....	75 3 0	To be sold by auction.
Hospital site .....	Araluen .....	1 3 24	Part to be sold by auction.
Gaol site (extension) .....	Bathurst .....	1 0 15	Dedicated for public recreation.
Police paddock .....	Ailsa .....	25 2 0	To be sold or otherwise appropriated under the C. L. Acts.
Police barracks .....	" .....	3 2 0	" "
Permanent common .....	Inverell .....	32 3 0	Reserved for rifle range
" .....	Conargo .....	480 0 0	Almost wholly included in a settlement lease area.
" .....	Menindie .....	345 0 0	The greater part to be sold by auction
" .....	Albury .....	30 0 0	Reserved for night-soil depôt
Water supply .....	Willawong Creek .....	360 0 0	Almost wholly included in a homestead selection area.
" .....	Kiama .....	3 2 0	Dedicated for public recreation
Public watering place .....	Turrarna .....	106 0 0	The greater part to be sold by auction.
Quarantine station site .....	Manly Cove .....	25 1 21	Almost wholly included in an area to be exchanged.
Town-hall site .....	Grafton .....	0 2 16	Let as a special lease.
Abattoirs site .....	Casino .....	5 0 0	Reserved for extension to temporary common.
Public market .....	Orange .....	5 0 0	Dedicated for public recreation.
Market .....	Narellan .....	2 3 30	Reserved for public recreation
Night-soil depôt .....	Casino .....	20 0 0	The greater part included in a homestead selection area.
Presbyterian church and manse sites .....	" .....	1 2 0	Rededicated for the same purpose.
Wesleyan church, school, and minister's residence sites.	South Wagga Wagga .....	2 0 0	To be sold or otherwise appropriated under the C. L. Acts.
	Total .....	2,128 2 1½	

## SUMMARY.

Year.	Number of Resumptions.	Area resumed.
1897 .....	27	a. r. p. 403 1 17
1898 .....	43	2,128 2 1½

SCHEDULE LXXV.

RETURN of Reserves from Sale notified during 1898.

Land Board District.	Access.		C.P. Gold-field.		Conditional Sale.		Mining.		Pending completion of exchange.		Pending Subdivision.		Preservation and growth of Timber.		Recreation.		Railway.		School.		Temporary Common.		Travelling Stock and Camping.		Village and Suburban Settlement.		Water Supply.		Other Public Purposes.		Other than Auction Sale only.		Totals.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
Armidale .....	8	3,353	...	.....	1	40	5	8,993	17	2,034	...	.....	1	20,000	1	2	...	...	...	...	1	480	10	1,924	...	...	2	90	10	966	1	126	57	38,008
Bourke .....	...	...	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	...	.....	43	70,833	...	1	10,240	8	10,451	...	...	52	91,524	
Dubbo .....	1	530	...	.....	...	.....	...	90	6	5,463	1	320	1	5,050	2	107	1	13	1	2	...	...	33	14,662	2	290	15	3,259	17	28,044	20	6,045	101	63,875
Forbes .....	3	63	3	3,720	1	136	2	1,641	5	3,401	2	81,570	8	18,186	...	...	2	16	3	13	2	1,055	15	4,462	...	5	278	28	32,559	3	609	82	147,709	
Goulburn .....	8	324	1	1,200	...	.....	4	3,072	3	616	...	.....	3	3,700	5	4,082	...	...	5	37	1	314	18	3,326	...	10	191	58	4,940	7	689	123	22,491	
Grafton .....	20	237	2	11,000	...	.....	1	70	1	120	1	97	12	34,925	4	49	8	4,684	5	35	3	2,555	6	489	3	1,240	11	3,427	40	6,868	...	...	117	65,796
Hay .....	1	6	...	.....	5	574	...	.....	7	5,943	2	4,936	16	8,588	3	32	...	...	2	16	...	...	47	26,659	...	5	1,400	36	52,402	5	2,193	129	102,754	
Maitland .....	5	30	...	.....	...	.....	2	1,901	2	427	1	1,200	5	53,100	2	12	1	36	5	31	1	690	4	5,497	1	320	7	2,061	21	9,714	...	...	57	75,019
Moree .....	2	42	1	80	2	21,879	...	.....	6	2,321	...	.....	11	50,660	1	15	4	20	...	...	3	1,299	77	58,589	...	1	1	19	87,685	5	1,603	132	224,194	
Orange .....	3	1,331	1	24,800	...	.....	7	3,611	4	2,146	1	874	8	20,139	6	742	1	1	3	19	2	700	12	1,535	1	180	18	3,378	14	2,578	6	604	87	62,688
Sydney .....	3	143	...	.....	...	.....	1	270	...	.....	6	1,283	2	11,430	9	83	...	...	1	8	2	4,540	1	5	...	10	3,890	13	1,379	...	...	48	23,031	
Tamworth .....	10	1,932	...	.....	...	.....	...	.....	12	2,530	3	1,240	3	64,650	1	8	4	1,089	...	...	1	1,800	33	19,129	1	40	5	344	31	79,230	1	102	105	172,094
Wagga Wagga...	8	1,155	...	.....	...	.....	4	2,856	10	10,521	10	4,934	10	16,022	5	60	1	15	1	8	2	160	31	9,698	5	2,063	22	3,588	50	89,451	18	2,696	183	143,227
	72	9,196	8	40,800	9	22,629	27	22,504	73	35,522	27	96,454	80	306,450	39	5,192	22	5,874	26	169	18	13,593	330	216,808	13	4,133	112	32,147	351	406,267	66	14,672	1,273	1,232,410

SCHEDULE LXXVI.

RETURN of Reserves from Sale revoked during 1898.

Land Board District.	Access.		Other than Auction Sale.		C.P. Gold-field.		Conditional Sale, Conditional Lease, and Annual Lease.		Pending Subdivision.		Preservation of Timber.		Public Buildings.		Recreation.		Railway.		School.		Temporary Common.		Travelling Stock and Camping.		Village and Suburban Settlement.		Water Supply.		Other Public Purposes.		Tracts or Areas previously notified as not available.		Totals.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
Armidale .....	4	323	1	195	15	30,223	3	529	1	2,920	7	23,528	...	...	2	7	1	80	2	2	3	250	33	5,180	3	474	35	18,385	24	10,254	8	57,161	142	149,511
Bourke .....	2	6,400	...	.....	...	.....	2	961	1	2,868	1	2,868	1	2	16	4	47,052	...	...	8	7,036	36	87,293	4	1,391	56	254,435	4	6,667	4	31,641	124	445,761	
Dubbo .....	3	642	...	.....	3	50	2	85	3	3,500	7	18,090	...	...	...	9	17,618	...	...	4	1,030	20	15,677	3	2,940	26	26,376	10	34,435	33	143,637	123	264,130	
Forbes .....	18	3,840	9	1,720	21	6,315	1	891	12	23,512	12	18,885	1	10	...	16	9,315	3	54	23	67	34	3,108	...	...	41	13,518	16	9,713	24	54,162	231	151,110	
Goulburn .....	5	3,215	17	2,101	8	4,722	...	.....	8	2,016	10	5,937	2	5	3,719	4	2,165	4	87	7	1,817	17	2,935	1	640	47	7,494	25	2,559	...	...	160	39,409	
Grafton .....	3	418	3	318	...	.....	...	.....	1	3	6	31,900	3	6	1	17	2	4,026	2	31	4	2,725	7	1,056	8	2,666	11	4,260	33	7,144	6	4,586	90	59,156
Hay .....	5	1,637	22	5,847	...	.....	1	320	...	.....	10	9,252	...	...	1	2	...	...	1	45	3	1,145	32	15,004	...	49	67,683	46	23,190	28	23,956	198	153,081	
Maitland .....	1	81	1	76	4	4,742	...	.....	...	.....	4	16,842	2	6	3	193	2	1,085	2	20	6	539	14	14,587	4	1,915	12	4,902	31	6,751	4	8,269	90	60,008
Moree .....	10	6,255	13	5,399	2	51	12	20,313	1	1,000	9	41,786	2	2	1	20	3	1,054	...	...	3	235	54	49,348	...	96	73,809	39	56,521	30	354,242	275	610,035	
Orange .....	3	99	2	105	7	28,551	...	.....	4	2,979	3	710	2	7	7	1,272	23	817,513	5	71	16	215	7	548	6	3,057	29	8,425	31	5,562	6	5,104	151	874,218
Sydney .....	3	8	2	106	...	.....	...	.....	1	42	8	6,497	2	2	3	21	3	2,287	...	...	3	729	...	...	1	1,064	3	2,075	13	1,037	...	...	42	13,868
Tamworth .....	15	1,754	7	1,842	2	2,440	2	2,641	4	15,860	6	59,740	3	4	...	9	14,017	3	43	...	...	65	50,081	2	722	62	52,715	32	21,864	29	76,094	241	299,817	
Wagga Wagga...	10	6,678	21	3,354	5	5,763	6	4,540	2	1,593	29	46,748	3	4	5	271	4	1,469	7	73	4	403	46	17,432	1	200	107	103,926	40	10,239	16	68,235	306	270,928
	82	31,350	98	21,063	67	82,857	27	29,319	39	54,386	112	282,783	21	44	30	5,538	80	917,681	29	426	84	16,191	365	268,249	33	15,069	574	638,003	344	200,936	188	827,137	2,173	3,391,032

SCHEDULE LXXVII.

RETURN of Reserves from Lease and License, Annual Lease, &c., notified during 1898.

Land Board District.	Access.		Pending Sub-division.		Re-creation		Roads.		Preservation and Growth of Timber.		Travelling Stock and Camping.		Water Supply.		Annual and Homestead Lease.		Annual Lease for Temporary Common.		Lease Generally.		Other Public Purposes.		Totals.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
Armidale .....	2	1,630	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	40	3	1,670	
Bourke .....	1	28	..	..	1	7	9	6,012	..	..	1	26	..	..	1	2,350	2	1,172	1	8,914	1	5	17	18,544
Dubbo .....	..	..	..	..	1	7	4	1,639	..	..	2	668	..	..	1	1,830	2	2,280	4	1,083	14	..	..	7,407
Forbes .....	..	..	..	..	..	..	3	613	..	..	8	3,970	..	..	1	22,303	2	1,055	3	3,263	6	1,711	23	32,965
Goulburn .....	1	2	..	..	..	..	..	..	..	3	1,000	1	5	..	..	..	..	..	1	314	7	801	13	3,022
Grafton .....	..	..	..	..	..	1	3	1	121	1	220	1	3	..	3	2,555	3	1,537	21	3,539	31	7,978	..	..
Hay .....	..	..	..	..	..	5	465	..	..	9	3,321	1	5,460	3	14,732	..	..	2	4,327	7	1,793	27	30,098	
Maitland .....	2	27	..	..	2	280	..	..	..	1	46	1	16	1	595	1	690	1	160	2	16	11	1,830	
Moree .....	5	213	..	..	..	4	155	..	..	6	5,018	1	1,000	..	..	4	1,959	1	1,200	3	125	24	9,670	
Orange .....	..	..	..	1	27	..	..	..	..	3	284	2	4	2	1,676	3	2,000	1	158	3	19	15	4,168	
Sydney .....	..	..	..	1	575	..	..	..	..	1	382	..	..	..	..	1	2,140	1	737	..	..	4	3,834	
Tamworth .....	2	41	..	..	..	..	..	..	..	2	658	..	..	2	275,680	2	4,200	3	3,284	3	2,073	14	285,936	
Wagga Wagga ..	2	111	..	..	1	10	1	227	..	6	2,991	2	420	2	12,352	2	160	5	20,237	4	68	25	36,576	
	15	2,052	..	..	7	906	27	9,044	1	121	43	19,484	9	6,908	12	329,738	22	18,075	23	46,097	62	11,273	221	443,698

SCHEDULE LXXVIII.

RETURN of Reserves from Lease and License revoked during 1898.

Land Board District.	Access.		Mining.		Roads and Crossing.		Annual Lease or Occupation License for Temporary Common.		Suburban Settlement.		Travelling Stock and Camping.		Village.		Water Supply.		Conditional Lease and Annual Lease.		Other Public Purposes.		Totals.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
Armidale .....	..	..	..	..	..	..	3	103	1	6	..	3	3,150	..	..	2	170	3	9	12	..	3,438
Bourke .....	..	..	..	..	2	202	18	10,457	10	14,903	5	692	2	6,150	4	3,092	5	8,256	11	124,128	57	167,880
Dubbo .....	..	..	1	30	..	..	3	1,019	..	..	1	218	..	..	..	..	..	..	..	5	1,267	
Forbes .....	..	..	1	644	..	..	22	1,497	..	..	3	1,278	2	3,608	3	217	1	336	6	1,532	38	9,112
Goulburn .....	..	..	..	..	..	..	17	5,778	..	..	1	414	2	1,426	3	617	1	1,280	7	2,538	31	12,053
Grafton .....	..	..	..	..	..	..	4	2,725	..	..	2	90	..	..	3	460	2	38	9	1,064	20	4,377
Hay .....	3	360	..	..	..	..	4	7,202	1	3,400	5	1,101	2	555	3	1,031	2	340	11	3,264	31	17,253
Maitland .....	..	..	..	..	..	..	6	1,440	..	..	4	764	..	..	1	270	1	40	..	..	12	2,514
Moree .....	1	60	..	..	..	..	3	49	1	1,300	..	..	..	..	..	..	1	270	6	6,155	12	7,834
Orange .....	..	..	..	..	..	..	16	660	..	..	1	320	..	..	3	297	8	1,266	3	474	31	3,017
Sydney .....	..	..	..	..	..	..	3	763	..	..	..	..	..	1	10	..	..	..	..	..	4	773
Tamworth .....	1	2,525	..	..	1	14	3	44	..	..	5	2,717	..	..	3	959	1	65	15	29,463	29	35,787
Wagga Wagga .....	4	1,697	..	..	..	..	10	1,506	..	..	8	2,227	..	..	1	65	9	12,852	29	18,827	61	32,174
	9	4,642	2	674	3	216	112	33,243	13	19,603	35	9,821	11	14,889	25	7,018	33	24,913	100	182,454	343	297,479

SCHEDULE LXXIX.

RETURN of Dedications for Religious and Public Purposes during the year 1898.

Purpose of Dedication.	No. of Dedications	Area dedicated.			Religious Purposes.	No of Dedications.	Area dedicated.		
		a.	r.	p.			a.	r.	p.
Experimental Farm .....	2	15,680	0	0	Presbyterian Church and Manse Sites (Presbyterian Church of New South Wales.)	1	1	2	0
Public Recreation .....	21	279	0	7½					
General Cemeteries .....	26	148	1	31½					
Hospital for the Insane .....	1	420	3	0					
Racecourse .....	1	76	1	0					
Public Schools .....	41	76	0	20½					
Show Grounds .....	6	32	0	32					
Refuge in Time of Flood .....	1	23	3	30					
Gaol .....	1	15	0	0					
Athletic Sports Ground .....	1	10	0	0					
Hospital .....	1	9	1	3					
Mechanics' Institute sites .....	5	2	0	0					
Public Reservoir .....	1	1	2	38					
Public Road .....	4	1	2	23					
Town Hall sites .....	2	0	3	3½					
Municipal Building sites .....	2	0	2	14½					
Railway purposes .....	1	0	1	0					
Defence .....	1	0	0	5					
Total .....	118	16,778	0	28½	119	16,779	2	28½	

SCHEDULE LXXX.

RETURN of Special Areas proclaimed during 1898.

Land Board District.	Land District	Within Population Area or Suburban Lands		Country Lands		Land Board District	Land District	Within Population Area or Suburban Lands		Country Lands.	
		No	Area	No	Area.			No	Area.	No.	Area.
Armidale ...	Armidale ..	1	a. r. p. 66 3 23	...	a. r. p. ... ..	Grafton ...	Bellingen ..	1	a. r. p. 39 2 20	...	a. r. p. ... ..
	Glen Innes ..	...	...	1	53 0 0		Casino ... ..	5	61 3 28	1	157 0 0
	Tenterfield ..	2	103 0 37	...	.....		Grafton ... ..	3	998 3 10	...	.....
Dubbo .....	Dubbo .....	...	...	1	100 0 0	Hay .....	Deniliquin ..	...	...	7	4,760 3 39
	Nyngan .....	...	...	1	2,560 0 0		Moree .....	Bingara ... ..	...	...	2
Forbes .....	Barmedman ..	1	160 0 0	...	...	Orange ... ..	Moree ... ..	...	...	6	2,546 2 0
	Condobolin ..	3	608 1 20	2	244 3 0		Coora .....	...	...	5	1,094 3 0
	Forbes .....	...	...	1	162 2 0		Molong ... ..	1	66 1 0	5	1,310 3 0
	Grenfell .....	3	161 1 0	...	...	Wellington ..	1	121 3 0	3	383 1 0	
	Parkes ... ..	7	255 1 30	1	817 1 0	Tamworth ...	Gunnedah ..	2	97 2 31	4	774 1 0
Goulburn .....	Bega .....	...	...	1	42 1 0	Wagga Wagga	Narrabri ... ..	...	...	2	366 3 0
	Bombala .....	...	...	7	993 0 20		Albury .....	...	...	1	143 2 0
	Boorowa ... ..	4	524 0 36	1	56 3 0		Cootamundry ..	...	...	1	331 3 0
	Braidwood ...	2	14 2 5	...	...		Cootamundry ..	...	...	1	748 3 0
	Cooma .....	...	...	5	1,680 2 0		(Central)	...	...	14	8,021 0 0
	Gunning ... ..	...	...	1	40 0 0		Corowa .....	...	...	2	1,461 1 0
	Yass .....	1	169 0 0	1	115 1 0		Narrandera ...	...	...	14	6,664 3 0
	Young .....	1	70 2 6	2	431 1 0		Urana .....	...	...	44	20,575 2 0
	Totals	38	3,519 2 6	141	57,375 0 19						

Number Area  
Grand Total... .. 179 60,894 2 25

SCHEDULE LXXXI.

RETURN of Homestead Selection Areas notified during 1898.

Land Board District.	Land District.	No of Blocks	Area.	Land Board District	Land District.	No of Blocks.	Area.	
Armidale ... ..	Glen Innes ..	17	a. r. p. 21,193 0 0	Maitland .....	Cassilis .....	14	a. r. p. 2,809 2 0	
	Tenterfield ..	12	10,434 2 0		Gosford .....	3	489 0 0	
Bourke .....	Brewarrina ...	2	1,154 2 0	Orange .....	Taree .....	14	3,549 3 0	
	Cobar .....	20	4,179 0 0		Carcoar .....	3	706 2 0	
Dubbo .....	Dubbo .....	14	15,818 1 0	Sydney ... ..	Cowra .....	18	2,390 0 10	
	Nyngan .....	5	3,013 3 0		Molong .....	1	320 0 0	
	Warren .....	13	2,589 1 0		Rylstone .....	8	8,750 0 0	
Forbes ... ..	Barmedman ..	34	20,045 2 0	Wellington ...	Wellington ...	4	602 3 0	
	Forbes .....	8	5,509 2 0		Liverpool ... ..	3	76 1 10	
	Parkes .....	45	30,514 2 0		Milton .....	31	460 1 38	
Goulburn .....	Bega .....	22	4,053 3 37	Windor .....	Windor .....	48	2,154 2 30	
	Bombala .....	11	420 0 30		Tamworth .....	Coonabarabran ..	7	1,091 0 0
	Boorowa ... ..	3	1,740 0 0			Gunnedah ... ..	33	15,245 3 0
	Braidwood ...	7	356 1 0	Murrurundi .....		3	924 0 0	
	Cooma .....	19	6,488 0 30	Narrabri ... ..		48	18,317 3 0	
	Queanbeyan ..	4	790 2 0	Tamworth .....		25	1,711 0 3	
	Yass .....	2	612 0 0	Wagga Wagga ..	Albury ... ..	8	115 2 21	
	Young .....	29	4,578 1 33		Cootamundry Central	1	748 3 0	
Grafton .....	Bellingen ... ..	10	3,011 0 0		Cootamundry ..	19	11,396 0 0	
	Grafton ... ..	5	303 2 0		Corowa .....	19	9,540 1 0	
	Murwillumbah ..	6	2,126 1 0		Narrandera ...	53	21,748 2 0	
Hay .....	Deniliquin ..	6	4 408 1 39	Tumbarumba .....	20	603 3 10		
	Hay .....	31	9,642 3 0	Urana ... ..	29	21,050 3 0		
	Hillston .....	84	44,347 2 0	Wagga Wagga ...	91	42,473 1 0		
	Wentworth .....	16	12,897 0 0	Totals .....	928	377,503 1 11		

SCHEDULE LXXXII.  
RETURN of Settlement Lease Areas notified during 1898.

Land Board District.	Land District.	No. of Farms.	Area.			Land Board District.	Land District.	No. of Farms.	Area.		
			a.	r.	p.				a.	r.	p.
Armidale.....	Armidale .....	1	2,952	2	0	Maitland .....	Cassilis .....	3	7,896	1	0
	Glen Innes .....	6	9,640	0	0		Raymond Terrace.....	3	1,466	1	0
	Inverell .....	5	23,912	2	0		Stroud .....	1	711	0	0
	Tenterfield.....	11	26,844	0	0		Moree .....	6	11,194	1	0
Bourke .....	Bourke .....	3	12,533	0	0	Bingara .....	6	322,206	0	0	
Dubbo .....	Coonamble.....	8	25,515	0	0	Moree.....	78	18,534	2	0	
	Dubbo .....	45	112,193	3	0	Warialda .....	5	63,357	0	0	
	Nyngan .....	30	75,321	0	0	Walgett .....	26	2,022	0	0	
	Warren .....	13	37,547	2	0	Bathurst .....	2	1,345	0	0	
Forbes.....	Barmedman .....	16	32,654	1	0	Orange .....	16	29,952	0	0	
	Condobolin .....	11	20,605	0	0	Lithgow .....	1	25,348	0	0	
	Forbes .....	2	3,795	0	0	Coonabarabran .....	4	12,764	3	0	
	Grenfell.....	12	23,769	0	0	Gunnedah .....	5	9,690	0	0	
	Parkes .....	34	54,940	0	0	Murrurundi .....	3	55,787	3	0	
						Narrabri .....	21	22,537	2	0	
Hay.....	Balranald South .....	9	80,160	0	0	Tamworth.....	6	3,331	3	0	
	Deniliquin.....	10	18,224	0	20	Wagga Wagga.....	2	32,599	0	0	
	Hay .....	13	27,333	1	0	Urana.....	15				
						Wagga Wagga .....	15				
						Totals .....	426	1,208,687	3	20	

SCHEDULE LXXXIII.

RETURN showing number of Trespasses on Crown Lands reported during 1893, and action taken thereon under the provisions of the Crown Lands Acts.

Number of cases not disposed of at end of 1897 .....	345
Number of cases reported by Crown Lands Bailiffs during 1898... ..	291
	636
Number of prosecutions in which convictions were obtained .....	21
Number of prosecutions in which cases were dismissed .....	3
Trespasses abated after notice, without legal proceedings by the Department .....	177
Cases of reported trespass in which, after investigation, it was found that no proceedings were necessary .....	55
Number of cases referred to other Departments for action .....	19
Cases in which action was suspended by the Department pending investigation of applications to be placed in legal occupation .....	33
Cases not disposed of at end of year .....	328
	636

SCHEDULE LXXXIV.

PART A.

RETURN showing Number, Area, and Rental of Pastoral Leases granted under the Church and School Lands Dedication Act of 1880, current on 31st December, 1898.

Land Board District.	Land District.	No.	Area.			Rent.
			a.	r.	p.	£ s. d.
Goulburn .....	Braidwood .....	40	11,356	2	25	438 19 2
	Dungog .....	45	68,554	0	0	554 19 9
Maitland.....	Maitland .....	4	174	0	20	6 16 0
	Stroud .....	58	78,418	3	0	1,174 15 3
	Singleton .....	6	1,424	1	21	39 7 0
	Bathurst .....	43	22,603	3	23	462 19 4
Orange .....	Carcoar .....	107	43,799	3	17	2,921 17 1
	Totals .....	303	226,330	2	26	5,599 13 7

PART B.

RETURN showing Number, Area, and Rental of Agricultural Leases granted under the Church and School Lands Dedication Act of 1880, current on 31st December, 1898.

Land Board District.	Land District.	No.	Area.			Rent.
			a.	r.	p.	£ s. d.
Goulburn .....	Braidwood .....	25	630	3	31	88 15 2
Maitland.....	Dungog .....	9	697	0	0	109 17 10
	Maitland .....	4	11	0	33	5 6 0
	Stroud .....	98	5,079	3	6	825 13 7
Metropolitan .....	Picton .....	2	3	1	11	1 0 0
Orange .....	Bathurst .....	71	981	1	25	212 0 2
	Carcoar .....	91	2,358	1	8	434 5 3
	Totals .....	300	9,811	3	34	1,676 18 0



SCHEDULE LXXXV.

PART A.

RETURN showing Mineral Leases granted under the Church and School Lands Mining Acts of 1888-9, current on 31st December, 1898, and of applications received and refused; also leases granted, cancelled, and expired during 1898.

Land Board District and Land District.	Number of Applications.			Area of outstanding Applications.	Area applied for during 1898.	Total Area.	Applications declined or withdrawn.			Number not finally dealt with.	Leases granted during 1898.			Leases cancelled during 1898.			Leases expired during 1898.			Leases current on 31st December, 1898.		
	Outstanding from 1897.	Received during 1898.	Total.				Outstanding from 1897.	Received during 1898.	Total.		No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.
Maitland— Stroud .....	1	...	1	60 0 0	.....	60 0 0	...	...	...	...	1	60 0 0	15 0 0	...	.....	.....	...	.....	.....	5	272 3 1	95 1 2
Orange— Bathurst .....	...	3	3	.....	171 1 0	171 1 0	...	3	3	...	...	.....	.....	1	25 0 0	6 5 0	...	.....	.....	5	160 0 0	40 0 0
Carcoar .....	1	...	1	25 0 0	.....	25 0 0	1	...	1	...	...	.....	.....	13	880 0 0	220 0 0	...	.....	.....	2	71 1 0	7 17 6
Totals.....	2	3	5	85 0 0	171 1 0	256 1 0	1	3	4	...	1	60 0 0	15 0 0	14	905 0 0	226 5 0	...	.....	.....	12	504 0 1	142 18 8

PART B.

RETURN showing Gold Leases granted under the Church and School Lands Mining Acts of 1888-9, current on 31st December, 1898, and of applications received and refused; also leases granted, cancelled, and expired during 1898.

Land Board District and Land District.	Number of Applications.			Area of outstanding Applications.	Area applied for during 1898.	Total Area.	Applications declined or withdrawn.			Number not finally dealt with.	Leases granted during 1898.			Leases cancelled during 1898.			Leases expired during 1898.			Leases current on 31st December, 1898.		
	Outstanding from 1897.	Received during 1898.	Total.				Outstanding from 1897.	Received during 1898.	Total.		No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.	No.	Area.	Rent.
Goulburn— Braidwood.....	1	...	1	5 0 0	.....	5 0 0	...	...	...	1	...	.....	.....	...	.....	.....	...	.....	.....	3	12 0 0	12 0 0
Maitland— Dungog .....	...	...	...	.....	.....	.....	...	...	...	...	...	.....	.....	2	4 0 0	4 0 0	...	.....	.....	...	.....	.....
Stroud .....	...	...	...	.....	.....	.....	...	...	...	...	...	.....	.....	3	17 0 0	17 0 0	...	.....	.....	2	11 0 0	11 0 0
Orange— Bathurst .....	2	...	2	15 0 0	.....	15 0 0	...	...	...	...	2	15 0 0	15 0 0	3	15 0 0	15 0 0	...	.....	.....	12	75 0 0	75 0 0
Carcoar .....	6	1	7	48 3 26	10 0 0	58 3 26	1	1	2	1	4	56 3 26	57 0 0	18	135 3 30	136 0 0	3	4 0 0	4 0 0	66	441 3 29	500 16 0
Totals.....	9	1	10	68 3 26	10 0 0	78 3 26	1	1	2	2	6	71 3 26	72 0 0	26	171 3 30	172 0 0	3	4 0 0	4 0 0	83	539 3 29	598 16 0

SCHEDULE LXXXVI.

RETURN showing Number, Area, and Rental of Ninety-nine Year Leases granted prior to passing of Church and School Lands Dedication Act, 1880, current on 31st December, 1898.

Land Board District and Land District	No	Area	Rent
Metropolitan . . . . .	41	a r p 16 1 31	£ s d. 494 0 0

RETURN showing Number, Period, Area, and Rental of Building Leases granted under the Church and School Lands Dedication Act of 1880 and current on 31st December, 1898.

Land Board District	Land District	No	Period of Lease	Area	Rent
Metropolitan ...	Metropolitan ...	1	years. 65	a r p 0 0 36½	£ s d. 43 0 0
Orange ..	Carcoar .	2	50	10 3 21¼	17 15 0
Totals ...		3	....	11 0 17¾	£60 15 0

SCHEDULE LXXXVII.

RETURN showing places of Meetings, length of Sittings, and number of Cases dealt with during 1898.

Land Board District	Land District	Place of Meeting	Number of Courts held	Duration of sittings (Three hours or less = half day)	Number of Cases dealt with	Number of Cases adjourned							
Armidale ...	Armidale...	Armidale . . . . .	15	18	{ 318	65							
		Bundarra . . . . .	3	2	{ 29	3							
		Hillgrove . . . . .	4	2½	{ 29	7							
		Wollomombi . . . . .	5	4½	{ 17	4							
		Walcha Road . . . . .	3	2	{ 18	11							
		Glen Innes ...	Glen Innes ...	Glen Innes ...	9	8	{ 21	2					
							{ 140	12					
							{ 6	.....					
		Walcha ...	Walcha ..	Walcha ..	6	6	{ 110	5					
							{ 7	2					
		Tenterfield ...	Tenterfield ...	Tenterfield ...	10	10	{ 229	17					
							{ 40	1					
							{ 36	1					
		Inverell ...	Inverell ...	Inverell ...	9	12½	{ 199	18					
							{ 32	.....					
Bundarra . . . . .	5						5	{ 75	12				
Ashford ...	4						4	{ 67	5				
Wandsworth ...	5						4	{ 62	10				
Bourke ...	Bourke . . . . .	Bourke . . . . .	4	30½	{ 186	2							
					{ 140	8							
					Brewarrina ...	3	13	{ 2	.....				
					" East ...	.....	.....	{ 1	.....				
					Cobar ...	3	7	{ 79	2				
					Wilcannia ..	Wilcannia ..	Wilcannia ..	2	8½	{ 67	2		
										{ 49	1		
					" ..	White Cliffs ..	White Cliffs ..	2	3½	{ 126	.....		
										{ 3	.....		
					" and Wilcannia ..	Broken Hill ..	Broken Hill ..	3	12½	{ 7	.....		
{ 64	.....												
Dubbo .....	Coonamble ..	Coonamble ..	4	10	{ 202	5							
					Gilgandra ..	1	½	{ 11	.....				
								{ 26	.....				
								{ 624	21				
Dubbo .....	Dubbo ..	Dubbo ..	10	38	{ 14	.....							
					{ 251	7							
Nyngan ...	Nyngan.....	Nyngan.....	5	14½	{ 4	.....							
					{ 196	11							
Warren ..	Warren . . . . .	Warren . . . . .	5	15	{ 12	.....							
					{ 150	12							
Forbes.....	Barmedman and Barmedman East	Barmedman.....	8	19½	.....	.....							
							Barmedman .....	5	7½	{ 50	15		
							.....	.....	.....	{ 3	.....		
							Condobolin ..	6	20	{ 152	26		
							Forbes . . . . .	10	21½	{ 266	32		
							Grenfell . . . . .	Grenfell ..	Grenfell ..	6	13	{ 2	.....
												{ 108	21
							Parkes ..	Parkes ..	Parkes ..	6	26½	{ 330	25
												{ 8	.....
							Goulburn .....	Bega ...	Bega . . . . .	9	8	{ 56	7
{ 3	.....												
Cobargo ...	Cobargo ...	Cobargo ...	3	1½	{ 33	1							
					{ 84	11							
Bombala ..	Bombala ..	Bombala ..	9	8½	{ 8	.....							
					{ 50	4							
Boorowa ..	Boorowa ..	Boorowa ..	4	4	{ 54	3							
					{ 3	.....							
" ..	Binalong ..	Binalong ..	9	8½	{ 110	17							
					{ 191	12							
Bradwood ..	Bradwood ..	Bradwood ..	8	8	{ 8	.....							
					{ 284	13							
Cooma .....	Cooma ..	Cooma ..	15	12½	{ 26	.....							

## SCHEDULE LXXXVII—continued.

Land Board District.	Land District.	Place of Meeting.	Number of Courts held.	Duration of Sittings (Three hours or less = half-day).	Number of Cases dealt with.	Number of Cases adjourned.
Goulburn—(continued)	Cooma	Adaminaby	4	4	108	5
		Buckley's Crossing	5	4½	118	8
	Eden	Eden	3	2½	46	2
		Wyndham	3	1½	42	1
	Goulburn	Goulburn	9	7½	{ 177 9	12
		Crookwell	3	.....	26	.....
	Gunning	Taralga	4	3½	45	10
		Gunning	4	4	78	8
	Moruya	Crookwell	3	2	22	3
		Moruya	3	3	{ 50 4	.....
	Moss Vale	Bodalla	3	3	51	2
		Moss Vale	4	3½	{ 64 7	2
	Queanbeyan	Queanbeyan	6	4½	{ 143 4	3
		Yass	5	4½	{ 98 1	6
	Young	Young	7	7	{ 150 4	11
		Bellingen	5	9½	{ 148 5	8
	Grafton	Bowraville	1	1	19	.....
		Casino	3	8	{ 160 2	2
	Grafton	Grafton	6	18½	{ 262 3	1
		Kempsey	4	10	145	8
Lismore	Lismore	3	7½	{ 135 5	2	
	Ballina	1	1	10	2	
Murwillumbah	Murwillumbah	3	5	{ 62 4	2	
	Mullumbimby	1	1	16	4	
Port Macquarie	Port Macquarie	4	6	58	3	
	Bahranald	4	9½	{ 143 25	.....	
Hay	Deniliquin	6	35	{ 417 32	14	
	Hay	9	29½	{ 359 19	15	
Hillston	Hillston	4	15½	{ 262 12	6	
	Lake Cudgellico	2	3½	47	2	
Wentworth	Wentworth	3	14	{ 85 6	2	
	Euston	1	1	9	.....	
Maitland	Cassilis	4	4½	{ 84 5	.....	
	Leadville	3	4	81	1	
Dungog	Merriwa	3	2½	33	2	
	Dungog	3	2	{ 31 3	2	
Gosford	Gosford	4	4	53	.....	
	Maitland	5	2½	34	.....	
Muswellbrook	Muswellbrook	5	4	46	.....	
	Newcastle	2	2	14	.....	
Paterson	Paterson	5	4	32	2	
	Raymond Terrace	3	1½	18	.....	
Scone	Scone	5	9½	196	2	
	Singleton	5	2½	53	.....	
Stroud	Stroud	4	2½	37	.....	
	Gloucester	3	2	40	.....	
Taree	Wingham	4	2	{ 26 2	.....	
	Taree	4	4½	77	.....	
Wollombi	Coopernook	2	2	23	.....	
	Forster	2	1	21	.....	
Moree	Wollombi	3	1½	30	.....	
	Moree	4	26½	{ 339 44	62	
Walgett North	Collarendabri	3	2½	46	20	
	Walgett	4	9	{ 219 17	37	
Bingara	Bingara	3	4	{ 84 15	10	
	Warialda	3	4½	{ 91 18	22	
Orange	Warialda and Moree	1	1	16	1	
	Bathurst	5	11½	163	8	
Carcoar	Oberon	3	2	22	5	
	Carcoar	5	22½	140	.....	
	Trunkey	4	5	86	7	

## SCHEDULE LXXXVII—continued.

Land Board District.	Land District.	Place of Meeting.	Number of Courts held.	Duration of Sittings (Three hours or less = half day).	Number of Cases dealt with.	Number of Cases adjourned.	
Orange—(continued)	Cowra	Cowra	6	12½	149	14	
		Canowindra	1	1	5	.....	
	Lithgow	Lithgow	5	6	81	9	
		Oberon	2	2	49	3	
	Molong	Molong	4	8	70	10	
		Cumnock	4	6½	71	11	
		Cudal	1	1	18	1	
		Canowindra	4	7½	60	8	
		Mudgee	5	16½	225	18	
	Orange	4	7½	57	9		
	Rylstone	5	9	178	41		
	Wellington	5	12	211	13		
	Sydney	Campbelltown	Campbelltown	3	2	38	.....
		Kiama	Kiama	5	11	59	3
		Liverpool	Liverpool	3	4	17	.....
		Metropolitan	Metropolitan	6	16	79	3
		Milton	Milton	2	1½	37	1
Nowra		Nowra	2	3	76	6	
Parramatta		Parramatta	4	2½	36	.....	
Penrith		Penrith	3	1½	36	.....	
Picton		Picton	3	5	107	.....	
Windsor		Windsor	4	9	182	4	
Wollongong		Wollongong	1	½	1	.....	
Tamworth		Coonabarabran	Coonabarabran	6	9½	93	5
	Tamworth		.....	.....	4	.....	
	Gunnedah	Coonabarabran	.....	.....	1	.....	
		Gunnedah	5	7	166	10	
	Murrurundi	Tambar Springs	2	2½	{ 38 2	{ 1 1	
		Tamworth	.....	.....	1	.....	
		Murrurundi	2	1½	30	2	
		Quirindi	3	2	73	4	
		Tamworth	.....	.....	8	3	
	Narrabri	Narrabri	6	13½	147	2	
		Pilliga	4	5	78	.....	
		Wee Waa	5	4½	64	4	
		Narrabri	.....	.....	1	1	
	Tamworth	Tamworth	.....	.....	8	.....	
		Tamworth	13	16	374	35	
		Barraba	5	6½	96	6	
		Manilla	5	4½	72	2	
		Tamworth	.....	.....	1	1	
	Wagga Wagga	Albury	Albury	3	7½	85	18
Genmanton			3	2½	50	6	
Corowa		Corowa	4	5	53	.....	
		Mulwala	3	2½	98	13	
Cootamundra and Cootamundra Central.		Cootamundra	2	7	96	8	
		Temora	2	6	{ 72 2	{ 5 .....	
Gundagai		Gundagai	2	5	95	6	
Narrandera		Narrandera	5	17	205	24	
Tumbarumba and Tumbarumba North.		Tumbarumba	3	21	287	48	
Tumut		Tumut	2	6½	90	11	
Urana		Urana	4	21	225	28	
	Jerilderie	4	8	70	7		
Wagga Wagga	Wagga Wagga	4	46	{ 442 1	{ 14 .....		
SUMMARY.							
	Armidale Land Board District	.....	90	90	{ 1,361 114	{ 169 6	
	Bourke	.....	19	82	{ 711 6	{ 15 .....	
	Dubbo	.....	25	78	{ 1,284 56	{ 44 .....	
	Forbes	.....	41	108	{ 1,056 13	{ 131 .....	
	Goulburn	.....	130	110	{ 2,080 77	{ 141 .....	
	Grafton	.....	31	67½	{ 1,015 19	{ 32 .....	
	Hay	.....	29	108	{ 1,322 94	{ 47 .....	
	Maitland	.....	74	61	{ 929 10	{ 9 .....	
	Moree	.....	18	47½	{ 795 94	{ 152 .....	
	Orange	.....	63	130½	{ 1,585 56	{ 157 .....	
	Sydney	.....	36	56	{ 668 .....	{ 17 .....	
	Tamworth	.....	86	73½	{ 1,231 77	{ 87 .....	
	Wagga Wagga	.....	41	155	{ 1,868 3	{ 188 .....	
	Total	.....	683	1,167	16,468	995	

## SCHEDULE LXXXVIII.

RETURN showing the number of Instructions issued to, and Reports received from, Inspectors regarding Conditional Purchases, Homestead Selections, Conditional Leases, Homestead Leases, Settlement Leases, and Miscellaneous Cases during the year 1898.

Land Board District and Land Districts.	Name of Inspector.	No. of Instructions issued to Inspectors to report on C.P's., C.L's., &c.						No. of C.P's., C.L's., &c., visited and reported on by Inspectors.					
		C.P's.	Home- stead Selec- tions.	C.L's.	H.L's.	Settle- ment Leases.	Misc. Cases.	C.P's.	Home- stead Selec- tions.	C.L's.	H.L's.	Settle- ment Leases.	Misc. Cases.
<b>Armidale—</b>													
Armidale .....	— Silcock .....	170	42	79	...	3	21	186	42	95	...	3	30
Glen Innes .....	— Wisdom .....	60	18	29	...	...	5	59	18	26	...	...	12
Inverell .....	— Wisdom .....	140	28	76	...	4	15	150	35	84	...	3	17
Tenterfield .....	— Wisdom .....	113	18	57	...	...	13	120	21	55	...	...	27
Walcha .....	— Silcock .....	33	1	11	...	1	7	48	16	20	...	...	6
Totals .....		516	107	252	...	8	61	563	132	280	...	6	92
<b>Bourke—</b>													
Bourke .....	L. V. D'Apice .....	...	...	...	8	1	...	...	...	...	7	1	...
Do .....	A. W. Mullen .....	...	...	...	2	...	...	...	...	...	2	...	...
Do .....	Thos. Miller .....	...	...	...	12	...	5	...	...	...	9	...	...
Do .....	E. B. Barton .....	5	29	2	40	4	67	3	9	1	42	5	54
Do .....	Police-constable Kibble .....	...	...	...	1	...	...	...	...	...	1	...	...
Brewarrina .....	L. V. D'Apice .....	...	...	...	...	2	...	...	...	...	...	2	...
Do .....	A. W. Mullen .....	...	...	...	2	1	2	...	...	...	...	...	2
Do .....	E. B. Barton .....	2	21	...	10	5	58	2	19	...	6	4	40
Brewarrina East .....	A. W. Mullen .....	2	...	2	...	1	...	2	...	2	...	1	...
Do .....	E. B. Barton .....	27	...	20	...	19	1	43	...	32	...	22	1
Cobar .....	L. V. D'Apice .....	...	...	...	1	...	2	...	...	...	1	...	2
Do .....	Thos. Miller .....	1	7	...	5	...	57	1	7	...	5	...	40
Do .....	E. B. Barton .....	...	11	...	14	2	10	...	...	...	8	1	4
Wilcannia .....	M. J. C. Tully .....	...	...	...	...	...	2	...	...	...	...	...	2
Do .....	Thos. Miller .....	1	...	...	67	1	14	2	...	...	67	1	4
Willyama .....	do .....	...	...	...	96	...	64	...	...	...	90	...	26
Do .....	F. U. J. Harris .....	...	...	...	1	...	...	...	...	...	...	...	...
Totals .....		38	68	24	259	36	282	53	35	35	238	37	175
<b>Goulburn—</b>													
Bega .....	J. S. Allan .....	31	2	...	...	...	2	29	2	...	...	...	10
Borrowa .....	H. E. Vindin .....	114	14	13	...	1	9	158	51	17	...	...	3
Bombala .....	J. C. Martin .....	77	6	24	...	...	15	142	11	25	...	...	5
Braidwood .....	W. G. Evans .....	48	7	21	...	...	7	45	4	15	...	...	8
Cooma .....	J. C. Martin .....	220	12	48	...	2	2	241	22	88	...	...	13
Eden .....	J. S. Allan .....	38	14	2	...	...	1	36	12	9	...	...	4
Goulburn .....	G. W. West .....	107	7	34	...	...	3	136	8	55	...	...	2
Gunning .....	do .....	64	6	7	...	...	1	68	3	7	...	...	1
Moruya .....	J. S. Allan .....	60	9	26	...	...	10	79	13	5	...	...	3
Moss Vale .....	G. W. West .....	39	1	14	...	...	1	37	...	12	...	...	1
Queanbeyan .....	W. G. Evans .....	136	10	58	...	2	2	130	7	56	...	...	5
Yass .....	H. E. Vindin .....	30	10	9	...	1	...	61	22	15	...	1	2
Young .....	do .....	114	40	4	...	...	17	105	69	7	...	...	3
Totals .....		1,078	138	260	...	6	70	1,267	224	311	...	1	60
<b>Grafton—</b>													
Bellingen .....	E. J. Deverell .....	58	11	6	...	...	6	70	14	6	...	...	6
Casino .....	W. P. Pope .....	40	3	9	...	...	27	42	3	9	...	...	31
Do .....	T. H. Wilshire .....	5	...	2	...	...	16	10	...	2	...	...	5
Grafton .....	do .....	49	10	5	...	...	28	54	8	7	...	...	33
Do .....	E. J. Deverell .....	17	1	2	...	...	3	17	1	2	...	...	2
Kempsey .....	do .....	1	...	...	...	...	...	1	...	...	...	...	...
Do .....	G. R. Brown .....	48	5	8	...	...	10	41	7	10	...	...	5
Lismore .....	W. P. Pope .....	99	21	...	...	...	5	106	21	...	...	...	4
Murwillumbah .....	do .....	54	13	1	...	...	1	49	10	1	...	...	2
Port Macquarie .....	G. R. Brown .....	17	...	3	...	...	2	24	...	2	...	...	1
Totals .....		388	64	36	...	...	88	414	64	39	...	...	89

SCHEDULE LXXXVIII—continued.

Land Board District and Land Districts.	Name of Inspector.	No. of Instructions issued to Inspectors to report on C.P's., C.L's., &c.						No. of C.P's., C.L's., &c., visited and reported on by Inspectors.					
		C.P's.	Home-stead Selections.	C.L's.	H.L's.	Settle-ment Leases.	Misc. Cases.	C.P's.	Home-stead Selections.	C.L's.	H.L's.	Settle-ment Leases.	Misc. Cases.
<b>Hay—</b>													
Balranald .....	G. S. M. Grant .....	...	4	...	41	...	8	...	4	...	30	...	8
Do South .....	do .....	63	25	21	...	2	...	67	23	17	...	1	...
Deniliquin .....	do .....	...	...	...	...	...	3	...	...	...	...	...	3
Do .....	O. Wilshire .....	71	86	5	...	10	3	69	84	5	...	10	3
Hay .....	G. S. M. Grant .....	25	40	8	...	32	3	30	43	7	...	15	1
Do .....	M. T. Day .....	43	11	22	2	2	5	45	10	24	2	3	5
Hillston .....	do .....	35	82	4	...	4	11	37	71	5	...	3	9
Do North .....	do .....	...	...	...	6	...	8	...	...	...	6	...	7
Do do .....	G. S. M. Grant .....	...	...	...	...	...	1	...	...	...	...	...	1
Wentworth .....	do .....	12	1	...	41	...	17	12	3	...	46	...	14
Do .....	D. A. Morgan .....	12	1	...	41	...	17	12	3	...	46	...	14
Totals .....		249	249	60	90	50	59	260	238	58	84	32	51
<b>Maitland—</b>													
Cassilis .....	J. B. Combes .....	73	40	44	...	...	4	142	52	78	...	...	6
Dungog .....	J. Hardiman .....	7	7	7	...	...	...	13	4	6	...	...	...
Do .....	W. H. Tietkens .....	5	6	5	...	...	...	5	6	3	...	...	...
Gosford .....	J. Martin .....	28	35	...	...	...	2	32	40	...	...	...	2
Maitland .....	do .....	27	24	...	...	...	...	26	25	...	...	...	...
Muswellbrook .....	J. B. Combes .....	38	1	7	...	...	2	41	2	8	...	...	3
Do .....	W. H. Tietkens .....	25	...	4	...	...	1	21	...	1	...	...	...
Newcastle .....	J. Martin .....	8	12	1	...	...	1	7	15	1	...	...	1
Paterson .....	J. B. Combes .....	5	14	3	...	...	...	6	11	5	...	...	1
Do .....	J. Hardiman .....	...	...	...	...	...	...	...	...	1	...	...	...
Do .....	W. H. Tietkens .....	8	6	6	...	...	...	15	6	9	...	...	...
Raymond Terrace .....	J. Martin .....	14	...	7	...	...	...	12	...	5	...	...	...
Scone .....	J. B. Combes .....	6	4	1	...	...	1	2	...	...	...	...	...
Do .....	W. H. Tietkens .....	60	9	28	...	...	7	166	6	81	...	...	7
Singleton .....	J. B. Combes .....	31	16	1	...	...	1	29	17	1	...	...	1
Do .....	W. H. Tietkens .....	7	4	1	...	...	4	5	4	1	...	...	4
Stroud .....	J. Hardiman .....	21	2	6	...	...	2	46	6	18	...	...	2
Taree .....	do .....	53	5	8	...	...	4	64	5	11	...	...	2
Wollombi .....	J. B. Combes .....	1	...	...	...	...	...	...	...	...	...	...	...
Do .....	J. Martin .....	18	...	3	...	...	...	19	...	6	...	...	...
Totals .....		435	185	132	...	...	29	651	199	235	...	...	29
<b>Moree—</b>													
Ringara .....	E. C. McPherson .....	27	...	23	...	4	10	34	...	21	...	...	12
Moree .....	do .....	114	...	63	...	108	26	116	...	72	...	98	15
Do .....	W. Webster .....	19	...	4	...	5	1	23	...	7	...	5	5
Walgett .....	do .....	46	7	26	...	38	4	50	11	30	...	52	13
Do North .....	do .....	...	...	...	25	...	21	...	...	...	27	...	25
Warialda .....	E. C. McPherson .....	49	1	31	...	19	27	69	2	42	...	17	25
Totals .....		255	8	152	25	174	89	292	13	172	27	172	95
<b>Orange—</b>													
Bathurst .....	J. S. O'Hara .....	42	...	6	...	...	29	53	...	13	...	...	23
Carcoar .....	do .....	39	...	8	...	...	15	47	...	13	...	...	27
Do .....	R. Deighton .....	11	...	4	...	...	6	20	...	7	...	...	13
Cowra .....	do .....	63	22	4	...	...	7	85	23	5	...	...	7
Lithgow .....	J. S. O'Hara .....	58	1	10	...	...	7	67	...	10	...	...	6
Molong .....	R. Deighton .....	112	29	30	...	1	8	168	31	38	...	...	12
Mudgee .....	R. Sim .....	110	22	54	...	2	38	129	27	55	...	2	33
Orange .....	R. Deighton .....	13	...	9	...	...	4	24	...	12	...	...	12
Rylstone .....	R. Sim .....	81	...	33	...	...	11	96	...	39	...	...	15
Wellington .....	do .....	52	...	15	...	...	17	35	...	10	...	...	8
Totals .....		581	74	173	...	3	142	731	81	202	...	2	156

SCHEDULE LXXXVIII—continued.

Land Board District and Land Districts.	Name of Inspector.	No. of Instructions issued to Inspectors to report on C.P's., C.L's., &c.						No. of C.P's., C.L's., &c., visited and reported on by Inspectors.				
		C.P's.	Home-stead Selections.	C.L's.	H.L's.	Settle-ment Leases.	Misc. Cases.	C.P's.	Home-stead Selections.	C.L's.	H.L's.	Settle-ment Leases.
<b>Sydney—</b>												
Campbelltown	H. O. Rotton	12	25	...	...	...	...	18	26	...	...	...
Kiama	do	2	...	...	...	...	...	1	...	...	...	...
Liverpool	do	...	6	...	...	...	...	...	3	...	...	...
Do	J. B. Brown	...	3	...	...	...	...	...	2	...	...	...
Milton	H. O. Rotton	18	4	2	...	...	...	17	...	3	...	...
Nowra	do	20	7	...	...	...	1	22	5	3	...	...
Parramatta	J. B. Brown	11	...	...	...	...	...	14	...	...	...	...
Penrith	do	13	5	4	...	...	...	20	5	4	...	...
Pictou	do	62	2	29	...	...	...	68	2	30	...	...
Windsor	do	79	60	1	...	...	...	107	42	2	...	...
Totals		222	112	36	...	...	1	267	85	42	...	...
<b>Tamworth—</b>												
Coonabarabran	Bishop Lyne	32	2	20	...	14	8	47	...	29	...	20 13
Gunnedah	do	...	...	...	...	...	...	...	1	...	...	...
Do	Wm. MacDonald	69	70	22	...	14	2	92	81	47	...	16
Do	Wm. H. Teitkens	8	4	4	...	2	...	...	...	...	...	...
Murrurundi	Sir Wm. Broun, Bart.	33	...	9	...	...	...	14	...	1	...	...
Do	Wm. MacDonald	38	8	9	...	...	...	55	12	29	...	1
Narrabri	Bishop Lyne	95	2	47	...	20	16	94	3	37	...	40 15
Do	Wm. H. Teitkens	3	...	...	...	...	1	...	...	...	...	...
Tamworth	Sir Wm. Broun, Bart.	290	23	134	...	...	12	286	21	147	...	6
Do	Wm. MacDonald	15	...	1	...	2	...	17	...	1	...	1
Do	Wm. H. Teitkens	33	...	28	...	...	...	7	...	6	...	...
Totals		616	114	274	...	52	39	612	117	298	...	78 34
<b>Wagga Wagga—</b>												
Albury	S. Payten	35	27	12	...	...	1	39	28	10	...	...
Cootamundra	F. B. Mulligan	112	54	9	...	...	10	119	59	10	...	8
Do Central	do	5	7	1	...	...	1	4	4	1	...	...
Corowa	S. Payten	32	57	...	...	...	2	36	65	...	...	2
Gundagai	F. B. Mulligan	43	...	15	...	...	39	57	...	24	...	31
Narrandera	J. G. Condell	48	88	6	...	2	31	63	103	8	...	2 31
Tumbarumba	W. J. Barnes	67	...	44	...	...	7	66	...	39	...	6
Do North	do	1	...	...	...	...	1	1	...	...	...	...
Tumut	do	39	1	39	...	...	17	37	...	39	...	16
Urana	S. Payten	41	70	1	...	6	...	48	93	3	...	9
Do	J. G. Condell	11	28	...	...	...	5	10	24	...	...	4
Wagga Wagga	W. J. Barnes	23	69	4	...	...	8	29	64	4	...	4
Do	J. G. Condell	10	23	...	...	...	...	28	63	2	...	1
Do	F. B. Mulligan	36	47	2	...	...	4	56	47	1	...	4
Totals		508	471	133	...	8	126	573	559	141	...	11 107
Grand Totals		5,498	1,940	1,688	374	557	1,340	6,351	2,039	1,986	349	567 1,177

SCHEDULE LXXXIX.

RETURN of Applications for Permission to Ringbark for the year 1898.

Land Board District.	Land District.	Applications made during 1897.						Applications made prior to 1897.			No of applications outstanding at end of year.
		No. received.	Area applied for.	Fees lodged.	No. allowed.	Area allowed.	No. dis-allowed.	No. allowed.	Area allowed.	No. disallowed.	
Armidale	Armidale	1	acres. 3,650	£ s. d. 2 0 0	.....	.....	.....*	2	acres. 3,840	.....	1
	Inverell	1	1,920	2 0 0	.....	.....	.....*	2	1,667	.....	1
	Tenterfield	4	7,020	8 0 0	2	3,250	1	4	4,060	.....	1
	Walcha	1	2,500	2 0 0	.....	.....	.....	.....	.....	.....	1
Bourke	Bourke	9	136,234	30 0 0	9	136,234	.....	1	47,000	.....	.....
	Brewarrina	20	517,167	73 0 0	18	505,077	1	.....	.....	1	1
	Do East	1	2,050	3 0 0	1	2,050	.....	.....	.....	.....	.....
Dubbo	Cobar	9	97,681	32 0 0	8	84,561	.....	1	62,240	.....	1
	Wilcannia	2	3,840	4 0 0	2	3,840	.....	.....	.....	.....	.....
	Dubbo	23	56,902½	58 0 0	2	5,434	.....	3	16,107	.....	21
	Nyngin	5	154,948	18 0 0	1	2,560	.....	2	100,388	.....	1 4
Warren	2	7,500	7 0 0	1	5,500	.....	.....	.....	.....	1	

\* Not dealt with.

SCHEDULE LXXXIX.—continued.

Land Board District.	Land District.	Applications made during 1898.						Applications made prior to 1898.			No. of applications outstanding at end of year.
		No. received.	Area applied for.	Fees lodged.	No. allowed.	Area allowed.	No. disallowed.	No. allowed.	Area allowed.	No. disallowed.	
Forbes	Barmedman	3	acres. 3,071	£ s. d. 6 0 0	1	acres. 3,360	.....	1	acres. 1,390	.....	1
	" East	.....	.....	.....	.....	.....	.....	1	50	.....	.....
	Condobolin	4	10,716½	10 0 0	4	10,716¼	.....	1	1,920*	.....	.....
	Forbes	3	4,900	8 0 0	1	320	1	1	2,932	.....	1
Goulburn	Grenfell	2	1,432	5 0 0	2	1,432	.....	3	6,450	.....	.....
	Parkes	5	19,392	15 0 0	3	10,382	2	.....	.....	.....	.....
	Boorowa	1	612	2 0 0	1	612	.....	.....	.....	.....	.....
	Braidwood	1	195	2 0 0	1	120	.....	.....	.....	.....	.....
	Goulburn	2	2,420	4 0 0	.....	.....	.....	1	1,528¾	.....	2
	Moruya	1	30	2 0 0	1	30	.....	.....	.....	.....	.....
	Young	1	500	2 0 0	.....	.....	.....	.....	.....	.....	1
Grafton	Casino	1	5,120	3 0 0	.....	.....	.....	1	1,920	.....	1
	Grafton	1	1,920	2 0 0	.....	.....	.....	3	4,840	.....	.....
	Kempsey	1	1,000	2 0 0	.....	.....	.....	.....	.....	.....	1
Hay	Balranald	2	21,400	7 0 0	.....	.....	.....	1	4,000	.....	2
	Deniliquin	.....	.....	.....	.....	.....	.....	1	3,600	.....	.....
	Hay	1	15,000	5 0 0	1	15,000	.....	1	1,280	.....	.....
	Hillston, North	2	20,640	9 0 0	1	6,240	.....	1	560	.....	1
Maitland	Wentworth	4	7,680	8 0 0	2	2,560	1	.....	.....	.....	1
	Cassilis	1	1,280	2 0 0	.....	.....	.....	.....	.....	.....	1
	Muswellbrook	.....	.....	.....	.....	.....	.....	1	259	.....	.....
	Paterson	.....	.....	.....	.....	.....	.....	1	1,920	.....	.....
	Scone	.....	.....	.....	.....	.....	.....	2	820	.....	.....
Moree	Taree	1	8,000	4 0 0	.....	.....	.....	.....	.....	.....	1
	Bingara	.....	.....	.....	.....	.....	.....	2	5,720	1	.....
	Moree	2	36,332	8 0 0	2	36,332	.....	1	3,846	.....	.....
	Warialda	1	2,560	.....	.....	.....	.....	1	1,920	.....	1
Orange	Walgett	10	20,980	23 0 0	9	19,980	1	.....	.....	.....	.....
	Do North	11	52,810	31 0 0	9	46,260	.....	9	88,740	.....	2
	Bathurst	2	3,720	4 0 0	1	1,800	1	.....	.....	.....	.....
	Carcoar	3	2,600	6 0 0	2	1,620	.....	2	1,720	.....	1
	Cowra	1	63¼	2 0 0	.....	.....	.....	1	580	.....	1
	Lithgow	1	280	2 0 0	1	130	.....	.....	.....	.....	.....
	Molong	1	220	2 0 0	1	220	.....	.....	.....	.....	.....
	Mudgee	3	2,554	6 0 0	1	590	.....	2	756¼	.....	2
Tamworth	Rylstone	2	1,784	4 0 0	1	384	.....	1	640	.....	1
	Wellington	5	6,815	11 0 0	2	3,723	.....	1	3,440	.....	3
	Coonabarabran	2	4,900	5 0 0	.....	.....	.....	.....	.....	.....	2
	Narrabri	2	3,744	4 0 0	1	900	1	.....	.....	.....	.....
	Tamworth	5	4,074	10 0 0	.....	.....	2	.....	.....	.....	3
	Wagga Wagga	1	175	2 0 0	.....	.....	.....	.....	.....	.....	1
Wagga Wagga	Gundagai	1	800	2 0 0	.....	.....	.....	.....	.....	.....	1
	Tumbarumba	1	640	3 0 0	.....	.....	.....	1	.....	.....	.....
	Tumut	1	340	2 0 0	.....	.....	.....	1	250	.....	1
	Urana	.....	.....	.....	.....	.....	.....	1	1,800	.....	.....
	Wagga Wagga	.....	.....	.....	.....	.....	.....	2	2,000	1	.....
Grand Total...		170	1,262,111	464 0 0	92	911,147	12	59	373,770	4	64

\* Re-heard.

SCHEDULE XC.

COMPARATIVE Statement of Letters Registered at Head Office during the years 1897 and 1898.

Branch.	Documents Registered.		Increase.	Decrease.	
	1897.	1898.			
Alienation	16,571	17,328	757	.....	
Conditional sales	35,423	32,158	.....	3,265	
Conditional leases	5,566	5,894	328	.....	
Ministerial	15,602	14,273	.....	1,329	
Miscellaneous	16,196	16,518	322	.....	
Miscellaneous leases	15,900	18,026	2,126	.....	
Occupation	14,159	13,423	.....	736	
Rabbit and Labour Settlement	1,163	766	.....	397	
Norfolk Island Papers	650	795	145	.....	
Forest Branch	6,881	5,204	.....	1,677	
		128,111	124,385	3,678	7,404
				Net Decrease, 3,726.	



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## SCHEDULE XCI.

COMPARATIVE Statement of Manuscript Letters, Formal Documents, &c., despatched from Head Office during years 1897 and 1898.

Year.	Manuscript Letters.	Formal Documents, including Printed Letters, Schedules, Executive Council Minutes, <i>Gazette</i> Notices, Books of Reference to Benches of Magistrates, and Plans of Roads to same, &c.		Parcels.	Totals.
		Printed Letters, Executive Council Minutes.	Schedules.		
1897 .....	*30,118	117,947	850	22,410	171,331
1898 .....	†29,936	118,399	957	23,467	172,759
Increase .....	.....	452	107	1,057	1,428
Decrease .....	182	.....	.....	.....	.....
Telegrams sent during 1897 .....					*2,090
Telegrams sent during 1898 .....					†1,691
Decrease .....					399
Circulars sent during 1897 .....					94
Circulars sent during 1898 .....					104
Increase .....					10

\* Inclusive of Norfolk Island Return. † Exclusive of Norfolk Island Return, which is shown separately.

## ADMINISTRATION of Norfolk Island Affairs.

Year.	Registered Papers.	Letters Despatched.	Telegrams.	Totals.
1897 .....	650	292	20	962
1898 .....	795	429	4	1,228
Increase .....	145	137	.....	266
Decrease .....	.....	.....	16	.....

## SCHEDULE XCII.

SHOWING number of Letters and Documents received at and despatched from the Head Offices of the Local Land Boards during the year ended 31st December, 1898.

Land Board District.	Received.	Despatched.			Total No. Despatched.
	No. of Letters and Circulars.	Manuscript Letters.	Formal Documents (Partly printed and partly manuscript)	Parcels (Including Maps, &c.)	
Armidale .....	9,044	3,208	4,843	514	8,565
Bourke .....	5,677	1,755	3,028	489	5,272
Dubbo .....	8,270	892	8,231	137	9,260
Forbes .....	8,428	1,508	6,312	931	8,751
Goulburn .....	12,545	2,066	9,507	324	11,897
Grafton .....	6,514	1,583	3,589	544	5,716
Hay .....	6,523	1,021	4,472	589	6,082
Maitland .....	8,665	1,362	7,900	645	9,507
Moree .....	6,405	659	3,206	370	4,235
Orange .....	10,377	1,103	12,218	317	13,638
Sydney .....	3,065	337	3,287	9	3,633
Tamworth .....	9,169	2,289	7,309	727	10,325
Wagga Wagga .....	13,562	2,110	12,591	661	15,362
Totals .....	108,244	19,893	86,493	6,257	112,243

## SCHEDULE XCIII.

APPROXIMATE Statement of Land Alienated and Unalienated in the Colony on the 31st December, 1898.

1. Area alienated in all forms prior to 1862 .....	acres. 7,146,579
2. Area alienated by auction sale and after auction selection (including sales under deferred payments) from 1st January, 1862, to 31st December, 1898 .....	11,103,899
3. Area alienated by improvement and special purchase during the same period .....	2,799,965
4. Area alienated by conditional purchase during same period for which deeds have issued .....	3,059,191
5. Area alienated under Volunteer Land Regulations of 1867, to 31st December, 1898, for which deeds have issued .....	168,395
6. Area alienated by all other forms during same period, including lands dedicated .....	803,543
Area alienated up to 31st December, 1898 .....	
7. Estimated area of unalienated land in the Colony on the 31st December, 1897 .....	25,081,572 173,556,508
* Estimated area of Colony, 310,372 square miles; or, .....	
8. Area under incomplete conditional purchase up to 31st December, 1898, exclusive of forfeitures, lapsings, cancellations, disallowances, and voidances .....	198,638,080
9. Area comprised in homestead selections in existence on 31st December, 1898, exclusive of forfeitures, disallowances, &c. ....	20,243,738
10. Area converted into homestead selections under section 20, Crown Lands Act of 1895 .....	1,037,227 26,053

\* Includes Lord Howe Island, 50 square miles.

RETURN showing Areas under Several Classifications measured by Licensed

Land Board Districts.	CLASS OF													
	Con- ditional Purchases.	Cri- tional Leases.	Anticipa- tion.	Special Areas.	Country Auction.	Suburban Auction.	Town Auction.	Home- stead Leases.	Special Leases.	Home- stead Selections.	Special Purchases, &c.	Reserves.	School Sites.	Settle- ment Leases.
Arm- dale	No. 88 Area 7,077ac. Cost £535/16 8 Average 1s. 6½d.	65 15,862ac. £663/1 2 10d.		32ac £14 12/11 1s. 1½d.	51 20ac £13/6 8 5s 2½d.		...		5 171ac. £23 11/11 2s 9½d.	46 13,961ac. £345/3 5 5½d.		6 22½ac £36/4 3s. 2½d.	5 15ac. £13/1/9 17s. 10½d.	16 22,951ac. £218/11/- 2½d.
Bourke	No. ... Area ... Cost ... Average ...				4 1,745ac. £30 2 8 4½d.	2 fac £2/8 5s. 6½d.	4 2ac. £4/4 - 10s. 6d	17 126,374ac. £30/4/ ½d.	8 1,628ac. £31,19 3 4½d			14 55,77ac. £128/4/4 5½d	2 5ac. £5 15 6 23s. 1d.	7 25,695ac. £130/7/3 1½d.
Dubbo	No. 71 Area 20,113ac Cost £526/2/5 Average 6½d	45 23,147ac. £166 10/ 4d.			81 18,537ac £730/10 2 9½d.	9 23ac. £15/8/9 12s 5d.	2 fac £3/18/10 £157 8s.		42 4,015ac £162 8/10 9½d.	5 4,800ac. £56 - 5 2½d.		9 2,699ac. £81/17 1 7½d.	4 17ac. £19/16 2 11s. 6½d.	77 153,830ac. £1,112 17/8 1½d.
Forbes	No. 42 Area 14,960ac. Cost £325/18 Average 5½d.	8 3,660ac. £72 5/- 4½d.		2 649ac. £53/7 1s. 7½d.	54 6,827ac. £370/0 2 1s 1½d	54 63ac £68/12 5 21s. 9½d.	145 47ac £53 7/4 5s. 5½d.		11 1,732ac. £55 1/4 7½d.	98 6,414ac £95/8 3 3½d		20 5,818ac. £165 14 2 6½d	13 11ac. £33 15 3 11s. 1½d.	48 79,180ac. £709/5/8 2½d.
Goul- burn	No. 29 Area 2,545ac. Cost £255 11/5 Average 2s.	20 5,02ac. £311 2 9 1s 0½d.			5 72ac £42/2/10 2s. 1½d.				15 954ac. £110/13 6 2s. 3½d.	12 574ac £66 15/3 2s. 5½d		6 314ac. £21/18 3 14s. 0½d.	4 131ac. £11 3/2 16s. 6½d	
Grafton	No. 49 Area 3,236ac Cost £507/9/1 Average 3s. 1½d.	18 2,562ac £229/2/9 1s 5½d.		9 1,140ac. £81/0 5 1s. 5½d.	2 25ac £4/4/6 3s. 0½d	33 148ac. £98/14/2 18s. 4d.	269 66ac. £149 8/4 45s. 3½d.		24 1,205ac. £161/5/11 2s. 6½d.	16 5,173ac £168/8 8 7½d		10 537ac. £54 6 4 2s 0½d.	15 40ac. £51,7/ 25s. 8d	
Hay	No. 20 Area 4,442ac Cost £14/8 5 Average 7½d.	10 8,040ac £115,8 - 3½d.			11 2,622ac. £79/11/- 7½d.			12 75,398ac. £422/11/ 1½d	1 £2/1/2	36 21,783ac. £438 17/10 4½d.		3 94ac. £11 8 2s 8d.	4 17 £11/19/6 11s 1d.	17 28,819ac £308/15 - 2½d.
Mait- land	No. 42 Area 3,138ac Cost £304/14/4 Average 1s. 11½d.	19 5,100ac. £225/4/9 10½d.			40 1,735ac. £233/17/- 2s. 8½d.	23 110ac. £61/19/5 10s 8½d.	52 24ac. £61 3/0 50s. 11½d.		6 72ac. £27/8/6 7s 7½d.	23 8,260ac. £258/8 8 7½d.		22 326ac. £87/5/9 5s. 4½d.	1 2ac. £2 15 0 27s. 6d	
Moree	No. 29 Area 19,550ac. Cost £418/17/9 Average 5½d.	22 22,441ac £322/1/- 8½d.		5 2,258ac. £64/4/5 6½d			3 1ac. £2/2/4 42s 4d.	1 7,534ac £29/18/- 0½d.	61 5,773ac. £22/19/10 1s. 0½d.	7 7,933ac. £91/12/6 2½d.		14 3,582ac. £117/16/3 7½d.	109 279,884ac. £2,351/19/9 2½d.	
Orange	No. 83 Area 9,398ac Cost £627/18/10 Average 1s. 4d.	63 18,730ac £256 17 2 9½d		2 340ac. £18 17 9 1s. 1½d.	29 43ac £112 6/11 5s 1½d	7 14ac £17 12/8 25s. 2½d.	134 45ac. £118/13 5 82s 8½d.		15 1,292ac. £12 19/6 1s 10½d.	27 8,662ac. £ 06 13 5 1d	1 fac. £2 2 - £52 10s	8 503ac. £3/19/5 1s 4½d	9 24ac. £26 5 2 15s 5d.	4 10,425ac. £79 14, 5 1½d.
Sydney	No. 19 Area 1,591ac. Cost £193/12, 3 Average 3s.	5 514ac. £59/18/- 2s. 4d			12 272ac £120 0 6 8s 3½d	436 1,207ac. £489/13/4 1s. 7½d.	171 142ac. £167 2 3 23s 6½d.		29 62ac £214/9/10 4½d	35 516ac £15 1 - 8 5s 1 d.	6 207ac. £40/15/10 39s 1½d.	18 1,036ac £167/18/10 2s. 0½d	3 3½ac. £15 15 96s. 11d	
Tam- worth	No. 70 Area 9,866ac. Cost £491/10, 3 Average 11½d.	47 10,264ac. £506 12, 4 6d.			16 92½ac. £58 7 2 1s. 3d	55 502ac. £.01,15 7 4s 0½d	143 52ac. £78/3 6 3s. 0½d		2 31ac. £910 13, 2 7s 8½d.	121 42,620ac. £910 13, 2 5½d.		24 4,504ac. £20/4/3 8d.	1 2ac. £2 0 7 20s. 3½d.	61 175,181ac. £1,199, 8, 2 1½d.
Wagga Wagga	No. 62 Area 10,536ac. Cost £431/7/9 Average 9½d.	20 6,353ac £237/14/- 9d.		15 3,600ac £107/1 6 8½d	42 6,275ac £3-8 2/ 1s 1½d.	158 171ac. £116/14 10 13s. 7½d	85 42ac. £64/5/4 30s. 7½d.	1 290ac. £11/12/- 9½d	11 634ac £53/16 5 1s 8½d.	328 161,445ac. £2,517/16/2 3½d.		15 3,684ac. £2/4/4 6d.	13 37ac. £.8/0 7 15s 5d.	6 6,220ac. £110/11/ 4½d.
Total No.	602	251		36	347	777	548	31	2 0	754	7	169	74	345
Total Area ...	106,112ac.	137,608ac.		7,419ac.	40,157ac.	2,255ac.	427½ac.	1209,596ac.	18,535ac.	344,178ac.	21ac.	29,325ac.	247ac.	787,185ac.
Total Cost	£4763/17/10	£3965,16 11		£339/16/7	£2,239/3/7	£978/0/10	£732/0/1	£769/5/-	£1,271/9/4	£6,280/1/5	£42/17/10	£1,155/1/-	£211,15 8	£6,221/9,11
Average .....	10½d.	6½d.		10½d.	1s. 1½d.	8s. 7½d.	3's. 3½d.	½d.	1s 4½d.	4½d.	40s. 10½d	9½d.	17s. 1½d.	1½d.

XCIV.

Surveyors on Fees during the year 1898.

MEASUREMENT.

Miscellaneous.	Exchange Areas.	Improvement Leases.	Clearing Scrub Lands	S. rub Leases.	Total for 1898.	Total for 1897.	—	Roads, 4 Wm IV. No. 11.	Alignments.	Feature, Geographical.	Boundaries, Pastoral Holdings.	Miscellaneous.	Total for 1898.	Total for 1896.
7 132ac. £32/11/4 4s. 11½d.	46 7,589ac. £447/9/9 1s. 2½d.	1 3,800ac. £267/1 1½d.			337 72,105ac. £2450/3 7 8½d.		No. Length Cost Average	24 2,171chs. £147/10/4 1s. 4½d.		1 846chs. £32/15/1 9½d.		10 4,300chs. £105/8/4 6d.	35 7,317chs. £285/13/9 9½d.	...
8 6ac. £14/3/3 47s. 2½d.	4 2,114 ac. £367/10 4½d.	6 337,553ac. £470/5/10 ½d.	..	..	76 500,714ac. £1,159/3/7 ½d.	..	No. Length Cost Average	2 3,682chs. £163/9/2 10½d.			2 5501chs. £214/1/5 9½d.	2 418chs. £7/15/3 4½d.	6 9,596chs. £385/5/10 9½d.	..
1 15ac £9/19/9 13s. 4d.	28 31,111ac. £391/14/2 3d.	1 33 £37/9 2s. 0½d.			375 268,354ac. £3,571/7/- 3½d.		No. Length Cost Average	4 1,653chs. £110/0/7 1s 4d.				4 678chs. £25/4/6 8½d.	8 2,331chs. £135/5/1 1s 1½d.	..
12 26ac. £37/13/5 29s.	55 28,742ac. £542 10/4 4½d.	12 71,678ac £201 9 1 ½d.		5 86,407ac. £118/5 5 ½d.	579 365,278ac £3,804/9/10 2½d.		No. Length Cost Average	9 2,102chs. £119/7/9 1s. 1½d.			1 236chs. £15/14/9 1s. 4½d.	2 836chs. £14 3/6 4d.	12 3,174chs. £149/6/- 11½d.	..
11 15½ac. £28/3/9 35s. 9½d.	1 40ac. £5,3 2s. 7d.	1 98ac. £9 1s. 10d.			113 10,566ac £864/16/11 1s 7½d.		No. Length Cost Average	9 687chs. £55/14 9 1s 7½d.				5 367chs. £24/3/6 1s. 3½d.	14 1,064chs. £79/18/3 1s. 6d.	..
10 13ac. £31/12/4 48s. 7½d.	6 4,753ac. £233/8/2 11½d.	2 28,500ac £129/14/9 1½d.			403 47,481ac. £1,900/17/ 9½d.		No. Length Cost Average	27 3,928chs. £474/11/1 2s 5d.				4 518chs. £24/4/2 11½d.	31 4,446chs. £495/15/3 2s. 2½d.	..
	22 5,0 11ac. £203/11/ 9½d.	19 145,984ac £407 2/8 ½d.			148 265,206ac £2145/13/10 1½d.	..	No. Length Cost Average	5 4,688chs. £234/12/3 1s 1½d.		1 1,875chs. £49/1/- 6½d.			6 5,961chs. £283/13/3 11½d.	..
6 4ac. £11/16/4 59s. 1d.	11 1,525ac. £76/18/10 1s. 0½d.	5 1,105ac. £46/19/ 10½d.			250 21,416ac. £1,398/11/4 1s. 3½d.		No. Length Cost Average	20 3,213chs. £250/5/8 1s 8½d.		2 712chs. £29/17/11 10d.		4 810chs. £30/13/3 9d.	26 4,735chs. £340/16/10 1s 5½d.	..
..	89 53,920ac. £1,187/16/4 5½d.	2 4,332ac £31/9 8 1d.			342 407,221ac. £4910 17/10 2½d.		No. Length Cost Average	10 5,034chs. £357/16/8 1s. 5d.		1 2,812chs. £114/7/3 9½d.		2 124chs. £8/12/9 1s. 4½d.	13 7,970chs. £40 16 8 1s 2½d.	..
28 276ac £109/16/10 7s. 11½d.		1 4 650ac £17/15 7 d.			411 54,895ac £2,357/13/1 10½d.		No. Length Cost Average	5 145chs. £14 8 3 1s. 11½d.		7 6,757chs. £235 8/4 10½d.		4 678chs. £24/3/5 8½d.	16 7,580chs. £324/5/- 10½d.	..
5 55ac. £34/1/4 12s.					749 6,639ac £1,061/3 3 4s 11½d.		No. Length Cost Average	18 1,176chs. £140/5 - 2s. 4½d.		7 682chs £133/13/7 3s 11d.		5 305chs. £22 2/4 1s 1½d.	34 5,320chs. £447/9/9 1s. 8d.	..
4 65ac. £12/6/- 3s. 9½d.	52 20,728ac. £552/4/9 6½d.	12 55,247ac £155/7 6 ½d.			608 328,989ac £4230/12/9 3d.		No. Length Cost Average	11 1,319chs £79/11/ 1s. 2½d.		11 10 345chs £33 8/10 7½d.		1 1,114chs. £39/1/ 8½d.	23 12,778chs. £42/0/10 8½d.	..
31 430ac. £146/16 11 6s 10d.	59 32,675ac. £640/13/ 4½d.	4 13,840ac £50/1/8 ½d.			849 245,762ac £4,967/14/6 4½d.		No. Length Cost Average	11 2,705chs £151/15/3 1s 3½d.		9 5,116chs £207/11/11 1½d.			20 7,421chs. £359/7 2 11½d.	..
123 1,032ac. £468/1/3 9s. 0½d.	372 189,207ac. £4,317/17/2 5½d.	59 666,920ac. £1,552/0/8 ½d.		5 86,407ac. £118 5/5 ½d.	5,240 2,625,645ac £35,422/9/6 3½d.		Total No Total Length Total Cost Average per chain	155 31,511chs. £2,329/7/9 1s. 5½d.	7 682chs. £133/13/7 3s. 11d.	36 31,541chs. £1,203/19/2 9½d.	3 5,737chs. £229/16/2 9½d.	43 10,231chs. £325/17/- 7½d.	244 79,702chs. £4,222/13/8 1s. 0½d.	..

## Report of the Chief Surveyor to The Under Secretary for Lands.

Sir,

Department of Lands, Sydney, 31 January, 1899.

I have the honour to submit for your information a brief statement of the Field Staff of this Department, and a report of the services performed in the Survey Branch of the Head Office for the year 1898.

Permanent field staff.

The permanent field staff of the General Establishment, and the Trigonometrical Survey, numbered in all 63 officers, viz. :—13 district surveyors, 36 surveyors, 8 assistant surveyors, 4 field assistants, and 2 piling overseers.

Promotion.

Mr. J. Lindsay, the senior assistant surveyor, was promoted to the position of surveyor.

Dismissal.

One surveyor was dismissed from the service of the Department during the year.

Contract surveyors.

The number of surveyors licensed for survey of Crown lands in this Colony is 618, of whom 128 are in salaried service of the Government, leaving 490 available for employment; of these only 73 were engaged on contract surveys for this Department, the total amount of their earnings being £41,402. In many cases the employment was of casual character.

Inspection of contract surveys.

Forty-three reports of inspection of surveys performed under contract were received. In 10 cases the inspecting officers reported that the surveys were not up to the standard prescribed by the Departmental Survey Regulations.

Licenses under the Real Property Act.

Licenses under the 100th section of the Real Property Act were issued to 85 surveyors after consideration by the Registrar-General and the Chief Surveyor (as a Board); the annual license fee of £1 1s. was paid, except in three special cases. Two first licenses were also granted.

Investigations for the Registrar-General.

Twenty-eight applications for certificates of title under the Real Property Act were referred to this Department by the Registrar-General for report as to any objections to the issue of the certificates; 5 cases as to alleged errors in surveys were also referred for investigation. After inquiry had been made in each case the results were communicated to the Registrar-General.

## BOARD OF EXAMINERS FOR LICENSE TO SURVEY CROWN LANDS.

Simultaneously, and under like conditions with the Boards in the colonies of Western Australia, South Australia, and Victoria, the Board of Examiners at Sydney, in September, held an examination of candidates for license to survey. Eight candidates were examined, of whom the following were recommended for license as surveyors, viz. :—William Kennedy, Norman Eric Lowe, Ernest Percival Cotton, Frank Wearne, William Henry Wearne.

In October the Board met for the examination of one of the candidates, part of whose examination had been postponed from the September meeting. The candidate was not recommended to be licensed.

In December the Board met for the completion of examination of William Wade, one of the candidates, whose examination in September had been interrupted by illness. He was found to be qualified, and was recommended for a license.

## TRIGONOMETRICAL COMPUTING BRANCH.

Field-books of angles at the following stations have been received, viz. :—Cooma, Bowning, Barren Jack, Bobbara, Marina, Rock Lodge, and Muttama, observed at with 18-inch theodolite; and at Black, Waalimma, Delegete, Tingi-Ringi, Black Jack, Tombong, Substitute, Ben's Peak, Bungarby, Nimbi, Kerlewis, Thredbo, and Munyang, where the measurements were made with 10-inch theodolites. The contents of all these field-books have been examined, reduced, and entered in the record-books, while the calculations of triangles and of the co-ordinate positions have been made wherever the field work has been completed, and, in certain cases where special demand arose, in anticipation of its completion.

There has been recomputation of the triangulation of the county of Camden, and the final reduction of the survey of the county of Auckland has been made; the former work has been entered in duplicate. Provisional calculations of other parts of the survey have been effected for the purpose of furnishing data for the map-compiling and other branches.

Notes of astronomical observations of azimuth at Cooma, and of azimuth and latitude at Bobbara, have been received. The observations at Wolunla, Glenbog, Tathra, Cooma, and Bobbara have been finally reduced, though the entry of some of the computations has not yet been made.

The comprehensive reduction of the heights of the whole of the stations of the southern system, an opportunity for making which it was hoped would be afforded during the year, has not yet been made, owing largely to the necessity which arose for the employment elsewhere of the assistant computer, who was absent during ten and a half months of the year. The need for this work has, however, been kept in view, and steps have been taken to enable it to be rapidly carried through as soon as it can be entered on.

Particulars have been prepared for a supplement to the register of main stations, which will include all the information made available since the publication of that work in 1895. It is expected that this supplement will be issued early in the current year.

Comparison of the accompanying map with that appended to last Annual Report will indicate the progress made during the period under notice.

The condition of the stock of surveying and other instruments belonging to the Department has been carefully attended to, and all repairs required to keep the instruments in serviceable order have been made.

## TRIGONOMETRICAL SURVEY.

The Surveyor-in-charge of Field Operations, Mr. J. Brooks, F.R.A.S., F.R.G.S., and Mr. F. J. Gregson, surveyor, have been engaged on this work; there have been two piling parties employed continuously, and a third party temporarily for three months. The weather generally has been favourable for observing, and the work done comprises the determination of seven first-class stations and twelve second-class stations, besides revisiting three other second-class stations. There have been seventy-six new stations

stations formed, twenty-eight reserves at trigonometrical stations measured, and 95 miles of connection traversed. Two series of check levels were run about 10 miles, viz., from Mundoonen and Breadalbane respectively to bench marks on the Southern railway.

Mr. Brooks' report, being a review of the year's service, is attached as an Appendix.

The trigonometrical survey becomes more important year by year, especially to enable the compilation of maps for the various purposes of Government. In connection with land tax assessment maps of more perfect character are needed, and, in order that compilation of maps shall proceed on an economical basis, it is necessary that this survey shall be extended as rapidly as possible. I understand that the Minister has approved of a third piling party, and this addition to the staff will enable the services of the two surveyors now engaged to be applied effectively in the extension of the survey into new country.

The Chief Draftsman has prepared the following synopsis of the service performed in the Drafting and Lithographic Branches of this office.

#### CHARTING BRANCH.

With the exception of auction, which shows a considerable increase for the year, the work dealt with in Charting Branch during 1898, is about the same in volume as that disposed of during the previous twelve months.

1,437 auction cases were disposed of, and 181,531 acres scheduled for disposal; against 658 cases dealt with, and 65,379 acres scheduled in 1897.

The boundaries of the Police, Petty Sessions, Licensing, and Circuit Court Districts, which were adjusted during 1897, were gazetted early in 1898. The preparation of a colony map showing these boundaries, together with those of the District Court Districts is in hand, and has been expedited as much as possible.

Practically the same number of exchange cases passed through the branch as in 1897, viz., 1,453.

Of the 337 Central Division Pastoral Leases which had expired by the end of 1898, 273 have been finally dealt with (49 during 1898). Action on the remainder is well on the way towards completion. With the exception of a few cases, the Central Division Leasehold Areas which expire up to the end of 1900, are now with the district surveyors for reports as to the disposal of the available Crown lands for new settlement.

3,456 plans and tracings were charted at an expense of £215 1s.

The index to the new register of reserves is being type-written, and the two first volumes representing 926 pages have been bound ready for use.

Extra assistance had to be put on to the work of revision of plans for deed purposes; 3,535 plans and 978 certified copies were examined and noted, besides other cases incidental to this class of work being disposed of.

The time of one draftsman has been exclusively occupied since April with work in connection with Norfolk and Lord Howe Islands.

The record register of the branch shows the receipt of 11,066 registered papers during 1898, made up as follows:—

	1898.	1897.
Alienation ... ..	4,348	3,955
Miscellaneous ... ..	3,933	4,009
Conditional sales ... ..	1,459	2,871
Leases ... ..	91	323
Miscellaneous leases ... ..	672	657
Ministerial ... ..	37	54
Occupation ... ..	488	281
Roads, &c. ... ..	38	38
Total ... ..	11,066	12,188

Besides the above, 101 unregistered papers were received.

The work dealt with under the different headings during 1898 and 1897 is as follows:—

	1898.	1897.
Papers in Branch, 31st December ... ..	534	1,028
Auction cases in Branch, 31st December ... ..	86	461
Exchange cases dealt with ... ..	1,453	1,454
Plans and tracings charted ... ..	3,456	3,140
Area scheduled ... ..	181,531 acres.	65,379 acres.
Papers of all classes disposed of ... ..	10,788	11,666
Auction cases dealt with ... ..	658	1,437

#### COMPILING BRANCH.

*Miscellaneous Division.*—During the first half of the year the whole staff of the branch was employed on parish map compilation, to enlarge the output of these very useful maps; but during the last half of the year only four draftsmen have been employed upon that work.

After this Division entered on parish map compilation as a temporary arrangement, the following counties were completed in respect of standard parish maps, viz., Ashburnham (part), Brisbane (part), Roxburgh (part), Georgiana (part), Wallace, Bathurst (part)—numbering 136 new standard parish maps. Parishes in county of Jamison are now in hand.

The county map work, put on one side during 1897, has now been taken up again.

In regard to town map work, only such towns that were urgently required could be put in hand.

A large amount of miscellaneous work has been done during the year, principally in connection with preparation of maps illustrative of tenure of land adjacent to projected railway lines, for the Public Works Committee.

New compilations of the following county maps have been completed:—Ashburnham, Hume, Goulburn, Taila, Tandora, and Narran—the last three with references.

Standard map prepared for new edition—Cowper, and new reference sheets.

Compilations

Compilations of the following county maps were in hand on 31st December, 1898, viz., Monteagle, Phillip, Gough, Pottinger, Georgiana, King, Selwyn, Cowley, Hardinge. Maps of the towns of Forbes and Byron Bay, and of the villages of Manildra, Uralba, and White Cliffs, have been compiled and drawn, and the map of the village of Narromine was in hand at 31st December, 1898. Maps have also been prepared from surveyors' plans for the villages of Bulgandra, Illabo, McMahon, Woolabra, Boyd, Bogan-gate, Bywater, and Bodangora: and standard maps have been prepared for new editions of the towns of Bourke, Coonabarabran, Wyalong, Junee, Condoulin, Hill End, Tamworth, Quirindi, Liverpool; and also of the village of Mt. McDonald and environs; and part of the environs of Young for auction sale purposes.

The Land Board District maps of Forbes and Sydney have been revised for new editions.

Twenty-six plans, representing 164 miles of feature and connection surveys have been charted.

In addition to the above, a large amount of miscellaneous work has been done.

*Parish Map Division.*—In this Division there have been 238 new compilations made, and 146 standard maps charted up for new editions. The total number of maps issued by the Division during the year is 433, which is in excess of any previous record. 4,362 heliographs were prepared during the year.

Owing to temporary transfers and unfilled vacancies, neither of these Divisions has had its full complement of officers continuously throughout the year.

#### LITHOGRAPHIC BRANCH.

The preparation of lithographs, to be used in promoting settlement under the Crown Lands Act of 1895, continues to engage a large share of attention in this branch; and all necessary information has been satisfactorily supplied on the 408 plans printed for the purpose.

The following returns show the details of lithographic operations for the year.

##### *Counties.*

County maps show measured areas, roads, reserves, features, and all other information which is capable of delineation on a scale of 2 miles to an inch; they are published at 5s. per copy.

Nine county maps were lithographed during the year, comprising 1,300 printed copies:—

Baradine	Finch	Robinson
Canbelego	Gresham	Roxburgh
Cooper	Narromine	Tandora

##### *Towns.*

Town maps show the general design, measured lands, and names of purchasers thereof, reserves and dedications within town and suburban limits. They are usually photo-lithographed from compilations prepared at this office, or from the surveyors' original plans, to the scale of 4 or 8 chains to an inch, and sold at 1s. per copy.

Twenty-four town maps were lithographed during the year, comprising 2,450 printed copies:—

Bodangora	Carpina	Junee	Quirindi
Bogangate	Coolah	Liverpool	Tamworth
Boyd	Coolamon	Manildra (two	The Peak
Bulgandra	Fiefield	editions)	Woolabra
Byron Bay	Gladstone	McMahon	White Cliffs
Bywater	Illaboo	Mulwala	Yass

##### *Parishes.*

Parish maps are compiled to a scale of 20 chains to an inch for office use, and then, with few exceptions, reduced to 40 chains scale for publication and sale at 1s per copy.

Five hundred and thirty six parishes were lithographed during the year, comprising 47,202 printed copies.

##### *Auction Sale and Surveyors' Plans.*

Eighty eight plans of lands measured for auction were lithographed for use at auction sales during the year, comprising 9,654 printed copies.

##### *Miscellaneous.*

This class of work principally comprised the following items, viz.:—408 plans for homestead selection, settlement lease, improvement lease and occupation license purposes; 3 maps in connection with "scrubbing" in the West Bogan country; 8 maps of Land Board Districts; 5 maps of travelling stock reserves, Bogabri to Rylstone (sheet 4), Moree to Sydney (sheet 1), and Mungindi to Moree (sheets 1, 2, and 3); general map of New South Wales in 9 sheets (8 miles scale); map of New South Wales showing pastoral holdings, &c. (16 miles scale); map of New South Wales showing travelling stock routes, &c. (32 miles scale); map of New South Wales showing all divisions for purposes of Crown Lands Acts (32 miles scale); map of New South Wales showing land districts (48 miles scale); 3 maps illustrating Annual Report of the Department of Lands for 1897.

Four hundred and forty eight miscellaneous maps and plans were lithographed during the year, comprising 111,121 printed copies.

##### *Other Departments.*

Maps, plans, and diagrams have been printed for the Department of the Chief Secretary, Public Works, and Railway Commissioners, comprising 4 maps of New South Wales; map showing principal railway systems of Australia; chart of part of coastline of New South Wales, to accompany the report of trawling expedition; 7 sheets of the detail survey of city of Sydney and suburbs; maps of Lake Illawarra and Lake Macquarie; 2 sheets of drawings of plain beam bridge details, &c., &c.

Eighteen maps, plans, and diagrams were lithographed during the year, comprising 17,170 printed copies.

*Official*

*Official Forms.*

These forms comprise circulars, forms, decisions, and memoranda required for use at head-quarters and at country offices, and are printed in this branch, with the exception of those which can be more economically produced at the Government Printing Office.

Eighty-seven (87) official forms were lithographed during the year, comprising 62,140 printed copies.

*Comparative Summary for 1897 and 1898.*

Map, Plan, or Document.	1897.		1898.	
	No. of Separate Maps.	No. of Copies Printed.	No. of Separate Maps.	No. of Copies Printed.
Countries .....	24	4,956	9	1,300
Towns .....	20	2,200	24	2,450
Parishes .....	375	32,171	536	47,202
Auction Sales and Surveyors' Plans .....	184	7,208	88	9,654
Miscellaneous .....	493	105,023	443	111,121
Other Departments .....	23	42,559	18	17,170
Official Forms .....	86	51,335	87	62,140
Totals.....	1,205	245,452	1,210	251,037

*Contracts.*

Contracts for lithography have been completed during the year in value to the amount of £179 15s.

## ROADS BRANCH.

The Roads Branch inquires into applications for survey and opening of roads through alienated land and Crown land held under lease, and deals with correspondence relating to roads and streets matters in general—*e.g.*, complaints of obstruction of roads, objections to proposed roads, and claims to compensation. The plans of roads are examined, catalogued, and approved in the District offices, and then forwarded to this branch, where proceedings are taken under the Public Roads Act.

The Public Roads Act of 1897, which became law on 30th June, 1897, repealed previous Acts relating to the opening and closing of roads, the granting of compensation, &c., &c., and since the date named, all new cases which come within the scope of that Act have been begun and proceeded with under its provisions. Afterwards the roads are charted upon office plans and maps, and fully noted copies of the plans are furnished to the Department of Public Works and to the Registrar-General.

If terms as to compensation for opening of roads cannot be equitably arranged with the land-owner, the matter is referred to the Land Board; and the Board's appraisal is then considered, and the compensation, whether in land or money, is, if unobjectionable, recommended for consideration of the Minister, and, after approval, action to grant or to add the compensating areas to incomplete purchases is taken in this Branch.

Plans of streets surveyed for alignment on the applications of municipal councils are examined, catalogued, and approved in District Survey Offices, then forwarded to this Branch where the cases are prepared for submission to His Excellency the Governor for approval of the proposed alignments. The Public Roads Act of 1897 legalises the performance of alignment surveys by the Crown on application being made by municipal councils, the establishment of alignment under the Governor's authority, and it also gives power to alter the alignment of streets which have previously been aligned.

Applications for permission to erect public gates under Act 39 Victoria No. 10 are considered and dealt with. The powers of the Public Gates Act have been extended by the Public Roads Act of 1897.

Applications for purchase of unnecessary roads receive preliminary consideration, and descriptions, &c., are prepared for gazetta, subsequent action is taken in Alienation Branch. The Public Roads Act of 1897 repealed the 67th section of the Crown Lands Act of 1884, and, since the 30th June, 1897, action to close and alienate unnecessary roads has been taken under the Public Roads Act.

During the year, 511 applications for survey of roads and streets were received and dealt with; also 358 surveyors' reports (exclusive of reports transmitting plans of surveys); 309 road plans, showing 728 miles of road surveyed; 10 alignment plans, showing 20 streets as marked for alignment of carriage-ways and footways; 54 applications for permission to erect 113 public gates; 189 applications for purchase of 245 unnecessary roads; and 355 objections and claims with regard to road and street surveys.

Information has been furnished for 3,938 letters in reply to communications and inquiries from members of the public with regard to roads and streets matters. There were 7,682 papers registered during the year, which, together with 782 papers relating to roads registered in other branches, make a total of 8,464 papers received and dealt with. In 178 cases action has been taken to grant Crown Land or unnecessary roads in compensation for land resumed under 42nd section of the Crown Lands Act of 1889 and Public Roads Act of 1897.

## OCCUPATION DRAFTING BRANCH.

In addition to the ordinary work confirmations and disallowances of conditional purchases and homestead selections are at present being noted by this branch.

Five surveys of pastoral holding boundaries have been effected as against eleven in 1897, but the mileage surveyed shows a slight increase. Seventy-seven miles twelve chains (77m. 12c.) were surveyed, towards the cost of which the pastoral lessees paid the sum of £99 7s.

The number of parish maps chartered with holding boundaries shows an increase, the numbers being 365 and 450 for 1897 and 1898 respectively.

In 848 cases it was found necessary to adjust the areas and rents of occupation licenses and pastoral leases, consequent upon the withdrawals from and reversions to the areas.

In 150 instances a thorough investigation of the area under review was found to be expedient.

Notifications of withdrawals from ten leaseholds in the Central Division were published in the *Government Gazette*, covering an area of 193,683 acres, of which 175,400 acres were withdrawn from seven leaseholds during the year. Withdrawal from the remaining three will not take effect until the year 1899.

Miscellaneous business in connection with offering fifty-eight blocks as improvement leases, embracing an area of 286,317 acres of the West Bogan country, cleared by the Government for settlement purposes, has been carried out in this branch.

A new edition of the Colony map, showing pastoral holding, &c., has been completed and published with a numerical and alphabetical index.

Two hundred and forty-two occupation licenses and lots have been prepared for sale by auction or tender, and 150 new occupation licenses have been sold and noted on maps.

Two hundred and fifteen homestead, improvement, and other leases have been charted on office maps, and 317 plans noted.

One thousand and thirty-eight illustrative tracings and lithographs have been prepared.

Seven hundred and twenty-four oyster lease cases have been dealt with.

Two thousand seven hundred and sixty-two papers were recorded in the Branch, as against 1,312 in 1897.

#### MISCELLANEOUS CONTRACT BRANCH.

There were 4,305 drawings prepared and issued from this branch, a slightly larger number than for the previous year. Three hundred and eighty-six of these were maps of areas set apart for settlement under the provisions of the Act of 1895; 349 for illustration of exchange proposals; 119 standard tracings of plans of roads and streets, and seventy-three plans for notation purposes. Four or five sketches and tracings were made for the use of Inspectors in connection with the Conditional Purchasers Relief Act. Five hundred and ten diagrams for oyster leases have also been prepared.

#### PLAN RECORD BRANCH.

Approximate number of plans entered in books at end of the year ... ..	280,832
Approximate number of plans issued to and returned from officers in Lands and Mines Departments, Sydney ... ..	156,073
Cancelled maps received ... ..	786
Plans sent to plan-mounter ... ..	429
Issued to Inquiry Branch...! ... ..	570
Exhibited at counter ... ..	6,584
Surveyors' Field-books in custody ... ..	7,389
Plans despatched to District Survey Offices ... ..	16,934
Plans returned from District Survey Offices ... ..	18,305
Applications from District Survey Offices (registered) ... ..	3,123
Memoranda returning plans from District Survey Offices (registered) ... ..	1,559
Draftsmen's memoranda to District Survey Offices for plans ... ..	1,775
Certified copies received from District Survey Offices ... ..	3,514

#### PLAN-MOUNTING BRANCH.

The work performed comprises:—Plan-mounting, 13,759 pieces; rollers, varnishing, corners, lists, and miscellaneous, 819 pieces; binding, 181 pieces; parcels post, 681 pieces; total, 15,390 pieces.

#### CORRESPONDENCE AND RECORD BRANCH.

The duties performed in this branch during the year are shown hereunder:—

Papers received from other branches and dealt with ... ..	12,977
Papers, plans, &c., received by post ... ..	1,056
Instructions recorded and issued to surveyors... ..	1,732
Reports received from surveyors and recorded ... ..	1,390
Letters written and despatched ... ..	940
Memoranda, tracings, lithographs, plans, &c., sent to surveyors ... ..	6,677
Minutes written to the Under Secretary ... ..	920
Ministerial decisions noted ... ..	485
Telegrams written and despatched ... ..	104

Leave registers showing all leave of absence granted to the field and office staffs of the Survey Branch of the Department are kept in this branch.

I have the honor to be,

Sir,

Your obedient servant,

E. TWYNAM.



## APPENDIX.

The Surveyor in charge of Field Operations, Trigonometrical Survey, to The Chief Surveyor, forwarding Annual Report for the year 1898 :—

99/3

Trigonometrical Survey Camp, Moatefield,

Sir,

11 January, 1899.

I have the honor to submit the following report on the progress of the Trigonometrical Survey during the year 1898.

The westerly extension of the main triangulation was commenced by observations at Bowning Trigonometrical Station, and during the year I was employed mainly in the county of Harden. The Surveyor in charge.

The 18-inch altazimuth was used at Bowning, Barrenjack, Bobbara, Marina, Rock Lodge, Muttama, and Burra trigonometrical stations, and the 10-inch theodolite was used at second-class stations Black, Mimbi, and Jindalee.

It will be seen that, on the whole, the weather was favourable for observing, as, including shifting camp, &c., an average of a little over five weeks was spent at each station.

Astronomical observations were made at Bobbara, Rock Lodge, and Burra trigonometrical stations.

Three thousand five hundred and thirty-four horizontal angles were measured with the 18-inch altazimuth, and 1,012 observations with the 10-inch theodolite. Two hundred and twenty-seven stars were observed for azimuth, 234 stars for latitude, and 30 stars for time, the stars for these observations being selected and the programmes prepared in camp.

Vertical observations were made at each of the ten stations named, 926 observations being obtained.

Magnetic declination was also determined at each of those stations, using the needle on a 6-inch theodolite.

During the year, camp was moved a distance of 239 miles; and flying camp, horses or vehicles, 2,235 miles.

The difference of height between a railway bench-mark and the trigonometrical station was determined at Wilkie and at Jindalee; and with respect to the latter, I am waiting for a redetermination of the height of the bench-mark connected to before sending in the sketch.

Mr. Surveyor F. J. Gregson visited Tingi Ringi, Substitute, and Numbla trigonometrical stations to observe the stations which had been formed since I visited them, and he completed nine second-class stations, using a 10-inch theodolite, viz., Waalimma, Delegete, Black Jack, Tombong, Ben's Peak, Bungarby, Kerlewis, Thredbo, and Munyang. F. J. Gregson, Surveyor.

He measured 3,201 horizontal angles, and 1,056 vertical angles, and measured ten reserves, and traversed connections 319 chains. Magnetic observations were made at these stations.

Wullwe trigonometrical station was in course of observation at the end of the year, but was not completed by the 31st December.

He moved full camp a distance of 519 miles, travelled on duty 114 miles, and his men travelled 5,743 miles for the purpose of fixing screens, &c.

Mr. Piling-Overseer J. Healy was engaged in counties Harden, Bland, and Monteagle, and formed thirty-six new stations, measuring six reserves and connections (1,986 chains), where necessary. Piling Overseers. J. Healy.

He moved full camp 421 miles; flying camp 901 miles; travelled on duty 2,810 miles, and was employed sixteen days at office work.

Mr. Piling-Overseer R. C. Gordon was engaged in counties Cowley, Wynyard, Buccleuch, and Selwyn. R. C. Gordon.

He formed thirty-one new stations, and measured seventeen reserves, and connections, where necessary, 4,516 chains. He moved full camp 569 miles; flying camp 281 miles; travelled on duty 4,975 miles, and was employed at office work about sixty-five days during year.

The services of Mr. Licensed-Surveyor A. Dewhurst were available as Piling Overseer for three months, during which time he formed nine stations, measuring reserves at five of them, and connections, 842 chains. A. Dewhurst.

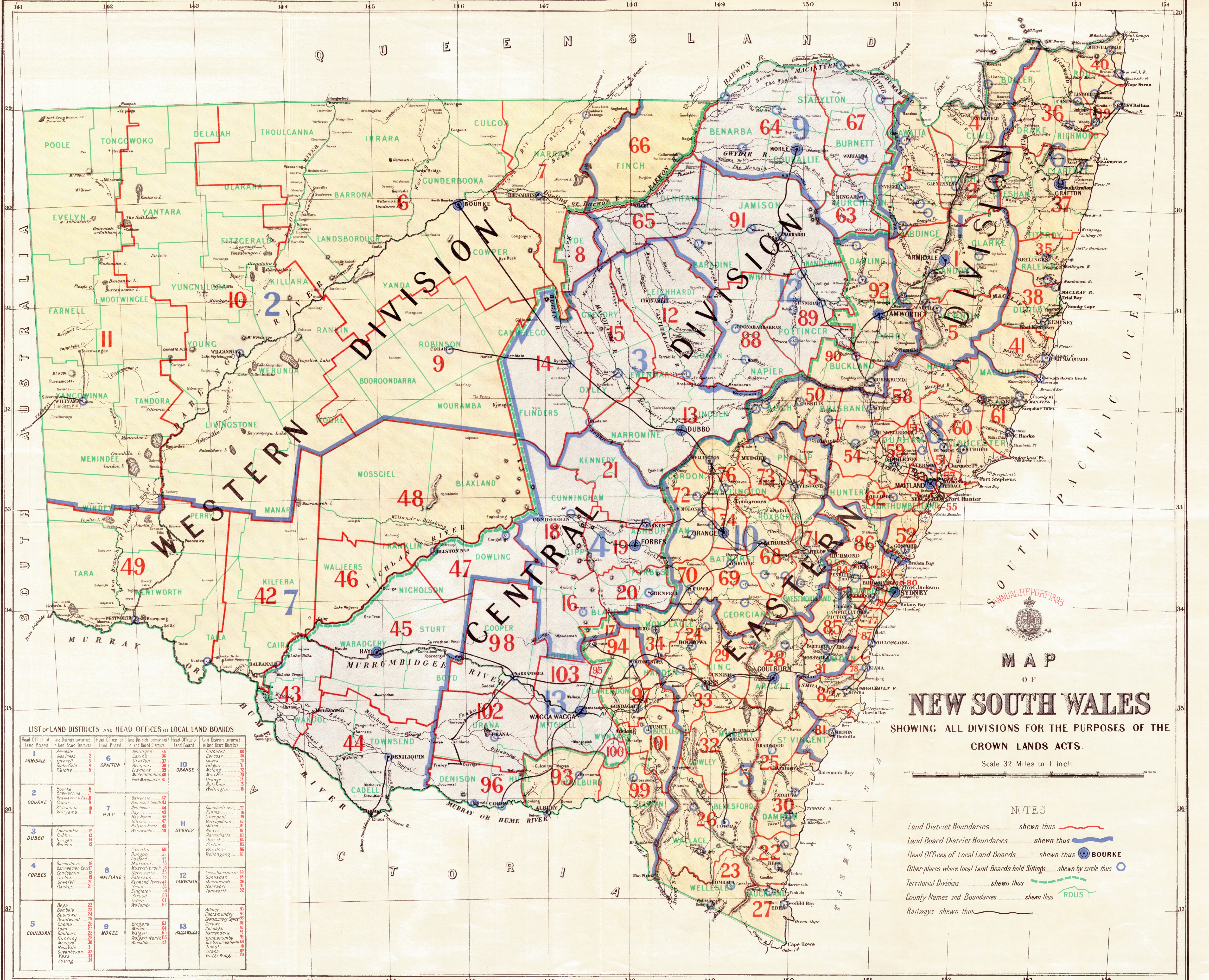
Details of the services performed by the officers of the field staff of the Trigonometrical Survey will be found in the quarterly statements already forwarded.

I have, &amp;c.,

J. BROOKS,

Surveyor in charge of Field Operations, Trigonometrical Survey.





**LIST OF LAND DISTRICTS AND HEAD OFFICES OF LOCAL LAND BOARDS**

Head Office of Land Board	Land Districts comprised in Land Board Districts	Head Office of Land Board	Land Districts comprised in Land Board Districts	Head Office of Land Board	Land Districts comprised in Land Board Districts
1 ARMIDALE	Armidale Glen Innes Lowerveld Tenterfield Walcha	6 CRAFTON	Belconnen Casino Grafton Kempsey Lismore Murrumbidgee Port Macquarie	10 ORANGE	Bathurst Carcoar Gowra Lithgow Mudgee Orange Pittong Wagga Wagga
2 BOURKE	Bourke Brewarrina Cobar Wilcannia Willyama	7 HAY	Barraba Barraba South Deniliquin Hay Hay North Hillston Hillston North Wentworth	11 SYDNEY	Campbelltown Liverpool Metropolitan Milton Nova Parramatta Penrith Pictou Windsor Wollongong
3 DUBBO	Coonamble Dubbo Nyngan Warren	8 MAITLAND	Casula Dungog Gosford Maitland Muswellbrook Newcastle Salem Raymond Terrace Scotts Head Singleton Stroud Tanna Wetambu	12 TAMWORTH	Denabarrabran Gunnedah Murrumbidgee Narrabri Tamworth
4 FORBES	Barrabran Barrabran East Condobolin Forbes Grenfell Parkes	9 MOREE	Bingara Moree Walgett Walgett North Warilda	13 WAGGA WAGGA	Albury Coolamundry Goolamundry Central Goolamundry Gundagai Narrandera Narrandera North Tumut Grain Ruggi Ruggi
5 COULBURN	Bega Bombaie Barrabran Braidwood Coma Eden Goulburn Gunning Murrumbidgee Murrumbidgee North Murrumbidgee South Young				

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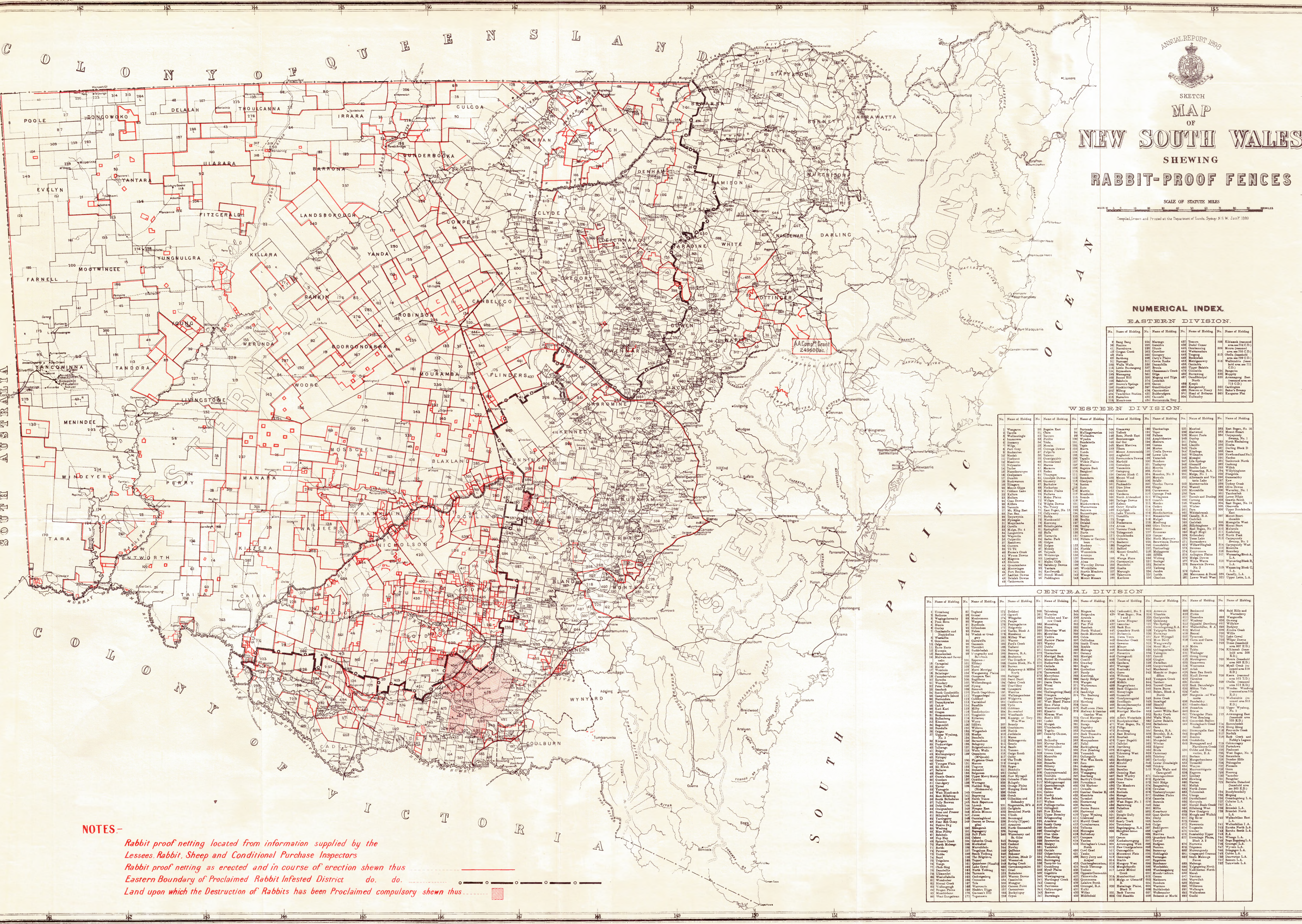
**MAP**  
OF  
**NEW SOUTH WALES**

SHOWING ALL DIVISIONS FOR THE PURPOSES OF THE  
CROWN LANDS ACTS.

Scale 32 Miles to 1 Inch

- NOTES**
- Land District Boundaries ..... shewn thus
  - Land Board District Boundaries ..... shewn thus
  - Head Offices of Local Land Boards ..... shewn thus
  - Other places where Local Land Boards hold Sittings ..... shewn by circle thus
  - Territorial Divisions ..... shewn thus
  - County Names and Boundaries ..... shewn thus
  - Railways shewn thus





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MAP OF  
NEW SOUTH WALES  
SHEWING  
RABBIT-PROOF FENCES

SCALE OF STATUTE MILES

Compiled, Drawn and Printed at the Department of Lands, Sydney, N.S.W. Jan'y 1909

NUMERICAL INDEX

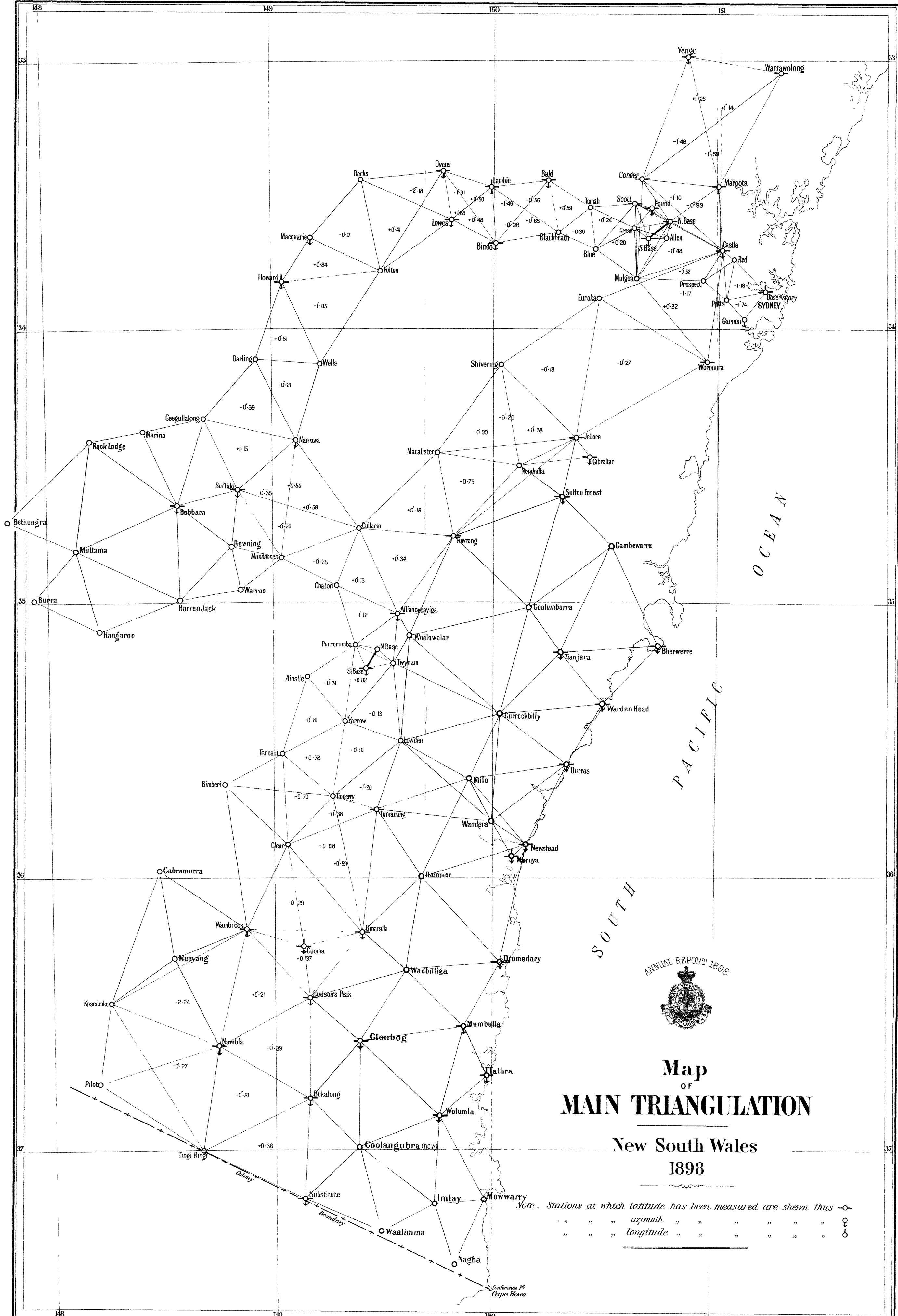
EASTERN DIVISION.

No.	Name of Holding	No.	Name of Holding	No.	Name of Holding	No.	Name of Holding
1	Ang Dang	114	Marage	219	Thompson	324	Widdowson
2	Beaumont	115	Marage	220	Thompson	325	Widdowson
3	Bell	116	Marage	221	Thompson	326	Widdowson
4	Bell	117	Marage	222	Thompson	327	Widdowson
5	Bell	118	Marage	223	Thompson	328	Widdowson
6	Bell	119	Marage	224	Thompson	329	Widdowson
7	Bell	120	Marage	225	Thompson	330	Widdowson
8	Bell	121	Marage	226	Thompson	331	Widdowson
9	Bell	122	Marage	227	Thompson	332	Widdowson
10	Bell	123	Marage	228	Thompson	333	Widdowson
11	Bell	124	Marage	229	Thompson	334	Widdowson
12	Bell	125	Marage	230	Thompson	335	Widdowson
13	Bell	126	Marage	231	Thompson	336	Widdowson
14	Bell	127	Marage	232	Thompson	337	Widdowson
15	Bell	128	Marage	233	Thompson	338	Widdowson
16	Bell	129	Marage	234	Thompson	339	Widdowson
17	Bell	130	Marage	235	Thompson	340	Widdowson
18	Bell	131	Marage	236	Thompson	341	Widdowson
19	Bell	132	Marage	237	Thompson	342	Widdowson
20	Bell	133	Marage	238	Thompson	343	Widdowson
21	Bell	134	Marage	239	Thompson	344	Widdowson
22	Bell	135	Marage	240	Thompson	345	Widdowson
23	Bell	136	Marage	241	Thompson	346	Widdowson
24	Bell	137	Marage	242	Thompson	347	Widdowson
25	Bell	138	Marage	243	Thompson	348	Widdowson
26	Bell	139	Marage	244	Thompson	349	Widdowson
27	Bell	140	Marage	245	Thompson	350	Widdowson
28	Bell	141	Marage	246	Thompson	351	Widdowson
29	Bell	142	Marage	247	Thompson	352	Widdowson
30	Bell	143	Marage	248	Thompson	353	Widdowson
31	Bell	144	Marage	249	Thompson	354	Widdowson
32	Bell	145	Marage	250	Thompson	355	Widdowson
33	Bell	146	Marage	251	Thompson	356	Widdowson
34	Bell	147	Marage	252	Thompson	357	Widdowson
35	Bell	148	Marage	253	Thompson	358	Widdowson
36	Bell	149	Marage	254	Thompson	359	Widdowson
37	Bell	150	Marage	255	Thompson	360	Widdowson
38	Bell	151	Marage	256	Thompson	361	Widdowson
39	Bell	152	Marage	257	Thompson	362	Widdowson
40	Bell	153	Marage	258	Thompson	363	Widdowson
41	Bell	154	Marage	259	Thompson	364	Widdowson
42	Bell	155	Marage	260	Thompson	365	Widdowson
43	Bell	156	Marage	261	Thompson	366	Widdowson
44	Bell	157	Marage	262	Thompson	367	Widdowson
45	Bell	158	Marage	263	Thompson	368	Widdowson
46	Bell	159	Marage	264	Thompson	369	Widdowson
47	Bell	160	Marage	265	Thompson	370	Widdowson
48	Bell	161	Marage	266	Thompson	371	Widdowson
49	Bell	162	Marage	267	Thompson	372	Widdowson
50	Bell	163	Marage	268	Thompson	373	Widdowson
51	Bell	164	Marage	269	Thompson	374	Widdowson
52	Bell	165	Marage	270	Thompson	375	Widdowson
53	Bell	166	Marage	271	Thompson	376	Widdowson
54	Bell	167	Marage	272	Thompson	377	Widdowson
55	Bell	168	Marage	273	Thompson	378	Widdowson
56	Bell	169	Marage	274	Thompson	379	Widdowson
57	Bell	170	Marage	275	Thompson	380	Widdowson
58	Bell	171	Marage	276	Thompson	381	Widdowson
59	Bell	172	Marage	277	Thompson	382	Widdowson
60	Bell	173	Marage	278	Thompson	383	Widdowson
61	Bell	174	Marage	279	Thompson	384	Widdowson
62	Bell	175	Marage	280	Thompson	385	Widdowson
63	Bell	176	Marage	281	Thompson	386	Widdowson
64	Bell	177	Marage	282	Thompson	387	Widdowson
65	Bell	178	Marage	283	Thompson	388	Widdowson
66	Bell	179	Marage	284	Thompson	389	Widdowson
67	Bell	180	Marage	285	Thompson	390	Widdowson
68	Bell	181	Marage	286	Thompson	391	Widdowson
69	Bell	182	Marage	287	Thompson	392	Widdowson
70	Bell	183	Marage	288	Thompson	393	Widdowson
71	Bell	184	Marage	289	Thompson	394	Widdowson
72	Bell	185	Marage	290	Thompson	395	Widdowson
73	Bell	186	Marage	291	Thompson	396	Widdowson
74	Bell	187	Marage	292	Thompson	397	Widdowson
75	Bell	188	Marage	293	Thompson	398	Widdowson
76	Bell	189	Marage	294	Thompson	399	Widdowson
77	Bell	190	Marage	295	Thompson	400	Widdowson
78	Bell	191	Marage	296	Thompson	401	Widdowson
79	Bell	192	Marage	297	Thompson	402	Widdowson
80	Bell	193	Marage	298	Thompson	403	Widdowson
81	Bell	194	Marage	299	Thompson	404	Widdowson
82	Bell	195	Marage	300	Thompson	405	Widdowson
83	Bell	196	Marage	301	Thompson	406	Widdowson
84	Bell	197	Marage	302	Thompson	407	Widdowson
85	Bell	198	Marage	303	Thompson	408	Widdowson
86	Bell	199	Marage	304	Thompson	409	Widdowson
87	Bell	200	Marage	305	Thompson	410	Widdowson
88	Bell	201	Marage	306	Thompson	411	Widdowson
89	Bell	202	Marage	307	Thompson	412	Widdowson
90	Bell	203	Marage	308	Thompson	413	Widdowson
91	Bell	204	Marage	309	Thompson	414	Widdowson
92	Bell	205	Marage	310	Thompson	415	Widdowson
93	Bell	206	Marage	311	Thompson	416	Widdowson
94	Bell	207	Marage	312	Thompson	417	Widdowson
95	Bell	208	Marage	313	Thompson	418	Widdowson
96	Bell	209	Marage	314	Thompson	419	Widdowson
97	Bell	210	Marage	315	Thompson	420	Widdowson
98	Bell	211	Marage	316	Thompson	421	Widdowson
99	Bell	212	Marage	317	Thompson	422	Widdowson
100	Bell	213	Marage	318	Thompson	423	Widdowson

WESTERN DIVISION.

No.	Name of Holding	No.	Name of Holding	No.	Name of Holding	No.	Name of Holding
1	Waggon	101	Waggon	201	Waggon	301	Waggon
2	Waggon	102	Waggon	202	Waggon	302	Waggon
3	Waggon	103	Waggon	203	Waggon	303	Waggon
4	Waggon	104	Waggon	204	Waggon	304	Waggon
5	Waggon	105	Waggon	205	Waggon	305	Waggon
6	Waggon	106	Waggon	206	Waggon	306	Waggon
7	Waggon	107	Waggon	207	Waggon	307	Waggon
8	Waggon	108	Waggon	208	Waggon	308	Waggon
9	Waggon	109	Waggon	209	Waggon	309	Waggon
10	Waggon	110	Waggon	210	Waggon	310	Waggon
11	Waggon	111	Waggon	211	Waggon	311	Waggon
12	Waggon	112	Waggon	212	Waggon	312	Waggon
13	Waggon	113	Waggon	213	Waggon	313	Waggon
14	Waggon	114	Waggon	214	Waggon	314	Waggon
15	Waggon	115	Waggon	215	Waggon	315	Waggon
16	Waggon	116	Waggon	216	Waggon	316	Waggon
17	Waggon	117	Waggon	217	Waggon	317	Waggon
18	Waggon	118	Waggon	218	Waggon	318	Waggon
19	Waggon	119	Waggon	219	Waggon	319	Waggon
20	Waggon	120	Waggon	220	Waggon	320	Waggon
21	Waggon	121	Waggon	221	Waggon	321	Waggon
22	Waggon	122	Waggon	222	Waggon	322	Waggon
23	Waggon	123	Waggon	223	Waggon	323	Waggon
24	Waggon	124	Waggon	224	Waggon	324	Waggon
25	Waggon	125	Waggon	225	Waggon	325	Waggon
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34	Waggon	134	Waggon	234	Waggon	334	Waggon
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36	Waggon	136	Waggon	236	Waggon	336	Waggon
37	Waggon	137	Waggon	237	Waggon	337	Waggon
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43	Waggon	143	Waggon	243	Waggon	343	Waggon
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47	Waggon	147	Waggon	247	Waggon	347	Waggon
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49	Waggon	149	Waggon	249	Waggon	349	Waggon
50	Waggon	150	Waggon	250	Waggon	350	Waggon
51	Waggon	151	Waggon	251	Waggon	351	Waggon
52	Waggon	152	Waggon	252	Waggon	352	Waggon
53	Waggon	153	Waggon	253	Waggon	353	





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# Map OF MAIN TRIANGULATION

New South Wales  
1898

Note, Stations at which latitude has been measured are shown thus  $\odot$   
 " " " azimuth " " " " " "  $\ominus$   
 " " " longitude " " " " " "  $\circ$

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MR. J. T. McILFATRICK'S CONDITIONAL PURCHASE AT LISMORE.

(RETURN RESPECTING.)

*Printed under No. 15 Report from Printing Committee, 21 December, 1899.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 24th August, 1899, That there be laid upon the Table of this House,—

“ All letters, minutes, reports, diagrams, documents, and all other papers connected with or relating to Conditional Purchase 74-3,662, Lismore, of J. T. McIlpatrick, in regard to land resumed for road purposes.”

(Mr. Meagher.)

## SCHEDULE.

NO.	PAGE.
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2. Petition from residents of Meerschaum, Tuckombil, &c., to the Minister for Mines, with minutes (presented by C. M. Fawcett, Esq., M.P.) 12 July, 1881.....	4
3. The Under Secretary for Mines to C. M. Fawcett, Esq., M.P. 15 July, 1881.....	4
4. Mr. Licensed-Surveyor T. T. Ewing to the Surveyor-General, with minutes. 31 January, 1882.....	4
5. Mr. Surveyor Ewing to the same, with enclosures and minutes. 26 March, 1883.....	5
6. Office Memorandum, with minutes. 22 January, 1884.....	6
7. The same, with minutes.....	6
8. <i>Gazette</i> Notice. 29 February, 1884.....	6
9. Mr. Luke Lofts to the Minister for Mines, with minutes. 8 April, 1884.....	7
10. Mr. J. T. McIlpatrick to the same, with minutes. 8 April, 1884.....	8
11. The Bench of Magistrates, Lismore, to the Under Secretary for Mines. 8 April, 1884.....	9
12. The Clerk of the Executive Council to the same, with minutes. 22 April, 1884.....	9
13. Mr. J. T. McIlpatrick to the same. 19 July, 1884.....	9
14. District-Surveyor Donaldson to the Surveyor-General, with minutes. 31 July, 1884.....	9
15. The Under Secretary for Mines to Mr. J. T. McIlpatrick. 15 September, 1884.....	10
16. The same to Mr. Luke Lofts. 15 September, 1884.....	10
17. <i>Gazette</i> Notice. 16 September, 1884.....	10
18. Mr. Robert Taylor to the Commissioner for Roads, with minutes. 16 October, 1884.....	11
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## No. 2.

## Petition from Residents of Meerschaum, Tuckombil, to the Secretary for Mines.

To the Honorable the Minister for Mines,—

The Petition of the inhabitants of Meerschaum, Tuckombil, and the surrounding neighbourhood in the Richmond River district, humbly sheweth:—

THAT your Petitioners suffer great inconvenience and loss through the circuitous road they have to travel to Lismore, the location of banks, District Court, Lands Office, Police Court, and general centre of business.

That a much nearer and more practicable road can be obtained by opening up the present road reserve, starting from the road Chilcott's to Casino, at the south-west corner of Wm. Davis' conditional purchase, and running between that land and J. Staines' conditional purchase; continued through T. Davis' selection to the lower crossing of Meerschaum Creek; thence through Loadman's selection, J. Davis' conditional purchase, and other properties, to the Lismore and Ballina Road, effecting a saving in distance of at least 7 miles.

That the road suggested runs through rich agricultural land which is already selected and settled on.

Your Petitioners therefore pray that you will be pleased to take these premises into your favourable consideration and cause a sum of money to be granted for this purpose at as early a date as possible.

And your Petitioners, as in duty bound, will ever pray:—

Name.	Residence.	Occupation.
E. Crofton ... ..	Meerschaum	planter.
H. Strong ... ..	"	"
F. Strong ... ..	"	"
S. Strong ... ..	"	"

[Here follow 107 other signatures.]

Presented and recommended by Charles H. Fawcett, 12/7/81. Forward to the Surveyor-General and inform.—H.W., 13/7/81. C. W. Fawcett, M.P., informed, 15/7/81. The Surveyor-General, B.C.—G.E.H. (for the Under Secretary), 16/7/81. Forwarded to Mr. District-Surveyor Donaldson for report in accordance with paragraph 75 of Surveyors' Instructions. Part of the road applied for would appear to follow reserved road.—A. J. STOPPS (for Surveyor-General), 15/8/81, No. 220. Mr. Temporary Staff-Surveyor Ewing for report as above. A tracing showing all the roads reserved, &c., is forwarded herewith.—P. R. DONALDSON, District Surveyor, 16/9/81.

## No. 3.

## The Under Secretary for Mines to Chas. M. Fawcett, Esq., M.P.

Sir,

Department of Mines, Sydney, 15 July, 1881.

I have the honor to acknowledge the receipt of Petition of certain inhabitants of Meerschaum, Tuckombil, &c. (presented by you), for the opening of a road from the road, Chilcott's to Casino, at the south-west corner of W. Davis' conditional purchase, thence through certain selections to the Lismore and Ballina road, and to inform you that the Petition has been forwarded to the Surveyor-General for action.

I have, &c.,

GERARD E. HERRING  
(for the Under Secretary).

## No. 4.

## Mr. Licensed-Surveyor T. T. Ewing to The Surveyor-General.

Mr. Licensed-Surveyor Ewing to the Surveyor-General, reporting on road from Wyrallah to Wardell Road to Lismore and Ballina Road, County of Rous.

No. 82-9.

Sir,

Lismore, 31 January, 1882.

I have the honor to inform you that, in accordance with instructions of the 15th August, 1881, No. 81-220 (to Mr. D. S. Donaldson), I visited localities referred to in Petition, and found a large population inconvenienced by the want of a direct road to Lismore, where most of their business has to be transacted. I herewith propose, and show on tracing by red dotted line, the most suitable route, starting from the south-east corner of portion 22, parish of Tuckombil, on the road from Wyrallah to Wardell, which road is now being partly cleared; thence following road between portion 22 and portion 139 for some distance; thence bearing north-westerly through portions 22 and 119 (J. Staines' conditional purchases), crossing Youngman Creek about position indicated; thence through Thomas Davis' conditional purchases 142 and 143, crossing Marom Creek; thence through W. Loadman's conditional purchases 207 and 214, to join reserved road through portion 174, the road between 207 and 214 not being suitable (I have seen J. Staines, T. Davis, and W. Loadman; none of them offer any objection to the severance of their land); thence following reserved road through portion 174, between 180 and 213, and through 213 to deviation through portion 268 (see my letter, with plan, of this date, No. 2); thence along that deviation and through north-east corner of portion 143. The road could go round 143, as reserved. I consider it to be for the public benefit to put it through, the route being more level, as shown by red line, to Lismore and Ballina road. The deviation through portions 102 and 103 has been marked and plan transmitted (see my letter of this date, No. 2).

The



The deviations necessary from existing roads will be a slight deviation over Tucki Tucki Creek; through portion 143, parish of Lismore; 214, parish of Lismore; portions 143, 142, and 119, parish of Tuckombil; portion 22, parish of Lismore.

The road thus proposed will be very good naturally; the ordinary scrub-clearing and a few approaches would make it passable for\* vehicular traffic.

I have, &c.,

T. T. EWING.

\* Paper mutilated.

Report herewith. Mr. District-Surveyor Donaldson is requested to survey the road as recommended by him.—A. J. STOPPS (for Surveyor-General), 3rd March, 1882.

Notice of instructions survey roads. Instructions No. 53. Mr. Licensed-Surveyor Ewing to survey the road (\*where not?) previously reserved, as recommended, and transmit plan and book of reference.—P. R. DONALDSON, 24/8/82.

\* Paper mutilated.

See my letters 83-10 and 83-11, 26th March.—T. T. EWING.

As there is no objection on the part of the owners of the land, and the opening of this road will facilitate access to a large quantity of land, I would recommend that it be surveyed through the portion where not previously reserved, and opened under Act of Council, 4 Wm. IV No. 11.—P. R. DONALDSON, District Surveyor, 8/2/82.

### No. 5.

#### Mr. Licensed-Surveyor T. T. Ewing to The Surveyor-General.

Transmitting plan, book of reference, &c., of road (being portion of road from Lismore to Wardell), parish of Lismore, county of Rous, proposed to be opened as a parish road under Act of Council, 4 Wm. IV No. 11.

No. 83-11.

Sir,

Lismore, 26 March, 1883.

I have the honor herewith to transmit plan, &c., &c, of road through portions 94, 61, 69, and 143, parish of Lismore, county of Rous, proposed to be opened as a parish road under Act of No. 4 Wm. IV No. 11, and surveyed in accordance with instructions of the 3rd March, 1882, No. 82-53, to the District Surveyor.

No fencing will be required on these portions—but the land will be required to be paid for, there being no road to be given in lieu of the one now taken from portions.

With this letter will be found my report and sketch of 31st January, 1882. It will be seen that in survey I have deviated considerably from proposed route; this was done to get the best position possible. I have again gone through reserved roads, and find that further deviations will be necessary.

The deviations (which have been under different instructions) will be found with my letters, Nos. 82-1, 82-2, 83-10, 83-11, these being all necessary between Lismore and Wardell; road already formed.

I have, &c.,

THOS. T. EWING.

Roll plan, R. 2,635-1,603. I submit the survey of this road for acceptance. I recommend it be opened.—P. R. DONALDSON, District Surveyor, 3/4/83.

### [Enclosure.]

Book of Reference of part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, portion No. 143, to a reserved road with J. T. McIlfatrick's 49 acres conditional purchase, portion No. 94, parish of Lismore, county of Rous, to be opened as a Parish Road, under the Act of Council, 4 William IV No. 11, and resumed under the 27th clause of the Act 43 Victoria No. 29.

Portion of Road.	Reputed Owner.	Occupier.	Character of Land.	Bearings.	Length in Chains.	Enclosures.	Character and State of Preservation of Fencing.	Cultivation.	Breadth of Road.	Area.
From the east boundary of G. Cooper's (now H. Slade's) 100 acres conditional purchase, portion No. 143, to the boundary of that portion.	H. Slade's conditional purchase.		Agricultural.	North-westerly.	5.88 max.	Nil.	Nil.	Nil.	1ks. 100	a. r. p. 0 2 0
From the last-mentioned boundary to the south boundary of L. Loft's 40 acres conditional purchase, portion No. 69.	Boundary road.		do	do	1.09	"	"	"	100	0 0 17
From the last-mentioned boundary to the north boundary of L. Loft's 40 acres conditional purchase, portion No. 69.	L. Loft's conditional purchase and reserved road.		do	do	7.39	"	"	"	100	0 2 38
From the last-mentioned boundary to the left bank of Tucki Tucki Creek, within L. Loft's 40 acres conditional purchase, portion No. 61.	L. Loft's conditional purchase		do	do	6.62 min.	"	"	"	100	0 3 0
From the left to the right bank of Tucki Tucki Creek, within J. T. McIlfatrick's 49 acres conditional purchase, portion 94.	Tucki Tucki Creek.		Westerly	Westerly	1.00 max.	Nil.	Nil.	Nil.	100	0 0 14
From the right bank of Tucki Tucki Creek, within J. T. McIlfatrick's 49 acres conditional purchase, portion 94, to a reserved road within that portion.	J. T. McIlfatrick's conditional purchase.		Grazing	do	10.75 min.	"	"	"	100	1 0 15

Sent by the Department of Lands to the Police Office at Lismore.

## No. 6.

## Office Memorandum.

R. 2,635-1,603.  
Tracing herewith  
for the Police  
Office at  
Lismore.

THE accompanying plan and book of reference of part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, portion No. 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase, portion No. 94, parish Lismore, county of Rous, are forwarded with the view to the opening of the line as a parish road under the Act of Council 4 William 4 No. XI, and for resumption under the 27th clause of the Act 43 Victoria No. 29.

See schedule of conditional purchases enclosed.

A. J. STOPPS

(for Surveyor-General),

B.C., 22 January, 1884.

The Under Secretary for Mines.

Submitted.—G.E.H. (for the Under Secretary), 23rd January, 1884.  
23/1/84. Minute, 24th January, 1884.

Approved.—J. P. ABBOTT,

## No. 7.

## Office Memorandum.

Schedule showing conditional purchases through which the undermentioned road passes.

Rds. 81/1,014-4.  
R. 2,635-1,603.

PART of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, portion No. 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase, portion No. 94, parish of Lismore, county of Rous.

Situated within the Land District of Lismore.

Cat. No.	C.P. No.	Parish.	Ph. No.	Name of Conditional Purchaser.	Area of Portion.			Area taken for road.		
					a.	r.	p.	a.	r.	p.
R. 1,449-1,759 ...	77-329	Lismore .....	143	G. Cooper (now Henry Slade) .....	100	0	0	0	2	0
R. 948-1,759 .....	74-3,662	do .....	94	J. T. McIlpatrick .....	49	0	0	1	0	5

See amended schedule, 81-1,014.  
Advertised, 4/3/84.

Intention to resume, 29th February, 1884, folio 1463.

## No. 8.

## Gazette Notice.

Department of Mines, 29 February, 1884.

Proposed Resumption of Land for Road under 27th section of Act 43 Victoria No. 29, Land District of Lismore.

NOTICE is hereby given that it is proposed to resume so much land as is embraced in certain conditional purchases (described in the appended schedule), the same being required for the following road, viz.: Part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase No. 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase, portion No. 94, parish of Lismore, county of Rous.

Rds. 84-820.

JOSEPH P. ABBOTT.

Schedule referred to.

Catalogue No.	No. of C.P.	Parish.	Parish No.	Name of Conditional Purchaser.	Area of Portion.	Area Resumed.
R. 1,449-1,759 ...	77-0,329	Lismore .....	143	G. Cooper (now H. Slade) .....	acres. 100	a. r. p. 0 2 0
750 ,, ...	71-2,100	do .....	69	L. Lofts .....	40	0 2 35
684 ,, ...	56	do .....	61	do .....	40	0 3 0
948 ,, ...	74-3,662	do .....	94	J. T. McIlpatrick .....	49	1 0 15

No. 9.

Mr. Luke Lofts to The Secretary for Mines.

Sir,

Richmond River, Lismore, 8 April, 1884.

With reference to an advertisement appearing in the local press, stating that a digression was intended in the road "Lismore to Wardell," the same going through my conditional purchase, as per sketch, I have the honor most respectfully to apply that the surveyed road, from the north-east corner of George Cooper's conditional purchase No. 143, of 100 acres, selected on 22nd November, 1877, to its junction with Tucki Tucki Creek, may be given me in lieu of the land resumed for the proposed digression; also that I may be allowed the required amount to enable me to fence the proposed road on both sides to prevent the inroad of cattle on my crops.

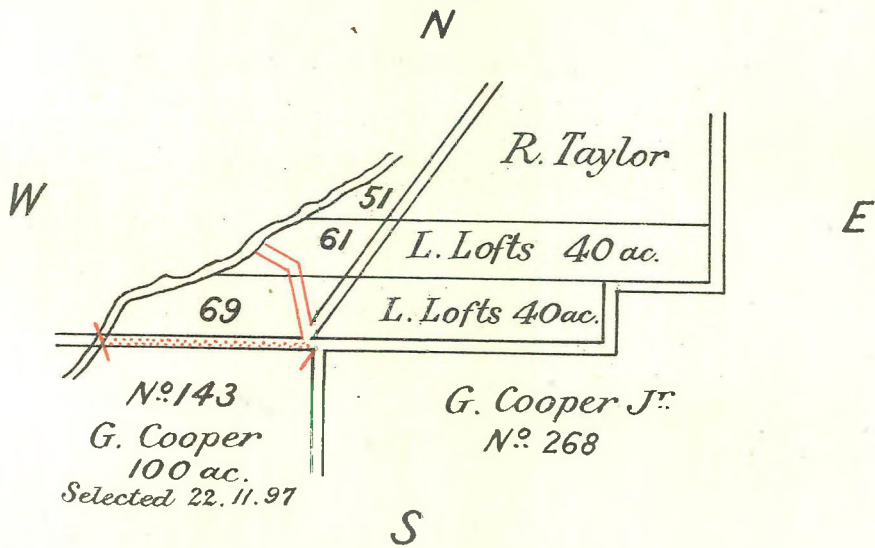
I have, &c.,  
LUKE LOFTS.

Acknowledge.—G.E.H. (for the Under Secretary), 15/4/84. See recommendation on 81, 10, 14-21.

The sketch at Local Police Office shows that the proposed road goes through my Conditional Purchase, as under.

Selection.	Date of Selection.	No.	Area.	Length of Road.	Area resumed.
Original .....	71	61	acres. 40	6 chains 62 links.....	3 roods.
Additional .....	71	69	40	7 " 39 " .....	2 " 38 perches.

Parish of Lismore, County of Rous.



NOTE.—Red-lined road shows proposed digression.  
Dotted lines (red) shows road asked for instead of land to be resumed.

No. 10.

Mr. J. T. McIlfatrick to The Secretary for Mines.

Sir,

Lismore, Richmond River, 8 April, 1884.

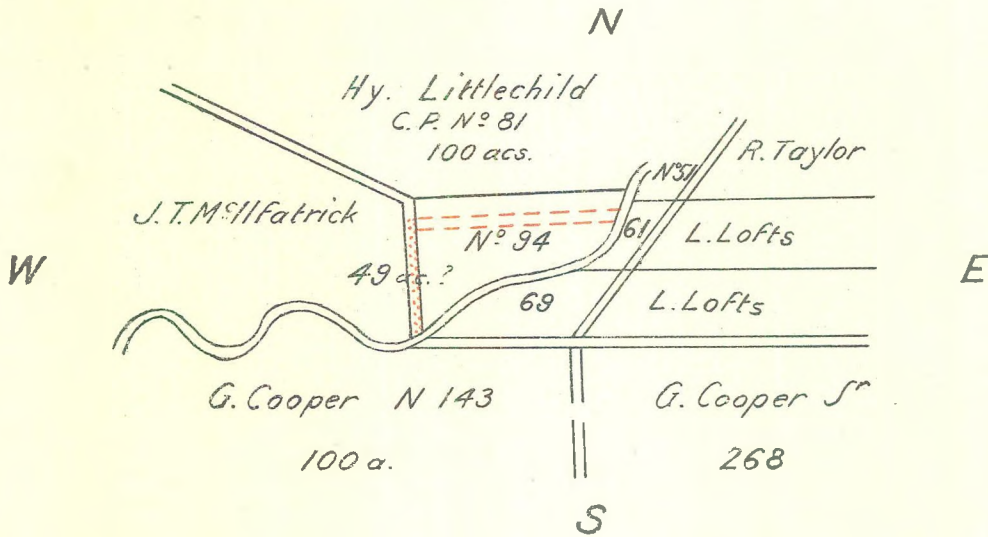
With reference to an advertisement appearing in the local papers, stating that a digression was intended in the road "Lismore to Wardell," the same going through my conditional purchase, as per sketch, I have the honor most respectfully to apply that the present surveyed road, from its junction with Tucki Tucki Creek to where the proposed digression meets it, may be given to me in lieu of the land resumed for the proposed digression; also that I may be allowed the required amount to enable me to fence the proposed road on both sides to prevent the inroad of cattle to my crops.

I have, &c.,  
J. T. McILFATRICK.

The sketch at Local Police Office shows that the proposed road goes through my Conditional Purchases, as under.

Selection.	Date of Selection.	Area.	Length of Road.	Area resumed.
Additional.....	74	acres. 49	1 chain 75 links .....	1 acre 0 roods 15 perches.

Parish of Lismore, County of Rous.



NOTE.—The dotted lines (red) show proposed digression.  
The dots in coloured red show land asked for in lieu thereof.

Photo-lithographed by  
W. A. Gullich, Government Printer,  
Sydney, N.S.W.

## No. 11.

The Bench of Magistrates, Lismore, to The Under Secretary for Mines.

Lismore, 8 April, 1884.

The Plan and Book of Reference, as per number in margin and description, have been duly exhibited for thirty days, as required by law. Road, Mines,  
No. 84-820.

## Description of Road.

Part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, No. 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase, portion No. 94, parish of Lismore, county of Rous.

WM. CARSON, J.P.  
(for the Bench).

## No. 12.

The Clerk of the Executive Council to The Under Secretary for Mines.

Sir, Executive Council Office, 22 April, 1884.

Referring to your letter of the 3rd March, I do myself the honor to inform you that no objection has been lodged with me to the formation of the proposed parish road, noted in the margin.

I have, &c.,  
ALEX. C. BUDGE,  
Clerk of the Council.

Part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, No. 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase No. 94, parish of Lismore, county of Rous.

The Surveyor-General.—G.E.H. (for the Under Secretary), B.C., 23/4/84.

Mr. Donaldson for report on application 81-1,014/16 and 17 herein, as to whether the reserved and boundary roads referred to may be given in lieu of the proclaimed road.—A. J. STORRS (for Surveyor-General), 17/6/84.

Nature of instructions to report roads, instructions No. 184, to Mr. P. R. Donaldson, District Surveyor. Replied to by 84-147.—P. R. DONALDSON, District Surveyor.

## No. 13.

Mr. J. T. McIlpatrick to The Under Secretary for Mines.

Sir, Lismore, Richmond River, 19 July, 1884.

Through a digression intended to be made in the new road, Lismore to Wardell, the same going through my conditional purchase, No. 94, parish of Lismore, I made an application on the 8th April that the present surveyed road from its junction with Tucki Tucki Creek to where the proposed digression meets it may be given me in exchange for the land resumed for the proposed digression.

On receipt of the above, I received a reply, dated 16th April, stating that the matter would receive immediate attention.

Sir, I make a further application, that you will be good enough to take the matter into consideration, and cause the exchange to be made, as the two roads make that part of my conditional purchase of no value, and only one of them can be used.

I have, &c.,  
JAMES T. McILPATRICK.

Claims are being considered. So inform.—G.E.H. (for Under Secretary), 4/8/84. J. T. McIlpatrick informed, 5/8/84. The Surveyor-General.—G.E.H. (for the Under Secretary), B.C., 6/8/84. See recommendation on 81-1,014/21.

## No. 14.

Mr. District-Surveyor Donaldson to The Surveyor-General.

Lismore Land District, Roads 81-1,014-18.

Mr. District-Surveyor Donaldson to the Surveyor-General, reporting on application for two original roads in lieu of proclaimed road through portions 94, 61, and 69, parish of Lismore.

Sir, District Survey Office, Grafton, 31 July, 1884.

With reference to instructions of 17th June, 1884, No. 184, to report whether the reserved and boundary roads applied for by J. T. McIlpatrick and L. Lofts may be granted in lieu of the part of the Wardell and Lismore Road, proclaimed through portions 94, 61, and 69, &c., I have the honor to inform you that there is no objection to that part of the reserved road in portion 94, extending from the proclaimed road to Tucki Tucki Creek, being granted in lieu of that proclaimed through this portion.

With reference to the application of L. Lofts, I do not think it is desirable to grant the whole of the boundary road from the north-east corner of G. Cooper's conditional purchase, portion 268, to Tucki Tucki Creek, as applied for; but I see no objection to that part of the boundary road between portions 69 and 143, extending from the proclaimed road to Tucki Tucki Creek, being given in lieu of the road proclaimed through portions 61 and 69; the length and area of the road which I recommend may be given, will be slightly in excess of that taken for road.

I have, &c.,  
P. R. DONALDSON,  
District Surveyor.

Confirmation of this road is recommended in lieu of that part of the reserved road within portion 94, extending from the proclaimed road to Tucki Tucki Creek (amended schedule of conditional purchases herewith). If this course be approved of, it is further recommended that when portion 69 is held as a freehold



freehold it will be competent for the owner of that portion to apply that the boundary road lying to the south of that portion and between the proclaimed road and Tucki Tucki Creek, be granted to him under the provisions of the 26th section of 43 Victoria, No. 29. Compensation for fencing cannot be recommended (as asked for, *vide* papers roads 81-1,014-16, 17, 19, and 22), as no enclosures are severed by the road; but the balance of the purchase money on the area taken for the road and the interest thereon, will not be demanded.—A. J. STORRS (for Surveyor-General), 9th September, 1884.

Exhibit G., case 527, vol. 7, folios 11 and 12, papers L.B.D., 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98. Submitted.—G. E. H. (for Under Secretary), 12/9/84. Approved.—J. P. ABBOTT, 12/9/84. Luke Lofts informed, 15th September, 1884. J. T. McIlpatrick informed, 15th September, 1884. Executive Council minute, 22nd October, 1884.

## No. 15.

## The Under Secretary for Mines to Mr. J. T. McIlpatrick.

Sir, Department of Mines, Sydney, 15 September, 1884.  
With reference to your letter of the 19th July last, applying for the old road to be given in lieu of the part of the new road from Wardell to Lismore, where it passes through portion No. 94, parish of Lismore, I am directed by the Secretary for Mines to inform you that it is the intention to confirm the road as preliminarily notified in the *Government Gazette* of the 29th February, 1884, folio 1465, in lieu of the part of the reserved road within portion 94, extending from the proclaimed road to Tucki Tucki Creek.

I have, &amp;c.,

GERRARD E. HERRING

(for the Under Secretary).

## No. 16.

## The Under Secretary for Mines to Mr. Luke Lofts.

Sir, Department of Mines, Sydney, 15 September, 1884.  
With reference to your letter of the 12th May last, and previous correspondence, applying for the old road to be given to you in lieu of the part of the new road from Wardell to Lismore, where it passes through portions Nos. 61 and 69, parish of Lismore, &c., I am directed by the Secretary for Mines to inform you that it is the intention to confirm the road, as preliminarily notified in the *Government Gazette* of the 29th February, 1884, folio 1465, after which when portion 69 is held as a freehold, it will be competent for the owner of that portion to apply that the boundary road lying to the south of that portion, and between the proclaimed road and Tucki Tucki Creek, be granted to him, under the provisions of the 26th section of the Act 43 Victoria No. 29.

Compensation for fencing cannot be granted, as no enclosures are severed by the road, but the balance of the purchase money on the area taken for the road, and the interest thereon, will not be demanded.

I have, &amp;c.,

GERARD E. HERRING

(for the Under Secretary).

## No. 17.

## Gazette Notice.

Department of Mines, Sydney, 16 September, 1884.

Proposed Resumption of Land for Road under 27th Section of Act 43 Victoria No. 29.—Land District of Lismore.

NOTICE is hereby given that it is proposed to resume so much land as is embraced in certain Conditional Purchases (described in the appended Schedule), the same being required for the following road, viz.:—Part of road from Wardell to Lismore, viz.:—From the east boundary of H. Slade's 100 acres C.P., No. 143, to a reserved road within J. T. McIlpatrick's 49 acres C.P., portion No. 94, parish of Lismore, county of Rous.

[Rds. 84-3,911]

JOSEPH P. ABBOTT.

## Schedule referred to.

Catalogue No.	No. of C.P.	Parish.	Parish No.	Name of Conditional Purchaser.	Area of Portion.		Area Resumed.		Remarks.
					a.	r. p.	a.	r. p.	
R. 1449-1759	77- 329	Lismore...	143	G. Cooper (now H. Slade)	100	0 0	0	2 0	
R. 750-1759	71-2100	Do ...	69	L. Lofts .....	40	0 0	0	2 35	
R. 684-1759	71- 56	Do ...	61	do .....	40	0 0	0	3 0	
R. 948-1759	74-3662	Do ...	94	J. T. McIlpatrick .....	49	0 0	1	0 15	In lieu of part of reserved road.

In lieu of notice which appeared in *Government Gazette* of 29th February, 1884, folio 1463.

## No. 18.

## Mr. Robert Taylor to The Commissioner for Roads, Sydney.

Sir,

Chilcott's Grass, near Lismore, 16 October, 1884.

I have the honor to bring under your notice that, up to the present time, nothing has been done to the road, known as the road to Staines from the Lismore and Ballina road, thereby causing great loss and inconvenience to myself and neighbours, through and near to whose land the said road passes, it being, in fact, the only outlet we have to Lismore, where all our business is transacted, and to where our produce has to be brought when we ship it to Sydney, our chief market.

I trust you will be good enough to give instruction to have the vote of £800, which, I am given to understand, was placed on the Estimates for this road, expended, and thereby confer a great benefit on a great number of struggling people, who are pressed for the want of means of communication by which they can send their produce to market.

I have, &amp;c.,

ROBERT TAYLOR.

Mr. Steel, what amount is available?—W.B., 20/10/84. Mr. Steel, 20/10/84. Cowalong to Staines' mill, £800, which is probably the road in question.—J.R.S., 21/10/84. Mr. Williamson, do this as soon as possible.—W.B., 22/10/84. Mr. Williamson, B.C. 240 chains clearing called for on this road, which will absorb the whole of the money.—J.W.P., 5/11/84. Inform.—W.B., 14/11/84. Mr. Logan, 14/11/84. Informed, 17/11/84. File.

## No. 19.

## Minute for Executive Council.

Resumption of land and confirmation of road.

Department of Mines, Sydney, 22 October, 1884.

It is recommended for the approval of His Excellency the Governor and the Executive Council that the land within conditional purchases required for the undermentioned line of parish road, which has been duly advertised in the *Government Gazette*, be resumed under 27th section of the Act 43 Vic. No. 29, and that such road be now confirmed in accordance with the provisions of the Act 4 Wm. IV No. 11, viz., part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres C.P., portion No. 143, to a reserved road within J. T. McIlpatrick's 49 acres C.P., portion No. 94, parish Lismore, county Rous, in lieu of that part of the reserved road within portion 94, extending from the proclaimed road to Tucki Tucki Creek.

J. P. ABBOTT.

The Executive Council advise that the course herein recommended be approved, and the necessary notices issued.—ALEX. C. BUDGE, Clerk of the Council, 28/10/84. Minute 84-47. Confirmed, 4/10/84. Approved.—A.L., 28/10/84. Notified, 12 November, 1884. Advertised 15/11/84.—G.E.H. (for the Under Secretary), 22/12/84. Resubmit. No claims. Records, 23/12/84. Exhibit H, case 527, vol. 7, folios 11 and 12. Papers, L.B.D. 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore.

## No. 20.

## Gazette Notice.

Department of Mines, Sydney, 12 November, 1884.

Land Resumed for Road under 27th section of Act 43 Victoria, No. 20, Land District of Lismore.

NOTICE is hereby given that the land embraced in the conditional purchase (described in the appended schedule) has been resumed, the same being required for the following road, viz.:—Part of the road from Wardell to Lismore, viz.: From the east boundary of H. Slade's 100 acres conditional purchase No. 143 to a reserved road within J. T. McIlpatrick's 40 acres conditional purchase, portion No. 94, parish of Lismore, county of Rous.

Rd. 84-4,897.

JOSEPH P. ABBOTT.

Schedule referred to.

Catalogue No.	No. of C.P.	Parish.	Parish No.	Name of Conditional Purchaser.	Area of Portion.			Area Resumed.			Remarks.
					a.	r.	p.	a.	r.	p.	
R. 1449-1759	77-329	Lismore...	143	G. Cooper (now H. Slade)	100	0	0	0	2	0	
R. 750-1759	71-2100	Do	69	L. Lofts	40	0	0	0	2	25	
R. 684-1759	71-56	Do	61	Do	40	0	0	0	3	0	
R. 948-1759	74-3662	Do	94	J. T. McIlpatrick	49	0	0	1	0	15	In lieu of part of reserved road.

## No. 21.

## Mr. Robert Taylor to The Commissioner for Roads, Sydney.

Sir,

Chilcott's Grass, near Lismore, 29 November, 1884.

In reply to your letter of the 17th instant (No. 84-9,086), I beg to inform you that the road to which I referred in my former letter is, I understand, the road known in your Department as road Goonellabah to Jesswoolgan; it leaves the Ballina road at the former place and goes through the selection of Borton, formerly Roberts (No. 103), passing along the surveyed road until it is again diverted through the selections of McIlpatrick, Lofts, and Cooper, and extending on to Jesswoolgan, as I now am led to understand.

389-B

Up

Up to the present—and some of us have been thirteen years on the land—we have no road on which to take a load without trespassing on some one's land; and if Marshall's selection is closed up it would be quite impossible for many of us to get out a wheeled vehicle of any kind. I therefore trust that you will be good enough to have something done without further delay, and so confer a great benefit on a number of selectors who are altogether hemmed in, and who have been trying to make known their difficulties for a number of years, but without any result beyond getting the Department of Mines to open the ground where the road is intended to go.

I have, &c.,  
ROBERT TAYLOR.

• Produce papers.—W.B., 5/12/84. 84-9,986 herewith, 8/12/84. Mr. Williamson.—W.B., 9/12/84. Money has been spent on road Goonellabah to Jesswoolgan, which is a scheduled road.—E.J.S., 22/8/85. Mr. Statham, should any action be taken, this paper is now so old? Is further action in field necessary?—W.B., 28/8/85. Mr. J. Statham, B.C. Action has been taken; money expended.—E.J.S., 3/9/85. File.—W.B., 7/9/85.

### No. 22.

#### The Surveyor-General to The Chief Commissioner of Conditional Sales.

30 December, 1884.

Part of road from Wardell to Lismore, &c., parish of Lismore, county of Rous.

Cat. No. R. 2,635-1,603.  
Registration No. Roads  
81-1,014-17.

LAND for the above-mentioned road having been resumed under the 27th clause of Act 43 Victoria No. 29, by Notice in the *Government Gazette* of 12th November, 1884, folio 7589, it is hereby intimated that a certain area specified in schedule below has been resumed for that road from the undermentioned conditional purchase.

A. J. STOPPS  
(for Surveyor-General).

#### Land District of Lismore.

No. of C.P.	Cat. No. of Plan.	Parish.		Name of Conditional Purchaser.	Original Area of Portion.	Area resumed for Road.	Difference between area of Reserved Road and resumed land.	Present Area of Portion.
		No.	Name.					
74-3,662	R. 948-1,759 ...	94	Lismore .....	J. T. McIlpatrick .....	a. r. p. 49 0 0	a. r. p. 1 0 15	a. r. p. Nil.....	a. r. p. 49 0 0

### No. 23.

#### The Surveyor-General to Mr. District-Surveyor Donaldson.

Surveyor-General's Office, Sydney, 30 December, 1884.

THE part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, portion 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase, portion 94, parish Lismore, county Rous, surveyed by Mr. Ewing, surveyor, has been confirmed under 4 William IV No. 11, and requires to be formally opened.

Mr. Donaldson, District Surveyor, is requested to name the surveyor to whom instructions for opening might be issued, and to state whether a tracing will be required.

A. J. STOPPS  
(for Surveyor-General).

Roads 81-1,014-29, S.G.O. No. R. 2,635-1,603 to be returned direct to the Officer-in-charge of the Roads Branch, Surveyor-General's Office, Sydney. Folio 43, No. 91.  
Instruction for opening should be forwarded to Mr. Surveyor Ewing; no tracing will be required.—P. R. DONALDSON, District Surveyor, 8/1/85.

### No. 24.

#### The Surveyor-General to Mr. Surveyor T. T. Ewing.

Surveyor-General's Office, Sydney, 5 February, 1885.

Part of road from Wardell to Lismore, viz., from the east boundary of H. Slade's 100 acres conditional purchase, portion 143, to a reserved road within J. T. McIlpatrick's 49 acres conditional purchase, portion 94, parish Lismore, county Rous, having been confirmed through alienated land as a parish road in the *Government Gazette* of 12th November, 1884, folio 7589,

I have to request that you will, as early as may be convenient, remove all obstructions from the road as laid out.

In carrying out this instruction, you will give notice either verbally or in writing to the proprietors of any enclosed lands through which the road passes, and suggest to them the desirability of their removing any fences or other obstructions which may exist, and you will then proceed along the road for the purpose of re-marking it in those places where the previous marking may have been obliterated.

Should the parties to whom you may give notice not remove the fences or other obstructions, you will summarily remove them, and in doing so, you will be guaranteed from loss by the Government.

You will be good enough to report the fulfilment of this instruction.

I have, &c.,  
P. F. ADAMS.

Roads 81-1,014-29, S.G.O. 2,635-1,603. This instruction to be returned.

13

## No. 25.

Mr. Surveyor T. T. Ewing to The Surveyor-General.

Lismore Land District, Roads 81-1,014-31.

Mr. Surveyor Ewing to The Surveyor-General with respect to road, parish of Lismore, county of Rous.

Sir,

Lismore, 31 March, 1885.

I have the honor to inform you with reference to road, being part of road from Wardell to Lismore, parish of Lismore, county of Rous—instructions No. 85-1 of 5th February, 1885—that I proceeded along road mentioned; there are no enclosures upon it, and the public are in unmolested use.

I have, &amp;c.,

THOS. T. EWING.

Received.—Surveyor-General's Office, 10/4/1885. Secretary and Cashier, Surveyor-General's Office, 16/4/1885. Roads, 81-1,014-31, herewith. P.R.D., Grafton, 6/4/85. It is recommended that the customary notice of formal opening with reference to this road be inserted in the *Government Gazette*.—A. J. STOPPS (for Surveyor-General), 11/4/1885. Submitted.—G.E.H. (for the Under Secretary), 15/4/1885. Approved.—J.H., 25/5/85. Notified 22nd May, 1885, folio 3333, advertised, 27/5/85. The Surveyor-General.—G.E.H. (for Under Secretary), 29/5/85.

## No. 26.

P. Hogan, Esq., M.P., to The Secretary for Mines.

Sir,

Sydney, 5 November, 1885.

I beg to forward the enclosed petition just sent me that the road mentioned therein may be opened up.

I have, &amp;c.,

P. HOGAN, M.P.

Acknowledge and forward to the Under Secretary for Public Works.—G.E.H. (for Under Secretary), 6/11/85. Informed P. Hogan, M.P., 6/11/85. The Under Secretary for Public Works.—B.C., 6/11/85. G.E.H. (for Under Secretary.) Roads.—B.C., 10/11/85. J.R., for papers. W.B., 10/11/85. Herewith, 12/11/85. Mr. Williamson, for immediate report, 12/11/85. Shown on Mr. Williamson's sheet as Goonalbah to Jessworgan, 83-2,470. See roads, 85-11,166, herewith stating this will be attended to in January.

[Enclosure.]

The Honorable the Minister for Mines, Sydney,—

Sir,

Lismore, 20 October, 1885.

The humble petition of the undersigned residents of Chilcott's Grass and the surrounding locality,—

Humbly sheweth:

That the road Lismore to Wardell, *via* Chilcott's Grass, lately resumed, and starting from the Ballina road, through Thomas Barton's conditional purchase No. 103 of 80 acres, parish of Lismore, is almost impassable, especially that part crossing the small creek, running through Robert Marshall's conditional purchase No. 93 of 100 acres, and known as the Sheep-station Creek, the bank on the east is perpendicular, and when Mr. Marshall stops the traffic through his paddock (which he has allowed for years) in the course of a few weeks through fencing, the inhabitants will be unable to get out at all. Up to the present no money has been expended on this part of the road, and the inhabitants have a great difficulty in getting their produce to market.

Your petitioners therefore humbly pray that you will be pleased to cause a sum of money to be yearly granted for it. And as in duty bound your petitioners will ever pray.

Name.	Occupation.	Residence.
James T. McIlpatrick ... ..	Farmer	Wilson's Ridges.
Abraham Godfrey ... ..	"	"
George Fisher ... ..	"	Boggy Creek.
John Fisher ... ..	"	"

[Here follow 43 other signatures.]

## No. 27.

Messrs. T. Ewing and P. Hogan, Ms.P., to The Secretary for Public Works.

Sir,

22 November, 1885.

We have the honor to inform you that a vote for the road is much wanted, which we hope you will provide in Estimates.

Yours, &amp;c.,

THOS. EWING.

P. HOGAN.

Acknowledged, 28/11/85. Messrs. Ewing and Hogan might be informed in reply to this, and 85-9,297 herewith, that the road is on Schedule and that the work at Marshall's will be attended to in January.—W.B., 4/12/85.

Under Secretary.—B.C., 8/12. Public Works Office, 11/12/85. Submitted—J.R., 11/12/85. Inform.—J.R., 12/12/85. T. Ewing, Esq., M.P., and P. Hogan, Esq., M.P., 14/12/85.

Send memo. to Mr. Williamson to do this work at Marshall's at once. I think there was another paper on this a day or two since.—W.B., 2/1/86. Mr. Brown. Memo. sent.—4/1/86.

[Enclosures.]

[Enclosures.]

A.

The Commissioner and Engineer for Roads and Bridges,—  
Sir,

Roads Office, Lismore, 23 November, 1885.

I believe you will find that the road included in enclosed Petition was recommended to be placed on the Schedule for 1886.

I enclose a parish map showing road from Ballina (?) Road at Goonellabah to Marom Creek where it joins the road Casino to Chilcott's Wharf. The portion coloured blue will require to be altered to dotted line, as the road laid out runs up a hill about 1 in 5 only to come down again, while the dotted line is level and good creek crossing.

WM. WILLIAMSON.

T. T. Ewing, Esq., M.P., Sydney,—

Dear sir,

Rous, 16 November, 1885.

My object in writing is to bring under your notice the fact that the road from Staines' Mill to Lismore is not yet open. You may remember that you surveyed the road in '82 or '83.

Description in Petition as follows:—Starting from road known as Chilcott's to Casino, at south-west corner of W. Davis's conditional purchase of 640 acres, through conditional purchases of S. Staines, Davis, and Loadsman, and *via* Chilcott's Grass to Lismore.

This road is urgently needed, we having to travel 17 miles to town, while the road in question will reduce the distance to 10 miles.

Mr. E. Crofton forwarded a Petition to the Minister for Mines about the end of May asking that a sum of money be placed on the estimates for the opening of said road; but I have heard nothing of it since.

I have, &amp;c.,

CHARLES H. STAFF.

The Honorable the Minister for Mines, Sydney,—

Sir,

Lismore, 20 November, 1885.

The humble Petition of the undersigned residents of Chilcott's Grass, Goonellabah, and locality,—  
Humbly sheweth :

That the road Lismore to Wardell, *via* Chilcott's Grass, lately resumed, starting from the Ballina Road through John Roberts' (now Thomas Borton's) conditional purchase No. 103 of 80 acres in the parish of Lismore, county of Rous, is almost impassable, especially that part crossing the small creek running through Robert Marshall's conditional purchase No. 93 of 100 acres, and known as the Sheep-station Creek. The bank on the east is perpendicular, and when Mr. Marshall stops the traffic through his paddock, which he has allowed for years, in the course of a few weeks, through fencing, the inhabitants will be unable to get out at all. Up to the present no money has been expended on this part of the road, and the inhabitants have a great difficulty in getting their produce to market.

Your Petitioners, therefore, humbly pray that you will be pleased to cause a sum of money to be yearly granted for it. And as in duty bound your Petitioners will ever pray.

Name.	Occupation.	Residence.
James T. McIlpatrick .....	Farmer.	Wilson's Ridges.
Luke Lofts .....	„	Chilcott's Grass.
Edwin Cooper.....	„	„
Henry Littlechild .....	„	„

[Here follow 26 other signatures.]

Presented by Thos. Ewing and P. Hogan, Ms.P., with memo.

For report.—W.J.L., 26/11/85.

No. 28.

Messrs. T. Ewing and P. Hogan, Ms.P., to The Secretary for Public Works.

Sir,

Parliament House, Sydney, 20 March, 1886.

The road referred to is, we think, called Road from Lismore to Staines, turning off Lismore-Ballina Road about 2 miles from Lismore.

We think it is provided for on Estimates.

Yours, &amp;c.,

THOS. EWING.  
P. HOGAN.

[Enclosure.]

Sir,

Lismore, 26 February, 1886.

In the early part of January last I saw the *Northern Star* that the Meerschaum Road, from Lismore and Ballina Road to Wardell *via* Meerschaum, was to be reported on immediately, and tenders called for same. Two months has now passed, and nothing has been heard by us, in Lismore, as far as I have made inquiries. Further, we, as you are aware of, are going through Mr. Marshall's conditional purchase on sufferance. If he, which has been threatened, closes, there is no possible way of taking our supplies out; neither can we get our produce to market on account of the bank of the creek running through Marshall's, and being in the road about 10 feet perpendicular.

The road, further, is in a bad state. Seven of us, residents of Meerschaum, close to Boggy Creek, in last month, had to cut between 40 and 50 chains of a cart-track through the scrub, being blocked by Fisher on the old track. This road is traversed daily by people going to and from Wardell to Lismore and Wyrallah, even from Cowlong to Woodburn; and, as they pass my conditional purchase, I have asked several of them their opinion which is, as far as time judges by riding and ease in the journey, the shortest way from the places named which the geography of the place confirms. Trusting you will make all efforts to have the road opened, or information of what is being done in the matter, you know the difficulties we, between Meerschaum and Lismore, are placed better than I can state.

I am, &amp;c.,

SPENCER M. COTTEE.

T. T. Ewing, Esq., Member of Parliament for Richmond River.

Roads.—J.R., B.C., 24/3/86. There are numerous papers on this; it is known as Staines' Mill, also Goonellabah roads to Chilcott's Wharf.—W.B., 25/3/86. Records, 25/3/86. Herewith, 26/3/86. Submitted, 27/3/86. Has not this been answered more than once? If so, and further action is not required, file papers.—W.B., 3/4/86.

Mr.



## No. 29.

Mr. Road-Superintendent W. Williamson to the Commissioner and Engineer for Roads and Bridges.

Sir,

Roads Office, Lismore, 20 September, 1886.

Enclosed is a tracing of part of parish of Lismore showing a portion of the road Goonellabah to Jesswoolgan. The road as surveyed is red; the road that I would recommend is blue, through Mr. McIlpatrick's conditional purchase, S. No. 94.

The surveyed road from the angle corner of 93 and 94 runs up the face of a hill, allowing of no improvements, and at a grade of about 1 in 9. After reaching the highest point at northern corner of 94 comes down again to Tucki Creek. Mr. McIlpatrick is willing to give possession on condition of receiving £75 for fencing. I would ask the Commissioner's sanction to my paying this out of the vote—the offer is fair, as there will be a mile of fencing, and the advantage offered by the deviation will be very great, original road being an obstacle to any heavy traffic. Contract No. 35 sent in last batch is for this road.

I have, &c.,

W. WILLIAMSON,  
Road Superintendent.

There should be fuller information and something like comparative sections. How will this suit the owners of the other allotments fronting abandoned road, and also the branch road running north from "A" towards "B." The extent of land required, and, if it is cleared, its value, and also the exact length of fence should be stated.—W.B., 29/9/86. Mr. Williamson, B.C.

Enclosure to Exhibit F, No. 2, case 527, vol. 7, folios 11 and 12, papers, L.B.D., 98-2,910. From creek crossing marked "I" the road ascends to A 214 feet, or 1 in 9, falling from A to creek marked "3" 236 feet, or 1 in 8, the new line having a difference of 22 feet, or practically level. The line A to 3 could be given up. No compensation beyond the £75 for fencing is asked, and the line A to 3 given. I consider that this would be saved in the deviation, besides doing away with permanent inconvenience to traffic. There are 75 chains fencing.—W.W., 10/11/86. Commissioner for Roads.

Make the deviation; it is too palpable an improvement to delay a moment; but if the adjoining frontages to road A to 3 object, that road cannot be given up, but in that case the improvement will justify paying for the land; it is shorter, and has no hill. It is hard to guess why the road was taken as surveyed.—W.B., 15/11/86. Mr. Williamson, B.C. Enclosure to Exhibit F, No. 4, case 527, vol. 7, folios 11 and 12, papers, L.B.D., 98-2,910.

## No. 30.

Telegram from Mr. Road-Superintendent Williamson to the Commissioner for Roads, Sydney.

Lismore, 15 January, 1887.

ROAD Goonellebah to Jesswoolgan. Can I pay McIlpatrick cheque for the seventy-five pounds as agreed, compensation for road? He has given possession of the ground.

W. WILLIAMSON.

Enclosure to Exhibit F, No. 1, case 527, vol. 7, folios 11 and 12, papers, L.B.D., 98-2,910. Papers.—W.B., 15/1/87. S6-11,005 herewith.—17/1/87. Telegraph pay, and send in at once.—W.B., 17/1/87. Telegram sent Mr. Williamson's credit should be protected upon receipt of voucher. Mr. Carroll.—17/1/87. Has voucher come in?—O.C., 19/1/87. Nearly two months have elapsed since Mr. Williamson was authorised to pay, and no voucher has been received yet.—O.C., 1/3/87. Mr. Williamson, B.C. Amount has since been paid. I now return all papers.—E.M.A., 20/12/87. The Commissioner, B.C.

## [Enclosures.]

PUBLIC WORKS Department, No. 11,442, 18th November, 1897.—Summons and subpoena to Under Secretary, Department of Works, Sydney.

Public Works Department, No. 10,207, 12 October, 1897.—Report by F. S. Murray, resident engineer, on road Goonellebah to Rous.

Copy of letter to James Carroll, 19, Hunter-street, Sydney, re copy of report of late Mr. Road-Superintendent Williamson.

Public Works Department, No. 9,889, 1 October, 1897.—Letter from J. Carroll, asking for copy of report of the late Mr. Road-Superintendent Williamson.

Public Works Department, No. 9,311, 16 September, 1897.—Letter, J. Carroll (for J. T. McIlpatrick) asking for copy of report of Superintendent Williamson.

## No. 31.

Mr. J. T. McIlpatrick to The Secretary for Mines.

Sir,

Wilson's Ridges, 15 June, 1889.

About two years ago Mr. Williamson, then Superintendent of Roads in this district, was opening up the road from Goonellebah to Jesswoolgan, and to avoid a hill he made arrangement with me to run it through my selection, No. 94, in the parish of Lismore, on account of giving the old road within the boundary of No. 94 in exchange of the one that he preferred.

As up to the present time it has not been surveyed, and I am anxious to have it enclosed, as it is a great annoyance to me, I would be very thankful to you if you would cause a survey of it to be made as soon as possible.

I have, &c.,

JAMES T. McILPATRICK.

Forward to Department of Lands and inform.—E.T. (for Under Secretary), 21/6/89.

J. T.

McIlpatrick informed, 25th June, 1889.

Referred

Referred to the Commissioner and Engineer for Roads who is requested to state whether any deviation from the proclaimed road within applicant's land has been made, and if so, whether any arrangements were made as regards exchange of roads, and whether survey and proclamation of the formed road are desirable. The proclaimed road is shown on tracing herewith.—A. J. STOPPS (for Surveyor-General), B.C., 3 August, 1889. The Commissioner and Engineer for Roads. Mr. Allman for report on questions raised by Mr. Stopps.—7/9/89.

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No. 32.

Mr. J. T. McIlpatrick to The Under Secretary for Lands.

Sir, Wilson's Ridges, 29 September, 1889.  
Some time ago when Mr. Williamson was Road Superintendent in this district he, in opening the road from Goonellabah to Jesswoolgan, to avoid a hill made a digression in my selection No. 94 in the parish of Lismore, this digression was made in consideration of giving the original road in lieu of the present one, that is—that part within the boundary of No. 94, and up to the present time it is not surveyed. As I am anxious to get the place enclosed from the public you would oblige me by causing a survey to be made of it with as little delay as possible.

Yours, &c.,  
JAMES T. McILPATRICK.

Referred to the Commissioner and Engineer for Roads to whom the previous papers in this case were sent on 5th August, 1889.—A. J. STOPPS (for Under Secretary), 5th November, 1889. The Commissioner and Engineer for Roads through The Under Secretary for Public Works.

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No. 33.

Mr. Road-Superintendent E. M. Allman to the Commissioner and Engineer for Roads.

Papers 89-13,647 of 9/8.—E. M. Allman.

Subject:—As to roads within J. T. McIlpatrick's conditional purchase No. 94, parish Lismore, county Rous.

Sir, Roads Office, Lismore, 26 November, 1889.  
I now return papers 89-13,647, in reference to above question, together with 87-8,177 and others.

Mr. Stopps inquires, in minute of 3rd August, if any deviation has been made from proclaimed roads within portion under consideration, whether any arrangements have been made as regards exchange of roads, and whether survey and proclamation of formed roads are necessary.

I have shown approximately, by dotted line, the position of road in use, the greater part of which has been cut, and a culvert placed over Tucki Creek, opposite boundary road between portions 69 and 143.

The deviation was made by Mr. Williamson some years ago, and McIlpatrick has been paid £75 for fencing by this Department (voucher 1-87). McIlpatrick says that, in first instance, it was also arranged that he should get the reserved road, shown in sienna, in lieu of new line. He has nothing to show in support of this in the way of writing, and it is unlikely would definitely promise anything of the kind, not having the power to do so. It does not appear to me, however, that there is any great objection to his getting the road.

It is certainly desirable that the road now in use should be surveyed and proclaimed.

I have, &c.,

E. M. ALLMAN,

Road Superintendent.

Mr. Williamson's report of 20th September, 1886, deals with this case, and I attach copy. The original should be with these papers, but is not.—E.M.A.

Col. Wells.—J.B., 2/12/89.

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No. 34.

Mr. Road-Superintendent E. M. Allman to The Assistant Engineer, Grafton.

Extract from Roads 85-295-25.

Deviations in road Goonellabah, *via* Rous, to Wardell.

Sir, Roads Office, Lismore, 17 April, 1890.  
I have to request that application may be made for early survey of the deviations made or proposed within the following portions:—

No. 93.—R. Marshall, parish Lismore.

No. 94.—J. McIlpatrick, parish Lismore.

\* \* \* \* \*

I have, &c.,

E. M. ALLMAN,

Road Superintendent.

The road through the portions named herein was established by proclamation in *Government Gazette*, 12th November, 1884, and opened for traffic 22nd May, 1885, see page 3333, and the papers in the case were sent to the Commissioner and Engineer of Roads on 6th November, 1889, in order that the action desired by the Commissioner may be taken. It is requested that the previous papers be returned to this Department.—A. J. STOPPS (for Under Secretary), 16/6/90. Roads Lands, 81 1/2/89. Commissioner and Engineer of Roads, 6/11/89.

The

The Under Secretary, Department of Public Works (for Commissioner for Roads). Papers herewith—89-23,319, Roads, Public Works; 81 <sup>19-14</sup>, Roads, Lands. These papers might now be returned to Lands Department.—F.W., 8/7/90.

Commissioner, Under Secretary.—R.P.H., 9/7/90. The Under Secretary for Lands.—D.C.McL. (for the Under Secretary), B.C., 10/7/90.

Mr. District-Surveyor Donaldson is requested to cause survey to be made of the deviated road, as required by the Department of Public Works; and it should be made to connect with and cover the road adopted at, or near, the north-east corner of George Cooper's (now Henry Slade's) 100 acres, portion No. 143; and also connect with the proclaimed road through portion 268. The plan should show clearly, in blue colour, the roads that might be granted in lieu.—ED. TWYNAM, Chief Surveyor, 19/8/90, No. 100. The District Surveyor at Grafton.

Received in District Survey Office, Grafton, 27/8/90. Mr. Licensed-Surveyor Hunter, for survey, &c., in accordance with these instructions.—P. R. DONALDSON, 5/9/90. No. 90-35. Replied to by my plan letter of the 11th April, No. 91-19.—F. VERDON HUNTER.

### No. 35.

#### Mr. Licensed-Surveyor F. V. Hunter to The District Surveyor.

Sir,

Ballina, 11 April, 1891.

In obedience to your instructions No. 35, of the 5th May, 1890, I have honor to transmit herewith plan showing deviations in the old Goonellabah-Wardell road passing through portions 93, 94, and 69, in the parish of Lismore, in the county of Rous.

The route shown on plan herewith follows the course chosen by the Works Department; but that part of the road from the north-western corner of portion 93, to where it joins the old road, has been graded only, and is one of the deviations asked for. At present the public are using the old road, but an easier grade is sought in the position shown on plan herewith.

The remainder of the road, from the south-eastern corner of 93, to the west boundary of 143, has been cleared and improved by forming cuttings and culvert, and is now in use.

I have indicated on plan herewith by blue colour those roads which I would suggest being given in lieu of the one now measured by me.

I have, &c.,

F. VERDON HUNTER.

The deviation, as surveyed, is submitted herewith for opening. A letter is also forwarded (L.B.D., 91/2,433) from the owner of portion 81. It is presumed access will be left to that portion by re-opening the old reserved road running south from the south-west corner.—P. R. DONALDSON, District Surveyor, 22/4/91. The Under Secretary for Lands.

Advance account No. 91/19 passed.—J.B., 24th April, 1891. The Under Secretary for Lands.—J. BURT (*pro* District Surveyor), 7th May, 1891. Exhibit "J," case 527, vol. 7, folios 11 and 12. Papers L.B.D., 98/2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

[Enclosure.]

Mr. District-Surveyor Donaldson, Grafton,—  
Sir,

Lismore, 1 April, 1891.

In the deviation of the new road, Goonellabah to Jesswoolgan, my road out on to the main road has been closed. Will you please to make arrangements so that the road through McIlpatrick's Conditional Purchase will be left open from my Conditional Purchase No. 81, as formerly, as I have no other means of getting out?

I have, &c.,

H. LITTLECHILD.

Plan of McIlpatrick's Conditional Purchase to be applied for.—P.R.D., 3/4/91. Telegram sent, 3/4/91.

The writer should be informed that the deviation in this road, recently surveyed, was done under instructions from the Under Secretary for Lands; but that, as access to his land has been severed, his letter will be forwarded to the Under Secretary for Lands with the plan of the road.—J. BURT (*pro* District Surveyor), 16th April, 1891. To be returned to District Surveyor.

The writer informed accordingly.—B.S.L., 20/4/91. The District Surveyor.—B.S.L. (*pro* Acting Chairman), 20/4/91. Forwarded to the Under Secretary for Lands, with Mr. Licensed-Surveyor Hunter's Report, 91/19. L.B.D., 91/2,651. See memo. thereon.—P. R. DONALDSON, District Surveyor, 22/4/91.

### No. 36.

#### T. T. Ewing, Esq., M.P., to The Under Secretary for Lands.

Dear Sir,

Parliament House, Sydney, 2 May, 1891.

Could this kindly be soon dealt with?

Yours, &c.,

THOS. T. EWING.

Forwarded to the District Surveyor for report. Mr. Littlechild's letter appears to refer to instruction of 25th August, 1890, No. 100.—A. J. STORRS (for Under Secretary), 22nd May, 1891, No. 57. The District Surveyor at Grafton.

Received in District Survey Office, Grafton, 25/5/91.

The plan of the road herein referred to was forwarded to the Under Secretary for Lands on the 21st May, under cover of Licensed-Surveyor Hunter's letter No. 91-19. A report is not necessary. See my minute on letter above quoted. It will be absolutely necessary to re-open the old reserved road through portion 94 a sufficient distance to afford access to Littlechild's portion No. 81.—P. R. DONALDSON, District Surveyor, 1 June, 1891. The Under Secretary for Lands.

[Enclosures.]

[Enclosures.]

T. T. Ewing, Esq., M.P., Sydney,—

Lismore, 29 April, 1891.

Dear Sir,

May I trouble you in a matter of great importance to me to call at the Lands Office, and see if you can help me in the matter of a road of access to my selection? The enclosed letter will explain what I have already done, and if you can help the matter along I will take it as a great favour. Situated as I am with the deviation of the road, I am put to very great inconvenience from the way my road has been closed by the fencing put up by my neighbour. Trusting to your kind offices to assist me,

I am, &amp;c.,

HENRY LITTLECHILD.

Mr. H. Littlechild, Lismore,—

Land Board Office, Grafton, 20 April, 1891.

Sir,

Referring to your letter of 1st instant, pointing out that by the deviation of the new road, Goonellabah to Jess-woolgan, your road of access has been severed. I have the honor to inform you that the deviation in this road recently surveyed was done under instructions from the Under Secretary for Lands; but as access to your lands has been severed, your letter will be forwarded to the Under Secretary with the plan of the road.

I have, &amp;c.,

B. S. LEVICK  
(for the Chairman).

## No. 37.

Mr. R. Marshall to Mr. Roads Engineer E. J. Statham.

Sir,

Brunswick, 2 July, 1891.

I do myself the honor to write you respecting the proposed deviation of a road through my property, portion No. 93, parish Lismore.

I regret to say that I strongly object to the deviation, as it will spoil my land as a farm, dividing it as it would in triangular shape, at the same time passing over some of the best of the land, and I am sure it would considerably lessen the value of the land as a farm if the deviation is carried out. I also think that the cost of improving the present road, viz., by cutting the hill and filling up at the culvert would be less than the cost of constructing the new road, whilst it would only benefit a few and mean a serious loss to me. Some of the residents have informed me that they would prefer the present road if improved, and it would also be more suitable to the Gundurimba people. I trust you will cause careful inquiry to be made into the matter before deciding to adopt the new route, and I would also respectfully request that, if possible, you will do what you can to retain the present road instead of the proposed one through my land.

I am, &amp;c.,

R. MARSHALL  
(per W.C.M.).

Acknowledged, 9/7/91.

Mr. Allman for report.—E.J.S., 9/7/91.

## No. 38.

Mr. Resident Engineer E. M. Allman to The Superintending Engineer,  
No. 1 Division.

Subject:—Deviation through Marshall's portion No. 93, parish Lismore.

Roads Office, Lismore, 3 August, 1891.

I now beg to return above paper, which conveys a protest from Mr. Marshall against proposed deviation through his land, portion 93, parish Lismore.

The proposed deviation, which has been surveyed by the Lands some months since, has been laid out with a view of avoiding a very steep hill on road Goonellabah to Rous, about 2 miles from the Ballina Road and close to the junction of the road leading towards Gundurimba. The tracing and section attached will, I think, serve to show that the alteration is justified. It would be impossible to get anything like a reasonable grade on the present road without very heavy work, while the deviation gives grades of from 1 in 13.3 to 1 in 84.6, with little more than surface work. Mr. Marshall says he thinks the cost of making new road would exceed that of improving the old road, possibly it might, it all depends upon what would be considered a suitable improvement of old road. To get a 1 in 12 grade it would be necessary to cut nearly the whole distance from A to C (*vide* section), with a maximum depth of about 30 feet; this of course is out of the question while lighter work and heavier grades, on a road of this class, should not be thought of.

The severance of the farm is perhaps somewhat injurious, although it is a question whether the fact of the road going through as it does, may not be useful for subdivision purposes hereafter; but I think if the new road is fenced for Mr. Marshall and the old road A to C given in exchange for area resumed, he will not have much to complain of, and will probably have little difficulty in letting both paddocks. As regards the number of people benefited which Mr. Marshall says will be but few, I may say that I consider this one of our most important roads, and it must daily grow in importance. The question of the Gundurimba traffic is scarcely worth noticing, what little traffic there is from south, &c., goes towards Lismore, and if occasionally there may be travellers going from that direction towards Rous an extra 30 or 40 chains on a good road would not inconvenience them very much. I would strongly urge that works be undertaken on the new line as early as practicable, and, if possible, a special grant of £300 might be given to cover cost of opening road and fencing both sides.

Following are the lengths of the different lines:—A C, old road, 3,070 links; C B, old road, 2,300 links; A B, new line, 5,037.7 links.

E. M. ALLMAN,  
Resident Engineer.

Has it been formally opened?—E.J.S., 9/9/91. Mr. Allman. Not yet.—E.M.A., 11/9/91. The Superintending Engineer. Bring forward again when survey and resumption are complete.—E.J.S., 24/10/91. Mr. Allman. As this road has now been proclaimed I beg to refer the matter for reconsideration.—H.G.M., 17/12/92. The Superintending Engineer, No. 1 Division.

No. 39.

19

No. 39.

Mr. Henry Littlechild to The Under Secretary for Lands.

Sir,

Lismore, 2 September, 1891.

Referring to my previous communication in reference to giving me means of access to my conditional purchase No. 81, parish of Lismore, county Rous, permit me to call your attention to the serious loss and inconvenience I am being put to from the want of a road to my place. All that I require is the opening of the original road from my south-west corner on to the public road which my neighbour has fenced off. I have called at the Roads office and Survey office, Lismore, but in neither place can I get any assistance. Trusting to your giving this, to me, important matter your immediate attention.

I have, &amp;c.,

HENRY LITTLECHILD.

It is recommended that Mr. Littlechild be informed that the new deviation of the main road has not yet been established, but that when such is being done it is intended to proclaim a road in the position formerly occupied by the reserved road, in order that he may have access to the new road.—

A. J. STOPPS, 23/9/91.

May be informed.—F.H.W. (for Under Secretary), 24/9/91. Approved.—J.N.B., 25/9/91.  
H. Littlechild informed.—29/9/91.

No. 40.

The Under Secretary for Lands to Mr. Henry Littlechild, Lismore.

Sir,

Department of Lands, 29 September, 1891.

With reference to your letter of the 2nd instant, further respecting road of access to your conditional purchase, portion No. 81, parish of Lismore, county of Rous, I am directed by the Secretary for Lands to inform you that the new deviation of the main road has not yet been established, but that when such is being done, it is intended to proclaim a road in the position formerly occupied by the reserved road, in order that you may have access to the new road.

I have, &amp;c.,

WM. HOUSTON,  
Under Secretary  
(per F.H.W.).

No. 41.

Office Memorandum.

Roads Branch, Lands Department, 1 October, 1891.

MEMORANDUM of subjects requiring explanation or completion in connection with the survey and plan of part of road from Lismore to Wardell, parish of Lismore, county of Rous, transmitted by Mr. F. V. Hunter. Letter No. 19, of 11th April, 1891, and on which Mr. F. V. Hunter's (Licensed Surveyor) report in explanation is requested.

SUBJECT.

A discrepancy exists between the boundaries of portions as compiled from data on originals, and those as shown on plan of above survey (*vide* two tracings herewith) A and B.

(The east boundary of portion 143 appears to be about 100 links to the east of that boundary, as shown on road plan.)

The correct bearing and distance should have been given between the termini of survey.

If Mr. Hunter has to go on to the ground to investigate, he might connect his survey with Mr. Ewing's survey of road through portion 268, tracing (C) of which is herewith.

A. J. STOPPS  
(For Chief Surveyor),  
2 October, 1891.

Received in District Survey Office, Grafton.—  
5/10/91.

Mr. F. V. Hunter (L.S.) through the District Surveyor, Grafton.

Mr. Licensed - Surveyor Hunter.—J. R. DONALDSON, 5/10/91. The Under Secretary for Lands.—J. BURT (*pro* District Surveyor), 22/12/91.

REPORT.

I have again made a re-survey of this road, and much regret to state that I made an error in lengths given if I traverse line No. 11, which should be 296 links instead of 196 as given. c tracings.

Notwithstanding diligent search, I could not find any of Mr. Ewing's road pegs. The country has been all cleared through which the road passes, and all old marks have been destroyed.

F. VERDON HUNTER.  
Ballina,  
18/12/91.

Received in District Survey Office, Grafton.—  
22/12/91.

The error now reported in line 11 vitiates the plan, and the alteration leads to the inference that the proposed road will include part of P. Gwynne's 52 acres.

I observe that there are no corners identified on this survey, and there are no connections; this is an omission which detracts from the value of the survey, and certainly there should be some assurance on part of the Surveyor, supported by the District Surveyor, that there are no corners extant, before the plan can be approved.

The plan is badly drawn, and cannot be regarded as a fair copy document, and I think a new and correct plan should be supplied.

E. T.,  
Chief Surveyor,  
12/1/92.

Mr. Licensed Surveyor F. Verdon Hunter (*per* the District Surveyor at Grafton).

Received in District Survey Office, Grafton.—21/1/92.  
Mr. Hunter accordingly.—J. BURT (*pro* District Surveyor), 22/1/92. Replied to by my plan and letter of 7th June, No. 92-11.—F. VERDON HUNTER.



## No. 42.

Mr. Henry Littlechild to The Under Secretary for Lands.

Sir,

Lismore, 7 October, 1891.

Yours No. 81-1,014-41 of the 29th September, informing me that it is intended to give me the access I require to my conditional purchase No. 81, parish of Lismore, to the new road is duly to hand, in reply permit me to point out the urgency of the matter as it affects me. Here I am hemmed in and deprived of all means of taking my produce to market to my great loss, all by the action of the Department in depriving me of the right I have enjoyed since 1872 of reaching the road. Surely the Department can do something at once to have the obstruction removed from the reserved road from my south-west corner.

I have, &amp;c.,

HENRY LITTLECHILD

(per W.W.).

## No. 43.

Mr. Henry Littlechild to T. T. Ewing, Esq., M.P.

Dear Sir,

Lismore, 7 October, 1891.

Kindly see the Lands Department for me again. I have a letter (No. 81-1,014, 29th September), from the Under Secretary saying what is intended to be done, but I am completely shut out from the road and put to great loss. An officer from the Roads Department could do all I require in a very short time if duly instructed.

I assure you it is a very important matter to me. Thanking you very much for what you have done.

Yours, &amp;c.,

HENRY LITTLECHILD

(per W.W.).

## No. 44.

The Chairman, Local Land Board, Grafton, to Mr. Henry Littlechild.

Sir,

Land Board Office, Grafton, 6 November, 1891.

In reply to your letter of 28th ultimo, respecting means of access to your selection, I have the honor to inform you that the road having been surveyed, application should be made (if you have not already done so) to the Under Secretary for Lands, to whom your communication has been forwarded.

I have, &amp;c.,

HERBERT PHILLIPS

(pro Chairman).

## No. 45.

## Book of Reference of Road.

## Schedule of Areas to be Resumed.

DESCRIPTION of part of road between the Lismore-Gundurimba Road, and Wardell, and a Branch, parish of Lismore, county of Rous. The road passes through the lands described in the following table, in which particulars are set forth. Partly in lieu of parts of roads confirmed *Government Gazette*, 12th November, 1884, folio 7589; R. 2,635-1,603, Land District of Lismore:—

No. of Portion.	Portions of land through which the road passes.			Reputed Owner.	Character of Holding.	Width of Road.	Area to be Resumed.	Remarks.
	Area of Portion.	Name of Parish.						
93	a. r. p. 100 0 0	Lismore	Commercial Banking Company of Sydney.	C.P. 73-7,962	links. 100	a. r. p. 4 3 30		
94	49 0 0	Lismore	J. T. McIlpatrick, Lismore.....	C.P. 74-3,662	100	4 1 0	In lieu of reserved road and part of confirmed road; area of portion decreased by 1 acre 1 rood 20 perches.	
69	39 1 5	Lismore	Luke Lofts, Lismore .....	C.P. 71-2,100	100	0 2 0	In lieu of part of a confirmed road; area of portion to remain unaltered.	
143	99 2 0	Lismore	Henry Slade, Lismore.....	C.P. 77- 329	100	0 15 0	In lieu of part of a confirmed road; area of portion to remain unaltered.	

Copy to be sent to the Land Board Office at Grafton.

## No. 46.

Mr. District-Surveyor P. R. Donaldson to The Under Secretary for Lands.

11 November, 1891.

H. LITTLECHILD applying for means of access from his portion No. 81, parish of Lismore, county of Rous, to the road from Lismore to Wardell.

The enclosed letter is forwarded to the Under Secretary for Lands in connection with Licensed-Surveyor Hunter's letter No. 91-19.

The road to which access is desired is that leading from Lismore to Wardell, formed and maintained by the Works Department. This road was measured by Mr. Licensed-Surveyor Hunter, and supersedes the road through portions 94, 61, 69, 143, parish of Lismore, confirmed 12th November, 1884, folio 7589, to which the writer had access.

As

As the Works Department has deviated from the confirmed road, it will be necessary to open that part of the reserved road through J. T. McIlpatrick's portion 94, running south from the confirmed road to that surveyed by Mr. Hunter, which was closed in 1884. The plan of Mr. Hunter's survey was forwarded to the Under Secretary for Lands on the 21st May, 1891. (See L.B.D., 91-2,651, Grafton Roads; 81-1,014-36).

P. R. DONALDSON,  
District Surveyor.

[Enclosure.]

P. R. Donaldson, Esq., District Surveyor, Grafton,—  
Sir,

Some months ago I wrote you in reference to getting means of access to my conditional purchase No. 81, parish of Lismore, and since then to the Department of Lands and Works, but up to the present I have had nothing done for me. Could you by any means assist me, if the matter is in your hands, by expediting the opening of the road, the want of which puts me to very great inconvenience and loss?

Lismore, 28 October, 1891.

I have, &c.,

H. LITTLECHILD  
(per W.W.).

P.S.—I have a letter saying the matter is in the Department of Lands, being dealt with.

The writer should be informed that the road having been surveyed, he should apply to the Under Secretary for Lands. He might also be informed that his letter will be forwarded to the Under Secretary, with a request that action may be expedited. Papers to be then returned to the District Surveyor for further action.—P. R. DONALDSON, District Surveyor, 5/11/91. The clerk in charge. H. Littlechild informed, 6/11/91. The District Surveyor.—H.P., 6/11/91. Received in District Survey Office, Grafton, 10/11/91. See covering memo. by District-Surveyor Donaldson, dated 11th November, 1891, to Under Secretary for Lands.

No. 47.

T. T. Ewing, Esq., M.P., to The Under Secretary for Lands.

Sir,

Parliament House, 23 November, 1891.

I should be glad if you can instruct your surveyor to point out to Mr. Littlechild, and others concerned, on the ground, the position of road. This should close the case, and get rid of useless litigation.

I have, &c.,

THOS. EWING.

[Enclosure.]

Thomas T. Ewing, Esq., M.P., Sydney,—

Dear Sir,

I am under the necessity of still further troubling you over the matter of the road to my selection. As the matter stands, I am unable to get my crop away unless I cut down the obstruction placed across the reserved road. I am very averse to having to resort to the extreme course of cutting down the fence erected by my neighbour, but I cannot suffer the loss and inconvenience I am put to much longer unless something is done speedily.

Lismore, 13 November, 1891.

Yours faithfully,

H. LITTLECHILD  
(per W.W.).

No. 48.

Gazette Notice.

Department of Lands, Sydney, 24 November, 1891.

Notification of Proposed Resumption of Land for a Road.

NOTICE is hereby given that it is proposed to resume certain lands for a road, under the 42nd section of the Crown Lands Act of 1889 (53 Victoria No. 21).

Should any person desire to object to the action proposed to be taken, it is requested that objection be made in writing, and forwarded to the Minister for Lands within one month from the date of this notice.

Plan of the road in question may be inspected at this office, a tracing of the same at the office of the Crown Lands Agent at Lismore, and Schedule of particulars at the Local Land Board Office at Grafton.

[Rds. 81-1,014-45; R. 4,061-1,603.]

HENRY COPELAND.

Description of Road:—Part of road from the Lismore-Gundurimba Road to Wardell, between the north-west corner of R. Marshall's (now Commercial Banking Company's) 100 acres, C.P. portion No. 93, and the east boundary of G. Cooper's (now H. Slade's) 99 acres 2 roods, C.P. portion No. 143; with a branch to reserved road south of portion No. 81, parish of Lismore, county of Rous, partly in lieu of parts of road confirmed in *Government Gazette* of 12th November, 1884, folio 7589 (R. 2,635-1,603).

Schedule and Particulars of Lands proposed to be Resumed.

Land District of Lismore.

Parish Name.	Parish No.	Area.	Reputed Owner.	Occupier.	Character of Holding.	Width of Road.	Area to be Resumed.	Remarks.
Lismore ..	93	a. r. p. 100 0 0	Commercial Banking Company of Sydney.	.....	C.P. 73-7962	100 links	a. r. p. 4 3 30	
Do ..	94	49 0 0	J. T. McIlpatrick .....	.....	C.P. 74-3662	100 "	4 1 0	In lieu of reserved road and part of confirmed road; area of portion decreased by 1 acre 1 rood 20 perches.
Do ..	69	39 1 5	Luke Lofts .....	.....	C.P. 71-2100	100 "	0 2 0	In lieu of part of a confirmed road; area of portion to remain unaltered.
Do ..	143	99 2 0	Henry Slade .....	.....	C.P. 77- 329	100 "	0 1 15	In lieu of part of a confirmed road; area of portion to remain unaltered.

## No. 49.

Mr. Henry Littlechild to The Under Secretary for Lands.

Sir,

Lismore, 9 December, 1891.

Referring to previous correspondence in reference to means of access to my conditional purchase No. 81, parish of Lismore, county of Rous, and the *Gazette* notice, 24th November, 1891, folio 9218, with the tracing exhibited at the Land Office, Lismore, showing the road as proposed to be opened, I now beg to say the road will answer my purpose, and is left in the way I have been asking for it. All that I now want is authority to remove the obstruction placed across the original reserved road, or I would much prefer that this was done under the supervision of an officer specially deputed to have it done, and I will find the necessary labour, as the matter is of pressing necessity to me for the getting of my crop to market.

Trusting to have the obstruction removed,

I have, &amp;c.,

HENRY LITTLECHILD

(per W.W.).

## No. 50.

Mr. J. T. McIlpatrick to The Secretary for Lands.

Sir,

Wilson's Ridges, 12 December, 1891.

I have received notice that it is proposed to resume certain lands for a road from Lismore to Wardell, through portion No. 94, the same being my conditional purchase. About five years ago I gave consent to Mr. Williamson, the then Road Superintendent, to alter the road through portion No. 94 (see diagram marked red). To that part I make no objection; but to the branch road I do object, for the following reasons:—

1st. Branch road not required, as there is already a road running from the Lismore and Wardell Road direct to portion No. 81, with easy access, passing about 3 (three) chains from the principal house on the place, and is used by others (see diagram). Creek not difficult, being very small—so small it has been discontinued as a frontage (see map).

2nd. Branch road forming a boundary road around portion 94, excluding it from having any access to the creek, it having no other water available, leaving it only a high dry hill (see pencil-mark in diagram; see also map).

The branch road in question is not forming any part of the deviation, and having no connection with the previous existing road, having been given to me in 1884 in lieu of confirmed road within the boundary of portion 94, and forming part of my conditional purchase from that date; therefore is a new and separate road altogether.

The objections here stated are undeniable facts, and can be proved if called upon. Annexed, please find diagram showing the position of the principal houses on each portion, as well as an outline of the roads and hill in portions 94, 81, and 70, although rough, may convey some information to you.

Trusting, hon. sir, considering the importance of objection 2nd, compared with the unnecessary proposition, you will be able to come to a satisfactory conclusion.

I have, &amp;c.,

JAMES T. McILPATRICK.

Exhibit K, case 527, vol. 7, folios 11 and 12. Paper L.B.D., 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

## No. 51.

Mr. G. Larkin to J. Perry, Esq., M.P.

Dear Sir,

Lismore, 12 December, 1891.

The accompanying letter and sketch, I have been requested by McIlpatrick to ask you to present to the Under Secretary for Lands, and do what you can for him. He is a very decent old fellow, and seems by sketch to have been rather overdone with roads; the road in question is the one that goes from Goonellebah to Rous.

According to sketch which is correct, it would appear that the piece of road marked blue might well be closed as conditional purchase 81 (Littlechild) has plenty creek, and McIlpatrick would be cut off altogether.

Yours, &amp;c.,

GEORGE LARKIN.

It is recommended that Mr. Perry, M.P., be informed that the gazettal of this road will close the reserved road which passes south-easterly through Mr. McIlpatrick's portion, and also the confirmed road passing easterly through same land, but that is necessary to re-open the reserved road which connects the main road with portion 81, as the owner of that portion has always had the right of access to the main road in that direction.—A. J. STOPPS, 30th December, 1891.

For approval.—F.H.W. (for Under Secretary), 31/12/91. Approved.—H.C., 5/1/92. J. Perry, M.P., informed, 7/1/92.

## No. 52.

The Manager, the Commercial Banking Company of Sydney, at Murwillumbah, to J. Perry, Esq., M.P.

Commercial Banking Company of Sydney,

Sir,

Murwillumbah, 17 December, 1891.

I beg to enclose herein letter from Mr. Robert Marshall, the mortgagor of the property gazetted last November, of portion 93, parish Lismore, county Rous, 100 acres, objecting to the land being resumed for a road.

Yours, &amp;c.,

A. A. WILSON,

Manager.

[Enclosures.]

[Enclosures.]

To the Hon. Minister for Lands,—

Dear Sir,

In reference to a road going through my conditional purchase portion 93, parish Lismore, county Rous, and gazetted 24th November, 1891. I object to the said road going through the above portion as the people have already a road going by the property, if the road was put through the portion, it would render one part of it almost useless, hence my objections; also the road is not required.

Brunswick Heads, 14 December, 1891.

Yours, &amp;c.,

ROBERT MARSHALL,  
Brunswick Heads.

M.C.B.—

Dear Sir,

In reference to the road gazetted last 24th November, to go through portion 93, parish Lismore, county Rous, I object strongly to the said road, it not being required, as already they have a road going by the property this ten or twelve years, and if the road was shifted it would greatly damage one portion of the property.

Brunswick Heads, 14 December, 1891.

Yours, &amp;c.,

ROBERT MARSHALL.

P.S.—I wrote to Mr. Statham about the road some time ago, objecting to it; he answered it, and said he would see about the matter.

## No. 53.

The Crown Lands Agent at Lismore to The Under Secretary for Lands.

Sir,

Crown Lands Office, Lismore, 31 December, 1891.

I have the honor to return herewith a tracing of road in the parish of Lismore, county of Rous, proposed to be resumed in accordance with *Gazette* notice of 24th November, 1891, the said tracing having been exhibited outside this office for a period of one month.

I have, &amp;c.,

F. A. RIDLEY,  
Crown Land Agent.

## No. 54.

The Under Secretary for Lands to J. Perry, Esq., M.P.

Sir,

Department of Lands, Sydney, 7 January, 1892.

With reference to the letters of Messrs. George Larkin and James T. McIlpatrick (presented by you) objecting to the opening of the branch road from the Lismore-Gundurimba road to Wardell, to reserved road south of portion No. 81, parish of Lismore, county of Rous, I am directed by the Secretary for Lands to inform you that as the owner of portion No. 81 had access to the road passing Mr. McIlpatrick's land, which has been superseded by proclamation of the present road adopted by the Department of Public Works nearer the creek, it has been necessary to open the branch road, to the new road, to place the owner of portion No. 81 relatively in the same position with regard to access as he was formerly. The reserved road which passes south-easterly through Mr. McIlpatrick's portion, and also the confirmed road passing easterly through the same land will be closed by the action taken.

I have, &amp;c.,

WM. HOUSTON,  
Under Secretary.

## No. 55.

Mr. J. T. McIlpatrick to The Secretary for Lands.

Sir,

Wilson's Ridges, 28 January, 1892.

With reference to your communication of the 7th instant, wherein you say that it is necessary to open the branch road to the new road to place the owner of portion No. 81, relatively, in the same position, with regard to access as he was formerly. This access never did exist, as the new road is only about five years in existence, and part of the branch road was given to me in 1884 in lieu of confirmed road (see *Government Gazette* of 15th September, 1884, folio 6018), showing that they reserved 1 acre 15 perches, in lieu of part of reserved road (see also *Government Gazette* of 12th November, 1884, folio 7586), showing the confirmation of the same road in lieu of part of reserved road; this was three years before the new road did exist. I have read every Act I could get, and I cannot find any section to justify the action proposed to be taken under the circumstances—placing the owner or occupier of any adjoining lands with a former access that never existed. I have sent reasonable and undeniable objections with reference to same, and I now insist that they be taken into consideration.

I have, &amp;c.,

JAMES T. McILPATRICK.

Exhibit L, case 527, vol. 7, folios 11 and 12, papers L.B.D., 98-2910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

## No. 56.

Office Memorandum.

Roads Branch.

As several inquiries are being made urging the establishment of the road as surveyed by Mr. Hunter, through Mr. McIlpatrick's land, parish Lismore, county Rous, it is requested that Mr. Hunter will forward the new plan of road as soon as possible.

The instruction for the amended plan was sent to him 19th January last.

A. J. STOPPS

(For Chief Surveyor),

Mr. F. V. Hunter, Surveyor, through the District Surveyor at Grafton.

4th May, 1892.

Mr.

Mr. Foster.—What date was this forwarded to Mr. Hunter?—J.B., 9/5/92. To Licensed-Surveyor Hunter, 22/1/92. H.F., 9/5/92. Urgent.—Forwarded to Mr. Hunter accordingly, with a request that this matter may receive immediate attention.—P. R. DONALDSON, District Surveyor, 9th May, 1892. This case has been in Mr. Frost's hands for the last month, and I am anxiously awaiting his action in the matter.—F. VERDON HUNTER, 19/5/92. Received in District Survey Office, Grafton, 28/5/92. Draftsman in charge.—P.R.D., 30/5/92.

The amended plan of this road was forwarded to the Under Secretary on the 14th instant, under cover of Licensed-Surveyor Hunter's letter No. 92-11.—J. BURT (*pro* District Surveyor), 20/6/92. The Under Secretary for Lands.

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No. 57.

Telegram from The Chief Surveyor to The District Surveyor, Grafton.

Sydney, 27 May, 1892.

WHEN will new plan of road through portions 93, 94, and 69, parish of Lismore, be sent in by Mr. Licensed-Surveyor Hunter?

E. J. BRISCOE

(For the Chief Surveyor).

If the plan has not yet been received, send telegram to Mr. Hunter, and ask him to wire reply.—P.R.D., 27/5/92.

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No. 58.

Telegram from The Chief Surveyor to The District Surveyor, Grafton.

Sydney, 30 May, 1892.

Re your wire of 27th instant, respecting new plan of road through portions 93, 94, and 69, parish of Lismore, I understand the contract draftsman in this office has drawn the plan and transmitted it to Mr. Hunter to-day for signature. It should, therefore, be received within a few days.

P. R. DONALDSON,  
District Surveyor.

Mr. Stopps, 30/5/92.

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No. 59.

Telegram from Mr. Licensed-Surveyor F. V. Hunter to The District Surveyor at Grafton.

Ballina, 30 May, 1892.

My rough of road ; been with Mr. Frost six weeks ; kindly urge him forward plan.

F. VERDON HUNTER,  
Licensed Surveyor.

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No. 60.

Mr. Licensed-Surveyor F. V. Hunter to The District Surveyor at Grafton.

Sir,

Ballina, 7 June, 1892.

In obedience to your instructions No. 35 of the 5th May, 1890, and memo. of 22nd January, 1892, Roads 81-1,014/56, I have the honor to transmit herewith plan showing deviations in the old Lismore-Goonellabdt-Wardell road passing through portions 93, 94, 69, and 143, in the parish of Lismore, in the county of Rous.

The route shown on plan herewith follows the course chosen by the Works Department.

That part of the road from traverse 1 to 12 has been graded, but is not yet formed, the remainder of the road has been cleared and formed, and is now used by the public.

I have indicated on plan herewith by blue colour those roads which I think might be given in lieu of the one shown on my plan.

In making this amended survey I have altered traverse line No. 1, which will now commence from the north-western corner of 93.

The north-west corner of 268, and the north-west corner of 93, were found by me, and should have been shown on my original survey.

I have, &c.,

F. VERDON HUNTER.

Amended plan submitted.—P. R. DONALDSON, District Surveyor, 14/6/92. The Under Secretary for Lands. Exhibit M, case 527, vol. 7, folios 11 and 12; papers L.B.D., 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/92.

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No. 61.

Mr. J. T. Fitzpatrick to The Secretary for Lands.

Sir,

Wilson Ridges, 5 October, 1892.

I have the honor of drawing your attention to the following urgent reason on my part for objecting to the proposed resumption of land for a road, which notice appeared in the *Government Gazette*, dated 20th September, 1892, folio 7469.

1. The portion of the proposed resumption to which I object, that running from the original Lismore-Gundurimba and Wardell road in a southerly direction across my conditional purchase No. 94 to the other proposed deviation (*viz.*, that part which was granted to me on the 12th November, 1884, reference can be seen in the *Government Gazette*, folio 7589, also 16th September, folio 6018, in lieu of confirmed road), which is altogether unnecessary, and, therefore, unwarranted. 2.



2. About five years ago I consented to the exchange of the deviation now in question for the then existing road within the boundary of portion No. 94, notwithstanding this decreased my area, and thereby deprived me of the greatest part of my water frontage. This I am still willing to allow to be resumed.

3. The portion running at right angles from this (nearly), viz., the branch road, completely cuts off the rest of my water frontage, leaving my conditional purchase valueless.

4. The road running past the house of owner of portion No. 81 on the east side provides ample communication with the present existing road for the occupants of conditional purchase No. 81, and all other properties in the neighbourhood.

I, therefore, respectfully, but most strenuously, object to the resumption of this part of the proposed road as being an injury and injustice to me—the wrong being one for which there is no reasonable excuse, and could only have resulted from gross misrepresentation, as a reference to the map will at once confirm my statements.

Before gazettement the proposed road I would respectfully suggest that some impartial and duly qualified person should be sent to report upon the various deviations which have been suggested.

As this is a matter of vital importance to me, I wish it will receive due attention.

I have, &c.,

JAMES T. McILFATRICK.

No. 62.

Mr. J. T. McIlpatrick, to J. Perry, Esq., M.P.

Sir,

Wilson's Ridges, Lismore, 8 October, 1892.

Herewith please receive Petition from the residents of the locality, and also a letter and sketch, all for the Minister for Lands. Would you kindly read and forward on, at the same time using your influence to assist me from being deprived of some of my land, and being unnecessarily and entirely cut off from all water frontage. The sketch shows:—

- I. Road in red, which was granted to me in 1884, *vide Government Gazette*, 12th November, 1884, folio 7589, in lieu of part of the confirmed road marked blue and red.
- II. About five years ago another deviation was made along the creek, marked green; for this I was promised the original road, marked blue and blue and red (this has not yet been confirmed). The only way I now had to the creek for the upper parts of portion 94 was over the road granted to me in 1884.

I have now received notice that this part which was, as before stated, granted to me in 1884, is to be resumed. This entirely cuts me off from my water supply, and leaves portion 94 useless. The only reason for opening this road is, it is said, to benefit one person, who, as shown on sketch, has ample communication with the present existing roads, as explained in my letter to the Minister for Lands. It will be seen by red dots on the sketch on portion 81, the distance the proprietor of said portion will have to travel round heading gullies and creeks, &c., to get to the proposed branch road, while he lives within 3 chains of the other road which takes all the traffic of the neighbouring farms.

I would respectfully ask you to use your best influence in arranging this matter for me at your earliest convenience.

My paddock is open, and I am unable to do anything with the place.

Leaving the matter in your hands,

I am, &c.,

JAMES T. McILFATRICK.

[Enclosure.]

To the Honorable The Minister for Lands,—

We, the undersigned residents in the neighbourhood, and persons acquainted with the proposed resumption of land for road purposes in the conditional purchase 94 of J. T. McIlpatrick, parish of Lismore, hereby declare our conscientious belief that the portion of the proposed resumption to which he (J. T. McIlpatrick) objects, namely, the branch from the original "Lismore-Gundurimba-Wardell Road" to the proposed deviation is an unnecessary encroachment upon, and injury to, his property, and one which should not be granted, especially as Mr. McIlpatrick has already, in the interests of the public, permitted the resumption of a valuable piece of land for a like purpose between the water and the rest of his conditional purchase, and we believe that no person will be injured by its not being granted.

We further think that any proposal to resume the portion now objected to could only have resulted from gross misrepresentation, or a misunderstanding on the part of the Department.

We have, &c.,

Thomas Loadsman .....	farmer.
Luke Lofts, Chilcott's Grass .....	"
Solomon T. Payne .....	"
James Gwynne .....	"

[Here follow 15 other signatures.]

No. 63.

Executive Council Minute.

Resumption of land for a road.

Department of Lands, Sydney, 28 October, 1892.

It is recommended for the approval of His Excellency the Governor and the Executive Council, that the lands which have been particularised by notification in the *Government Gazette* as proposed to be resumed for a road under 42nd section of the Act 53 Victoria No. 21, be now resumed for the road in question, viz.:—Part of road from the Lismore-Gundurimba road to Wardell, between the north-west corner of R. Marshall's (now Commercial Banking Company's) 100 acres conditional purchase, portion No. 93, and the east boundary of G. Cooper's (now H. Slade's) 99 acres 2 roods conditional purchase, portion No. 143; with a branch to reserved road south of portion No. 81, parish of Lismore, county of Rous, partly in lieu of parts of road confirmed in *Government Gazette* of the 12th November, 1884, folio 7589.

HENRY COPELAND.

The Executive Council approve of the recommendations herein set forth.—ALEX. C. BUDGE, Clerk of the Council, 7/11/92. Minute 92-53. Approved.—JERSEY, 7/11/92. Confirmed, 15/11/92. Notified, 18 November, 1892, folio, 9171. Advertised, 21/11/92. Re-submit, 28 December, 1892.

No. 64.

## No. 64.

Canly Dickey, Esq., to The Under Secretary for Lands.

Sir,

Lismore, 1 November, 1892.

I have been consulted by Mr. James T. McIlpatrick, of Wilson's Ridges, of Lismore, the present holder of portion 94 of 49 acres, as seen by reference to the parish map. Mr. Littlechild is the owner of portion 81. It is proposed by the Lands Department to resume 4 acres 2 roods and 10 perches in lieu of a reserved road and part of confirmed road, as shown by *Government Gazette* of 20th September, 1892, and if this proposed road is made, Mr. McIlpatrick's conditional purchase, No. 3,662, of 1874, will be rendered useless to him, as the whole of his water frontage will thereby be taken away from him. I would respectfully call your attention to the correspondence between Mr. McIlpatrick and your Department with reference to the road in question. Mr. McIlpatrick consented (see his letter to the Minister for Lands, dated 5th October last, No. 2) to the exchange of the deviation now proposed except the branch road, as shown on sketch lodged in your Department with petition, and if this branch road is confirmed, Mr. McIlpatrick will be deprived of his water rights altogether, and Mr. Littlechild, the owner of portion No. 81, can get easier access to the same road at a point within 3 chains of his own house, and he is the only person who could use this branch road my client objects to. Mr. Littlechild might be put to the expense of about £3 in making a small culvert across the creek opposite his house.

Before finally coming to a conclusion with reference to this matter, I would ask you to get Mr. Murray, the local superintendent of roads, to go and inspect the proposed deviations and report on the matter to you, as I am quite confident if you knew the injury that must ensue to Mr. McIlpatrick if the proposed resumptions are confirmed, and how little resumptions will convenience or benefit Mr. Littlechild, you would never permit such resumptions to be confirmed.

Trusting that you will kindly direct Mr. Murray to inspect and report to you on this subject without loss of time.

I have, &amp;c.,

CANLY DICKEY,  
Solicitor for Mr. McIlpatrick.

## No. 65.

Mr. J. T. McIlpatrick to The Under Secretary for Lands.

Sir,

Wilson's Ridges, 5 November, 1892.

I am sorry to trouble you with this subject; but the necessity of the case compels me to do so. In 1874 I selected a measured portion of land, containing 49 acres. There was a road passing through it; this remained unaltered to 1883. There was a deviation surveyed in it, for what reason I could never learn. In 1884 this deviation was confirmed, and I was granted, as compensation, part of the original road—from the confirmed road to Tucki Creek. This part that was granted to me was then standing scrub, which I afterwards felled. Three years after this Mr. Williamson came to me, stating that he was going to do some work on the road, and that he never could get a grade over the hill, and that he wanted to see if he could make any arrangements with me. He had the parish map with him. Showing me the map, there was a pencil mark drawn across my place in the position that the deviation now passes—pointing this mark out to me, stating this is the way we want to go. This proposed deviation cut off the creek on one side of my conditional purchase, passing about 2 chains from my house. I replied, that road went through my conditional purchase any way, and if it was any improvement to the road, or advantage to the public, he could have it; providing that I was allowed the old road within the boundary, as the one road would do me as well as the other; but I would not consent to have two roads in the place. To this he agreed also. As this would leave my place open, as I had the old road almost fenced, it would cost me no more, and it would be reasonable to allow for the fencing of it off. We then went in to consider the cost, and he allowed me £75. This £75 was for the cost of erecting the fence on the proposed deviation, and has nothing to do with the exchange of the road. There is not a living soul that knows the place from Lismore to Wardell but approves of the alteration of the road; but this one person, backed up by his nephew, who has ample access to the present existing road by a road passing about 3 chains from his house, and it is a shorter and better one than the road he wants, and is in use by others. I am cruelly and unnecessarily persecuted in this matter, and I understand that there is secret influence brought to bear in this case, and all means is cut away from me, so that I am unable to defend myself. I have sent in objections containing nothing but solid facts, as well as a petition signed by nineteen residents of the place. I am willing for an impartial report of the place. I am also willing for an inquiry at the Local Land Board. I offer every fair terms in my petition, but all is denied me. I respectfully ask you, as honorable gentlemen, to try and set this matter right by all fair and just actions.

I have given you an account of the whole transaction from the first, so that you will better understand how the subject stands.

As this is a matter that is very pressing on me, as I cannot make any use of the place until this matter is settled—even the horse that I ride I am obliged to get him grazed with a neighbour—and if the water is cut off unnecessarily with this proposed branch road, the place will never be any use to me, as the place is grass land, and if they take the water from it they can take the whole 49 acres. Therefore, I will resist it to the last.

Trusting, sir, you will try and set matters right in a fair and just way.

I am, &amp;c.,

JAMES T. McILPATRICK,

Presented by Messrs. Ewing, Nicoll, Perry, Ms.P.

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No. 66.

Mr. Henry Littlechild to The Under Secretary for Lands.

Sir,

Lismore, 12 November, 1892.

After much weary waiting I am compelled once more to appeal to you to have the road to my conditional purchase 81, parish of Lismore, opened.

I am led to believe that all that is now required is for the road to be gazetted. Could you have this done, for pity's sake, and so save me from further loss from the want of access to my place? I feel sure if you only knew the strait I am put to you would not allow a day to elapse before I had the road opened.

I have, &amp;c.,

HENRY LITTLECHILD

(per W.W.).

No. 67.

Canly Dickey, Esq., to J. Perry, Esq., M.P.

Dear Sir,

Lismore, 15 November, 1892.

The *locale* is Wilson's Ridges, near Lismore. The injured man in this case is Mr. James T. McIlpatrick, who is the owner of a conditional purchase, portion 94, of 49 acres, on parish map of Lismore. A Mr. Littlechild is the owner of portion 81, adjoining. A host of papers, petitions, and documents, maps, &c., are in the Lands Department. Littlechild wishes the road to run through McIlpatrick's land, and if the road is made as Littlechild wants it, all the water frontage will be taken away from McIlpatrick. Littlechild can get to the same road at a point within 3 chains from his own house, but this would involve an expenditure by him of about £3, to make a small culvert over the creek, and he objects to do this.

Some time ago my client agreed to allow a road to go through his land, at the request of the Government, and this proposed road deprived him of all his water frontage, except a little bit, and now it is proposed to take the rest of the water frontage away by making this road where Littlechild wants it. Will you kindly look after this matter and see that Mr. McIlpatrick is not treated unjustly in this manner?

I wrote the Under Secretary for Lands *re* this matter on the 1st November instant, and have not heard from him since.

Yours, &amp;c.,

CANLY DICKEY.

No. 68.

## Gazette Notice.

Notification of Resumption of Land for a Road.

Department of Lands, Sydney, 18 November, 1892.

NOTICE is hereby given that the lands required for a road, and embraced within the holdings particularised in the appended Schedule, are hereby resumed under the 42nd section of the Act 53 Victoria No. 21.

By His Excellency's command,

HENRY COPELAND.

[Rds. 81-1,014-72; R. 4,061a.]

Description of Road:—Part of road from the Lismore-Gundurimba Road to Wardell; between the north-west corner of R. Marshall's (now Commercial Banking Company's) 100 acres conditional purchase portion No. 93, and the east boundary of G. Cooper's (now H. Slade's) 99 acres 2 roods conditional purchase portion No. 143, with a branch to reserved road south of portion No. 81, parish of Lismore, county of Rous,—partly in lieu of parts of road confirmed in *Government Gazette*, 12th November, 1884, folio 7589.

Schedule and Particulars of lands resumed.

Land District of Lismore.

Parish Name.	Parish No.	Area.	Reputed Area.	Occupier.	Character of Holding.	Width of Road.	Area Resumed.	Remarks.
Lismore ..	93	a. r. p. 100 0 0	Commercial Banking Company of Sydney	.....	C.P. 73-7962	100 links	a. r. p. 4 3 0	
do ..	94	49 0 0	J. T. McIlpatrick .....	.....	C.P. 74-3662	100 ,,	4 2 10	In lieu of a reserved road, and part of confirmed road; area of portion decreased by 1 acre 2 roods.
do ..	69	39 1 5	Luke Lofts .....	.....	C.P. 71-2100	100 ,,	0 1 0	In lieu of part of confirmed road; area of portion to remain unaltered.
do ..	143	99 2 0	Henry Slade .....	.....	C.P. 77- 329	100 ,,	0 0 30	do do do

No. 69.

Mr. Charles Dean, Junr., to B. B. Nicoll, Esq., M.P.

Dear Sir,

Lismore, 29 November, 1892.

A Mr. James McIlpatrick, of Wilson's Ridges, and a good many people interested with him, have asked me to write requesting you to be good enough to take some immediate action in the matter of road proposed to be run through his property. The matter stands this way: McIlpatrick has, as you will see by a rough sketch hereto attached, two pieces of land, 89 acres in all; the 49-acre piece fronting the Tucki Creek; and about five years ago he generously consented to the exchange of the deviation now in question

question for the then existing road within the boundary of portion No. 94, notwithstanding this decreased his area and deprived him of the greater part of his water frontage; but this he does not in any way mind, and is still willing that it should be resumed. But the portion (now believed to be gazetted) and known as the branch road, running from the original Gundurimba-Wardell road in a southerly direction across conditional purchase No. 94 to the other proposed deviation, viz.:—That part which was granted to him on the 12th November, 1884, in lieu of confirmed road. It appears that this portion is being advocated for by one individual (Littlechild) and against the fact that nineteen property-holders alleged by petition that it is absolutely unrequired and unnecessary. The road running as it does past the house of the owner of portion 81 on the east side, provides the most ample accommodation with the existing road for the occupants of conditional purchase No. 81, and any other properties in the neighbourhood. Now it is presumed by all these parties interested that (Littlechild) must have some strong influence at his back to have worked this so far in his favour, and it is presumed by many that Messrs. Ewing and Perry, not knowing the facts, have been led to favour the interests of this party; but whether this is so or not I cannot say; anyhow I am sure, and many others too, that if they were aware of the injustice that will be done to McIlpatrick if this is carried out, as well as the uselessness of the road, excepting for Littlechild, they could never favour it. You will see by the plan that it completely shuts him off from the water frontage and renders this selection valueless; and so far as compensation is concerned he would require the value of the selection which he is not likely to get; though he can for a certainty fill the Land Court with witnesses as to the injury he will sustain.

The matter has been fully talked over, and a prominent man here recommended that you should be solicited to interview the authorities and prevent any further action being taken if possible.

The matter is of vital importance to this man who has on his side almost every person in the neighbourhood in which he lives, and it is only a simple act of justice that no action as proposed by the Department be carried out, 93-527.

One of the officers who is believed reported long ago on the road never even examined it carefully, or rather, had no knowledge of the damage this man would suffer. Of course if there was the slightest necessity for it, it would be some argument; but even Littlechild, who is the only one that can be served, will scarcely use it in preference to the existing road. It is a bit shorter, but very rugged. If necessary there could be twenty letters on top of this endorsing all said; but if you will kindly look the matter up early, you will see the petition, &c., from these people who feel very much hurt at what has been so far done; in fact, they will sift it to the end, and if necessary have the matter brought before the House.

Kindly give the matter your best attention, and endeavour to have matters remain as they are. It does seem strange that one man's interest should be so supported without any reason or justice for it whatever.

Yours, &c.,

CHARLES DEAN, JUNR.

Presented by B. B. Nicoll, M.P., for inquiry into this matter.—Acknowledged, 11/1/93. Commissioner for Roads.—D.C. McL. (for Under Secretary), B.C., 11/1/93. Com-

## No. 70.

### Mr. J. T. McIlpatrick to The Under Secretary for Lands.

Sir,

Lismore, 29 November, 1892.

I beg most respectfully to point out that since the receipt of your last communication of 15th October informing me that "the matter would receive immediate attention." I have received no further information on this subject as promised, although a notice appears, I believe, in the *Government Gazette* with reference to this road. In view of the great importance of this matter to me I respectfully say—

1. That the road known as the branch road running to reserved road south of portion No. 81, parish of Lismore, county of Ross, if resumed, will injure me most seriously, cutting off the balance of my water frontage of area No. 94, and render it valueless.

2. There is only one person who may use it, and who is the chief advocate for his own, or what he considers his own, personal advantage.

3. The existing roads satisfy all demands for traffic and convenience, as my petition, largely signed by property-owners, will show.

4. Compensation will be useless to me unless I receive the value of the conditional purchase No. 94, and I can stack the Land Court with witnesses to prove this statement.

5. It is puzzling to nearly every individual in the neighbourhood how this branch road can be considered necessary when such ample convenience exists for the properties adjoining conditional purchase No. 81 and owner of 81 also, and I strongly solicit the justice of having a report by some competent person.

6. I trust that you will not resume this "Branch Road Portion," as after spending years of my life on the selection it will be ruinous to me; and to this fact I have abundance of evidence to produce.

I have, &c.,

JAMES T. McILPATRICK.

Presented by B. B. Nicoll, Esq., M.P.

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No. 71.

## Office Memorandum.

19 December, 1892.

Part of road between the Lismore-Gundurimba Road and Wardell with a branch road, parish of Lismore, county of Rous.

LAND for the abovementioned road having been resumed under the 42nd clause of Act 53 Victoria, No. 21, by notice in the *Government Gazette* of 18th November, 1892, folio 9171, it is hereby intimated that a certain area specified in Schedule below has been resumed for that road from the undermentioned conditional purchase.

A. J. STOPPS.

No. of C.P.	Cat. No. of Plan.	Parish.		Name of Conditional Purchaser.	Original Area of Portion.	Area Resumed for Road.	Difference between area of Reserved Road and Resumed Land.	Present Area of Portion.
		No.	Name.					
74-3,662	R. 948-1,759 ...	94 ...	Lismore .....	J. T. McIlfratrick .....	a. r. p. 49 0 0	a. r. p. 4 2 10	a. r. p. 1 2 0	a. r. p. 47 2 0

In lieu of a reserved road and part of a confirmed road, area of portion decreased by 1 acre 2 roods.

The present holder of conditional purchase 74-3,662 may be refunded the deposit on  $1\frac{1}{2}$  acre resumed for road purposes.—C.C., 9/1/93. W.H.C. (for Under Secretary), 10/1/93. Approved.—H.C., 12/1/93. Applicant with refund order, 7s. 6d. Agent and Treasury informed.—C.C., 10/2/93.

No. 72.

Mr. J. T. McIlfratrick to T. T. Ewing, Esq., M.P.

Sir,

Wilson's Ridges, 1 January, 1893.

I am in receipt of your communication of 24th ultimo with reference to plan. I beg to draw your attention to the gross misrepresentation of the road in question, as the plan does not show that part of the road leading direct to the house of the owner of portion No. 81 through portion No. 51, leaving portion No. 51 blank, as if owner of portion No. 81 has no access to main road, which, if you refer to the original map, you will at once discover the error, as the road passes right through No. 51 up to the owner of No. 81 boundary, and within 3 chains of his house, giving him full access to the main road; also the Progress Association has made application for the improvement of this road connecting portion No. 81 and all other farms in the neighbourhood; and a deviation has been recently surveyed as shown in diagram, and if you refer to plan it does not show the east boundary of No. 81 where the road connects. This, I believe, has caused the whole trouble.

I do not crave for any favour, but I do sincerely ask for justice; and if you and Mr. Perry will assist me in bringing the matter before the Local Land Board for each to prove our claims, I will be ever grateful to you.

I remain, &amp;c.,

JAMES T. McILFRATRICK.

No. 73.

Petition from the Residents in the neighbourhood of Wilson's Ridges.

To the Honorable the Minister for Lands, Department of Lands, Sydney,—

The Petition of the undersigned residents in the neighbourhood of Wilson's Ridges, in the parish of Lismore, county of Rous,—

Humbly sheweth:—

1. That the portion of road resumed, viz., that portion running from the original Lismore-Gundurimba-Wardell Road in a southerly direction across Mr. James T. McIlfratrick's conditional purchase No. 94 to the other proposed deviation, viz., that part which was granted to him on the 12th November, 1884, and 16th September is absolutely unnecessary and unrequired.

2. That the road running past the house of owner of portion No. 81, on the east side, provides the most ample and complete communication with the existing road for the occupant of Conditional Purchase No. 81 and the occupants of all other properties in the neighbourhood, as we your Petitioners resident in the locality well know.

3. That if the branch road already gazetted or resumed be opened, it will be altogether useless and will inflict the greatest injury and injustice on Mr. McIlfratrick, whose water frontage will be completely cut off and his conditional purchase rendered valueless.



4. That the report of the roads officer could only be the result of misrepresentation, as the existing road is the most suitable and convenient for the general public and we the undersigned residents, who strongly sympathise with Mr. McIlpatrick in the loss that he must sustain if the branch road referred to be opened.

And your Petitioners humbly pray that you will be pleased to order the question of the resumption of the branch road referred to to the Land Court at its first sittings to be holden in Lismore, in order that evidence may be properly taken as to whether the road is required and should be resumed.

And your Petitioners, as in duty bound, will ever pray.

Name.	Address.	Occupation.
James Gwynne ... ..	Chilcott's Grass.	Farmer.
John Gwynne ... ..	"	"
J. J. Gwynne ... ..	"	"
James Smith ... ..	"	"

[Here follow 18 other signatures.]

Presented by T. T. Ewing and J. Perry, Ms.P.

#### No. 74.

Mr. J. T. McIlpatrick to The Under Secretary for Lands.

Sir,

Lismore, 29 September, 1893.

Will you please be good enough to inform me at your earliest convenience in what position my matter concerning the road running through my property, Wilson's Ridges, is, and if it comes on for hearing at the ensuing sittings of the Local Land Court; also, if the Board have the right of taking evidence as to whether the road is required in the public interest.

I have, &c.,  
JAMES McILPATRICK.

The Works Department is still considering claims made for compensation in connection with the road in question, and the case has not been referred to the Land Board for appraisement of value of the several areas resumed for the road. Mr. James McIlpatrick may be so informed.—A. J. STORRS, 12/10/93. Inform.—F.H.W., 14/10/93. James McIlpatrick informed.—H.L.T., 16/10/93.

#### No. 75.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Sir,

Department of Lands, Sydney, 16 October, 1893.

In reply to your letter of the 27th ultimo, I have the honor to inform you that the Department of Public Works is still considering claims made for compensation in connection with a road at Wilson's Ridges.

I may add that the case has not been referred to the Local Land Board for appraisement of value of the several areas resumed for the road.

I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(per F.H.W.).

#### No. 76.

The Manager, Australian Joint Stock Bank (Limited), Byron Bay, to The Secretary for Lands.

Sir,

The Australian Joint Stock Bank (Ltd.), Byron Bay, 26 October, 1893.

Some time back, 4 acres 3 roods of R. Marshall's (now Australian Joint Stock Bank, Ltd.) conditional purchase, No. 73-7,962, of 100 acres, parish of Lismore, county of Rous, were resumed for road purposes.

Mr. Marshall claimed as compensation £300, but the Government would only allow him £100, which he refused, and since then the matter has been allowed to stand over.

I would, therefore, respectfully request if any decision or arrangement has been come to, and if not, would you cause the necessary steps to be taken to have the matter adjusted as quickly as can conveniently be done.

I have, &c.,  
P. FRASER.

It is recommended that the writer be informed that the matter of compensation with regard to road referred to in his letter is being dealt with by the Works Department, and that any application with regard to such compensation should be addressed to the Under Secretary for Public Works.—A. J. STORRS, 20/11/93. Yes.—F.H.W. (for Under Secretary), 20/11/93. Informed.—H.L.T., 22/11/93.

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No. 77.

The Under Secretary for Lands to The Manager, Australian Joint Stock Bank  
(Limited), Byron Bay.

Sir,

Department of Lands, Sydney, 22 November, 1893.

With reference to your letter of the 26th ultimo, respecting the resumption of 4 acres 3 roods of R. Marshall's (now A.J.S. Bank's) conditional purchase 73-796 of 100 acres, parish of Lismore, county of Rous, for road purposes, I have the honor to inform you that the matter of compensation is being dealt with by the Works Department, and that any application with regard to such compensation should be addressed to the Under Secretary for Public Works.

I have, &amp;c.,

WM. HOUSTON,  
Under Secretary  
(*per* F.H.W.).

No. 78.

Mr. J. T. McIlpatrick to The Under Secretary for Lands.

Sir,

Wilson's Ridges, 19 March, 1894.

I am sorry that I am under the necessity of drawing your attention to my case, *re* unnecessary branch road through portion No. 94, parish of Lismore.

In your last communication it was stated that it was under consideration in the Works Department; but so far as I am aware the Works Department has never moved further in the matter, thereby causing injury to me.

Trusting, sir, you will cause immediate action to be taken in the matter; but at the same time, I still most respectfully but most strenuously resist this unnecessary branch road.

I am, &amp;c.,

JAMES T. McILPATRICK.

It is recommended that the writer be informed that the branch road referred to by him is the originally reserved road which was provided for access to portion 81, and that at one time it was intended to cancel a part of it on account of a proposed deviation of the main road; but as the Works Department decided to form such main road in a position further to the south, it was found necessary to re-open the reserved road so as to preserve access to it, as such could not be closed unless with the consent of the owner of portion 81 (who, however, would not allow such to be done) as it was specially provided for access to his land.—A. J. STORRS, 9/4/94.

May be informed as suggested.—F.H.W. (for Under Secretary), 10/4/94. Approved.—H.C., 11/4/94. James T. McIlpatrick informed—H.L.T., 12/4/94.

No. 79.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Sir,

Department of Lands, Sydney, 2 April, 1894.

I have the honor to acknowledge receipt of your letter of the 19th ultimo, with respect to the unnecessary branch road through portion No. 94, parish of Lismore, and to inform you that your letter will receive immediate attention.

I am to add that a further communication will be made to you when a decision in this case has been given.

I have, &amp;c.,

WM. HOUSTON,  
Under Secretary  
(*per* F.H.W.).

No. 80.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Sir,

Department of Lands, 12 April, 1894.

With reference to your letter of the 19th ultimo, respecting an alleged unnecessary branch road through portion No. 94, parish of Lismore, I am directed by the Secretary for Lands to inform you that the road in question is the originally reserved road which was provided for access to portion No. 81, and that at one time it was intended to cancel a part of it on account of a proposed deviation of the main road; but as the Department of Public Works decided to form such main road in a position further to the south, it was found necessary to re-open the reserved road so as to preserve access to it, as such could not be closed unless with the consent of the owner of portion 81, who, however, would not allow such to be done, as it was specially provided for access to his land.

I have, &amp;c.,

WM. HOUSTON,  
Under Secretary  
(*per* F.H.W.).

No. 81.

Mr. J. T. McIlpatrick to B. B. Nicoll, Esq., M.P.

Dear Sir,

Lismore, 22 May, 1894.

When you were here the other day you asked me, as you were then hurrying to get away, to write you further with reference to the matter of my road. I have had a few letters from the Department lately, but each one is so conflicting with the other that it is a puzzle to understand them.

The facts are simply these—In 1884 they resumed a road through my land, giving me the branch road in question in lieu of compensation. This was three years afterwards. The then Road Superintendent (Mr. Williamson), made an agreement with me to give me the then existing road (*viz.* the reserved

reserved and confirmed road of 1884), the same deviation passing through the prohibited area, within 200 yards of my house, and this, with the greater part of my water frontage, I sacrificed in the interests of the public.

The road superintendent made and formed the road under these conditions, no claim having been raised till after the public had been for two years using the deviation made by Mr. Williamson. If you call at the office (Lands) you will ascertain the whole facts of the case from the correspondence, petitions, &c., and I trust you will be good enough to give it your earliest and best attention, as I am being put to a lot of trouble, and will, if this road is allowed, suffer a grave injustice. I treated the Department well, and for the sake of one or two people they should not allow my interests to suffer. If they pursue the course of taking the road the selection is valueless to me. I require no compensation but to have the road closed, or rather, not interfered with. You will see by the petition so largely signed, that the whole of the residents of the locality back up my request, and I sincerely trust you will block the whole concern, which can be done if the Department only were really aware of the true position of how the thing stands.

I cannot consent to compensation, for without this road the land is useless to me, so kindly take an hour and look the matter up thoroughly, and I shall not forget your kindness in another way.

Yours very truly,  
JAMES McILPATRICK.

The question that in the public interest the road is required is absurd (see the petitions voluntarily carried around by Loadsman and others for signature). Littlechild has all the best means of getting out by the old roads.

In a letter from the Department they said the road could not be closed without the consent of owner of portion 81 (Littlechild); but why should I seek his consent? Surely the whole public and my interests are to be considered as against this one man and one or two of his relatives.—J. McL.

Presented by B. B. Nicoll, M.P.

This man, McIlpatrick, seems to have been unfairly treated.—B.B.N. Acknowledged, 27/6/94.

#### No. 82.

T. T. Ewing, Esq., M.P., to The Under Secretary for Lands.

Sir,

Legislative Assembly, 20 November, 1894.

Can I kindly have a statement of this case (Mr. Stopps will know it, parish of Lismore, county Rous, Lismore Land District)? I believe the case was dealt with by the Roads and Lands and Land Board.

Can a full statement kindly be sent to me?

Yours faithfully,  
THOS. EWING.

[Enclosure.]

To T. T. Ewing, Esq., M.P.,—

Sir,

Wilson's Ridges, 17 November, 1894.

I am sorry to trouble you again with my case, viz., the branch road through my place, No. 94, parish of Lismore, extending from the Lismore-Rous Road to south of portion No. 81, still remains with me a disputed matter. It has been stated to you on different occasions that this road is quite unnecessary, and is very detrimental to me, thereby causing me to leaving the place and find other employment, causing the place to fall into neglect.

I am anxious that this matter be put to right as soon as possible, as I would like to put the place in order now when the season will permit, otherwise if this road is not cancelled it is useless to spend any more labour on the place.

Trusting, sir, you will see to this matter for me, as on my part it is very important.

Yours, &c.,  
JAMES T. McILPATRICK.

#### No. 83.

##### Office Memorandum.

Road through Mr. McIlpatrick's land, portion 94, parish Lismore, county Rous.

WHEN Mr. McIlpatrick's land was measured (about year 1874) a road was reserved through it to give necessary access to a previously surveyed portion owned by Mr. Littlechild; subsequently the Works Department proposed a deviation of the main road, which rendered unnecessary part of the access road; but afterwards that Department decided that the main road should be located in a slightly different position, which necessitated the reopening of part of the originally reserved road in order to preserve Mr. Littlechild \* \* \* has always protested against the road being closed, and the Crown could not, therefore, agree to such being done, as the access was specially provided and reserved when Mr. McIlpatrick's land was surveyed.

It is recommended that Mr. Ewing, M.P., be informed as above.

W. WINDER, 10/12/94.

Inform of facts.—H. CURRY, Assistant Under Secretary, 14/12/94.  
informed, 19/12/94.

T. T. Ewing, M.P.,

#### No. 84.

The Under Secretary for Lands to T. T. Ewing, Esq., M.P.

Sir,

Department of Lands, Sydney, 19 December, 1894.

In reply to your letter of the 26th ultimo, I have the honor to inform you that when Mr. J. T. McIlpatrick's land was measured (about the year 1874) a road was reserved through it to give necessary access to a previously surveyed portion owned by Mr. Littlechild; subsequently the Department of Public Works proposed a deviation of the main road which rendered unnecessary part of the access road, but afterwards

afterwards that Department decided that the main road should be located in a slightly different position, which necessitated the reopening of part of the originally reserved road in order to preserve Mr. Littlechild's right of access, which right he refused to forego. Mr. Littlechild has always protested against the road being closed, and the Crown could not, therefore, agree to such being done, as the access was specially provided and reserved when Mr. McIlpatrick's land was surveyed.

I have, &c.,

F. H. WILSON,  
Acting Under Secretary.

No. 85.

Mr. J. T. McIlpatrick to The Under Secretary for Lands.

Hon. Sir,

Wilson's Ridges, 8 June, 1895.

I have the honor of communicating with you on an affair of mine relating to an unjust and unnecessary road through my conditional purchase No. 94, parish of Lismore.

The unjust and unnecessary road referred to has been opened by the late Minister without considering my objections, as well as a petition presented by the inhabitants, they being old residents of the place. I have reason to believe this has been done through influence and misrepresentation, misleading the Department, and causing a miscarriage of justice. Through this action of the Department it made my place useless, instead of being a source of living it became a yearly expense, placing me in this position, that I must surrender the place if there is no redress.

There was an alteration of the road through my place in 1887 made by agreement with Mr. Williamson, and reported on fully by that gentleman, he being Road Superintendent here at that time, and approved of by the authorities, a copy of which can be seen at the Road Office, Lismore. I have repeatedly tried to have this report brought forward that is now lying dormant, but only received indifference for my pains.

The alteration before referred to was made and carried out by Mr. Williamson, and all things considered satisfactory until some years afterwards. This was after Mr. Williamson had left the district; through the acumen of some uninterested persons this unjust and unnecessary road was first discovered and brought in.

This unjust and unnecessary road, termed the branch road, originally formed part of the main road passing through my place, but became alienated to me in 1884 by virtue of compensation for other land taken from me, therefore it ceased to be any longer a road and ceased to be any reserve held by the Crown, forming part of my conditional purchase from that date. Reference can be seen in the *Government Gazette*, 15th September and 12th November, 1884.

The foregoing matters connected with the affair I could better bring before your knowledge if you, honorable sir, would kindly grant me a personal interview, which I most respectfully request.

I have, &c.,

JAMES T. McILPATRICK.

Road through Mr. McIlpatrick's land, portion 91, parish of Lismore, county of Rous.—Mr. McIlpatrick desires a personal interview with the Minister to protest against the action of the Department in reference to a road established within his land. The circumstances of the case are set forth fully in Minute of 10th December, 1894, on paper 93 enclosed, to which attention is invited. As there are no grounds upon which departure from the decision of the Department already conveyed to Mr. McIlpatrick can be recommended; apparently the interview desired is unnecessary.—W. WINDER, 24th June, 1895.

F. H. WILSON, Chief Clerk, 25/6/95. W.H., 26/6/95. Approved.—J.H.C., 27/6/95. Jas. T. McIlpatrick informed, 2/7/95.

No. 86.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Sir,

Department of Lands, Sydney, 2 July, 1895.

With reference to your letter of the 8th ultimo, requesting that you may be granted an interview with the Minister for Lands respecting a road through your portion No. 94, parish of Lismore, county of Rous, I am directed to inform you that as there are no grounds upon which a departure from the decision of the Department already conveyed to you can be made, the interview desired is unnecessary.

I have, &c.,

WM. HOUSTON,  
Under Secretary  
(per F.H.W.).

No. 87.

Mr. J. T. McIlpatrick to The Chairman, Local Land Board, Grafton.

Sir,

Wilson's Ridges, 20 July, 1895.

I have the honor of drawing your attention to an affair of mine relating to an unnecessary road through my conditional purchase No. 94, parish of Lismore, county of Rous.

The unnecessary road referred to was opened in Mr. Copeland's Ministry without considering my objections, as well as a petition presented to the inhabitants, they being old residents of the place. I have reason to believe this has been done, through influence and misrepresentation, misleading the Department, and thereby causing a miscarriage of justice. By this action of the Department it broke faith with me, and severed my place from having any access to water, making it useless; instead of being a source of living it became a yearly expense.

There

There was an alteration of the road through my place made in 1887, as referred to in my second objection. This was made by Mr. Williamson, by an agreement with me, and reported on fully by that gentleman, he being Road Superintendent here at that time, and approved by the authorities. A copy of this report can be seen at the Roads office, Lismore. I have repeatedly tried to have this report brought forward that is now lying dormant, but only received indifference for my pains.

The alteration before referred to, was made and carried out by Mr. Williamson, and all things considered satisfactory until some years afterwards; this was after Mr. Williamson had left the district. Through the acumen of some person not having an interest in the place, this unnecessary road was first discovered and then brought in.

This unnecessary road objected to, termed the branch road, originally formed part of the reserved road passing through my place, but became alienated to me in 1884, by virtue of compensation for other land taken from me, therefore it ceased to be a road, and ceased to be any reserve held by the Crown, and formed part of my conditional purchase from that date. It can be seen by referring to the *Government Gazette* of 29th February, folio 1465; 15th September, folio 6214; 12th November, folio 7589, 1884.

I have been continuously urging for the consideration of my objections with the Department, but only received many erroneous replies. I herewith transmit a copy of my objections, and a copy of the petitions of the residents for your information.

I therefore respectfully appeal to you, sir, to cause action to be taken in the matter, to have this brought forward for inquiry, so that all things connected with this affair can be reduced to evidence.

I have, &c.,

JAMES T. McILFATRICK.

R. 4,061; A. 1,603, Road Survey, portion 94, parish Lismore, 74-3,662. Submitted. Nothing has been received from head office *re* this matter.—H.P., 26/7/95. The Chairman. Sec page 6.—A. J. PARK, Chairman, Local Land Board, Grafton, 31/7/95.

[Enclosure.]

To the Honorable the Minister for Lands,—

We, the undersigned, residents in the neighbourhood, and persons acquainted with the proposed resumption of land for a road purpose, in the conditional purchase No. 94, of J. T. McIlpatrick, parish of Lismore, hereby declare our conscientious belief that the proposed resumption, to which he, J. T. McIlpatrick, objects, namely, the branch from the original Lismore-Gundurimba-Wardell Road to the proposed deviation, is an unnecessary encroachment upon and injury to his property, and one which should not be granted, especially as Mr. McIlpatrick has already, in the interests of the public, permitted the resumption of a valuable piece of land, for a like purpose, between the water and the rest of his conditional purchase, and we believe that no person will be injured by its not being granted.

We further think that any proposal to resume the portion now objected to could only have resulted from gross misrepresentation, or a misunderstanding on part of the Department.

We have, &c.,

Thomas Loadsman .....	Farmer.
Luke Lofts, Chilcott's Grass .....	"
Soloman Thomas Payne .....	"

[Here follow sixteen other signatures.]

Submitted to the Under Secretary for Lands, Sydney, for directions.—A. J. PARK, Chairman, Local Land Board, Grafton, 31/7/98. The Under Secretary for Lands, Sydney.

No. 88.

Mr. J. T. McIlpatrick to The Secretary for Lands.

Hon. Sir,

Wilson's Ridges, 25 April, 1896.

I have the honor of urgently drawing your attention to the unsatisfactory way the Department is dealing with my affair with regard to the unnecessary road objected to through my conditional purchase No. 94, parish of Lismore, county Rous.

In 1887, when the resident engineer, Mr. Williamson, obtained my consent to alter the road passing through my conditional purchase, as without my consent the resumption could not have been made, my consent was obtained on the following grounds:—

1st. I was not to be put to any loss or inconvenience.

2nd. The then existing road was to be in lieu of the altered one, as two roads were not to exist within my conditional purchase.

This was duly reported upon by Mr. Williamson, and sanctioned by the authorities. This report and its sanction is still in existence, consequently there was little for the Department to do except to adjust the measure and determine the two areas.

Through the way the Department treated this matter I have been deprived of the use of my place for a period of nine years.

The road objected to was not thought of until two years after the deviation was made by Mr. Williamson; then, after Mr. Williamson had left the district, through influence, it was brought in falsified, misrepresented, and interwoven with the deviation made by Mr. Williamson in 1887, and with other deviations made afterwards. Reference to the *Government Gazette* will prove that it formed part of my conditional purchase, and had no connection with any road whatever.

Portion No. 51 is already well provided with road accommodation, by a road made by the Works Department; consequently, any attempt to establish another road to intersect the same portion, running parallel with the one constructed by the Works Department, is unjust, unreasonable, and is therefore unnecessary.

As this is a matter of serious importance to me, as I am deprived from making any use of my place, I would urgently, but most respectfully, request you, honorable sir, to cause an inquiry into this matter, and I am confident you will find the road complained of is an unnecessary encroachment.

I have, &c.,

JAMES T. McILFATRICK.



35

No. 89.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Sir, I have the honor to acknowledge receipt of your letter of the 25th ultimo, respecting an alleged unnecessary road through your land, parish of Lismore, county of Rous, and to inform you that the matter will receive consideration.

Department of Lands, 7 May, 1896.  
I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(per F.H.W.).

No. 90.

Office Memorandum.

Objection by Mr. McIlpatrick to road through his portion 94, parish of Lismore, county of Rous. MR. McILPATRICK'S objections have been full considered. See papers 89 and 93, also Ministerial decision on paper 95 declining to alter previous decisions. Perhaps he might be informed that his objections, having received full consideration, it has been decided that previous decisions cannot be departed from, and the correspondence must now be considered as closed.

W. WINDER,  
30 May, 1896.

For approval.—F. H. WILSON, Chief Clerk, 1/6/96. Approved.—J.H.C., 2/3/96. J. T. McIlpatrick informed, 9/6/96.

No. 91.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Sir, With reference to your letter of the 25th April last, respecting a road established through your land, I am directed by the Secretary for Lands to inform you that your objections, having received full consideration, it has been decided that previous decisions, which have already been conveyed to you, cannot be departed from, and that the correspondence must now be considered as closed.

I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(per F.H.W.).

No. 92.

Mr. J. T. McIlpatrick to The Chairman, Land Board, Lismore.

Sir, I, James T. McIlpatrick, the owner of a conditional purchase, containing 49 acres, No. 94, parish of Lismore, district Lismore, which portion has become the subject of an alteration of an existing road, and the resumption of an unnecessary road, do hereby apply to the Board to deal with all matters arising with the alteration and the resumption of the roads, and the granting of compensation, at the next Board, or any other time the Board may conveniently appoint.

I have, &c.,  
JAMES T. McILPATRICK.

Received in open court, at Lismore, this day; now for registration and return.—A. J. PARK, Chairman, 7/12/96. Submitted as desired.—HERBERT PHILLIPS, 9/12/96. Received.—11/12/96. See my memo. of this date attached—A. J. PARK, Chairman, 11/12/96. Acknowledged receipt.—HERBERT PHILLIPS, Clerk in charge, 14/12/96. James McIlpatrick.—14/12/96. Clerk in charge; also this date on L.B.D. 96-7,320.—A. J. PARK, Chairman, 30/12/96. Received in District Survey Office, Grafton.—31/12/96.

No. 93.

Office Memorandum.

Department of Lands, 11 December, 1896.  
A SIMILAR application was made some few months ago by S. E. Cheers, of Frederickton, which I think was sent on to the Under Secretary for some information as to the practice—no other case under Regulation 292 having at that time arisen in this Land Board District. What was done in the matter?

A. J. PARK,  
Chairman.

The case was referred to the Under Secretary for Lands as follows, and has not been returned:—L.B. 96/4,041, P. E. Cheers, Frederickton, 13/7/96, forwarding letters and tracing *re* compensation for road through portions 82 and 84, parish of North Bellinger. Under Secretary for Lands, 17/7/96.—HERBERT PHILLIPS, Clerk in charge, 11/12/96. The Chairman. Under Secretary for Lands asked to return above.—E.W., 12th December, 1896.

## No. 94.

The Acting Under Secretary for Lands to The Chairman, Local Land Board, Grafton.

Sir,

Department of Lands, Sydney, 23 December, 1896.

In reply to your memorandum of the 12th instant, I have the honor to inform you that the land required for a road within Mr. P. E. Cheers's portions Nos. 82 and 84, parish of North Bellingen, county of Raleigh, was not resumed under the 42nd section of the Crown Lands Act of 1889; the road being proclaimed under the Act 4 William 4 No. 11, appraisement by the Local Land Board of the value of the land contained in the road so proclaimed was not required, and Mr. Cheers was so informed on the 13th August last.

I have, &c.,

H. CURRY,  
Acting Under Secretary  
(per F.H.W.).

Submitted.—HERBERT PHILLIPS, Clerk in charge, 29/12/96. Ascertain whether land has been resumed under Act 4, roads or otherwise.—A. J. PARK, Chairman, 30/12/96. Clerk in charge. Would the District Surveyor be so good as to state whether land has been resumed from McIlfatrick's conditional purchase for road purposes, and if so whether same is under 4 William 4 No. 11, also date of resumption?—HERBERT PHILLIPS, (pro Chairman), 31/12/96. The District Surveyor. Received in District Survey Office, Grafton, 31/12/96. By *Gazette* notice of 18th November, 1892, page 9171, a road 1 chain wide was resumed from J. T. McIlfatrick's conditional purchase 74/3,662, portion 94, parish Lismore, county Rous, in lieu of a reserved road and part of a confirmed road. The area of the portion is reduced by 1 acre 2 roods.—H. E. WILKINSON (for District Surveyor), 6th January, 1896. The Chairman.

## No. 95.

## Office Memorandum.

Re resumption for road purposes from J. T. McIlfatrick's conditional purchase 74-3,662, Lismore.

7 January, 1897.

By *Government Gazette* of the 18th November, 1892, page 9171, 4 acres 2 roods 10 perches were resumed, in terms of section 42, Act 53 Victoria No. 21, from J. T. McIlfatrick's portion 94, parish of Lismore, the area of the portion being decreased by 1 acre 2 roods. As McIlfatrick has now lodged an application for appraisement of the value of the land so resumed, in terms of Regulation 292, will the Under Secretary be so good as to cause the papers in the matter to be referred to this office at his early convenience, so that steps to comply with McIlfatrick's application may be taken?

A. J. PARK,  
Chairman.

B.C.L.B.O., Grafton. The Under Secretary for Lands. Exhibit B, case 490, vol. 6, folio 109.—A. J. PARK, Chairman, Court-house, Lismore, 6/7/97.

## No. 95½.

## Office Memorandum.

Resumption of land for road through J. T. McIlfatrick's conditional purchase, portion 94, parish of Lismore, county of Rous.

3 February, 1897.

THE papers in this matter are forwarded to the Chairman as requested, in view of Mr. McIlfatrick's application under regulation 292, for appraisement by the Land Board.

In forwarding the papers attention is invited to the accompanying statement of the action in the case, taken from the papers.

It will be seen, therefrom, that as regards the road first established, the only land-holder who received money compensation was Mr. McIlfatrick, who received £75 for fencing, from Works Department.

As regards the altered road, the holder of portion 93—Mr. R. Marshall—has been paid £150 as compensation by the Works Department after a considerable amount of negotiation. The holders of portions 69 and 143 neither claimed, nor appear entitled to, money compensation; and Mr. McIlfatrick, holder of portion 94, has now applied for the Board's appraisement in his case.

The actual area by which his holding is reduced is 1½ acre (*vide* paper 61); it was held that as the holder of portion 81 was not willing to forego the access to the through road, which had been provided when Mr. McIlfatrick's portion 94 was measured, the Crown had no alternative but to re-open the branch road, on the position of the through road being altered.

A. J. STOPPS  
(for Under Secretary).

The Chairman, Local Land Board, Grafton.

Exhibit C., case 490, vol. 6, folio 105; papers L.B.D., 97-3,827.—A. J. PARK, Chairman. Court-house, Lismore, 6/7/97. Submitted.—HERBERT PHILLIPS, Clerk in charge, 8/2/97. The Chairman. Seen. May be set down for hearing after usual action in allied cases.—A. J. PARK, Chairman, 19/2/97. Clerk in charge. Referred to the district surveyor for tracing for conditional purchase inspector.—HERBERT PHILLIPS (pro Chairman), 20/2/97. District Surveyor's Office, Grafton, 20/2/97. Mr. Oakes, for tracing.—H.E.W., 20/2/97. Tracing herewith.—H. E. WILKINSON (for District Surveyor), 1/3/97. Refer to conditional purchase inspector for report for appraisement in both roads.—HERBERT PHILLIPS, Clerk in charge, 2/3/97. Referred to Inspector W. P. Pope for report.—H.P., 8/3/97-59. For Board when report received.

[Enclosure.]

## [Enclosure.]

## Statement of Action from the Papers.

In consequence of a petition, a road, as shown in red on tracing marked 81-1,014/4, was opened 22/5/85, under Act 4 William IV, No. 11, and resumed under 27th Section Land Act Further Amendment Act of 1880, through portions 143 (Slade's conditional purchase), 69, and 61 (Loft's conditional purchases), and 94 (McIlpatrick's conditional purchase), and the parts of old road, shown in blue, were thereby superseded, Mr. McIlpatrick also being paid £75 by the Works Department for fencing.

The Works Department, however, appeared to have decided to form the road by the route shown in broken black lines on the tracing, and continuing easterly along the closed part, between portions 69 and 143, and westerly through R. Marshall's conditional purchase, portion 93, as shown on helio marked 1881-1,014/59. This was accordingly surveyed, when J. T. McIlpatrick set up a strong opposition to the re-opening of the (branch) road giving access south from portion 81, the holder of which (H. Littlechild), on the other hand, desired that it should be re-opened, to place him in his former position as to access to the through road, and it was held he was thereto entitled.

The altered road was resumed 18th November, 1892, and was declared to be a road for public traffic, 13th December, 1892. The resumption affected portions 90, 94, 69, and 143.

R. Marshall, conditional purchase holder of portion 93, asked for consideration on account of the resumption through his land. This was referred to Works Department, and, as a satisfactory arrangement could not be arrived at, the papers were sent again to Lands, suggesting that the matter might be decided by the Local Land Board, it being intended that Mr. McIlpatrick's objection might be similarly dealt with afterwards.

Mr. Stopps pointed out that the law only empowers the Land Boards to appraise land values, whereas the Works Department had offered Mr. Marshall compensation beyond this, and that even if the Board assessed compensation other than land value, it would have no binding effect.

The Works Department recognised this, but still desired that the Board might take evidence, and express an opinion as to what would be fair compensation to Mr. Marshall; but it was decided that the Board should only be placed in the position of an arbitrator, with the concurrence of both sides. This was not availed of by the Works Department, and, ultimately, that Department made an offer of £150, which was accepted by Mr. Marshall in full satisfaction.

The papers do not show that Mr. McIlpatrick's objections were dealt with by Works Department; but he was repeatedly informed by Lands Department that the re-opening of this branch road, to which he objected, was necessary to preserve the access from portion 81 to the through road, which access was provided when portion 94 (McIlpatrick's) was surveyed, and to which the owner of portion 81 is not willing to forego his right.

It now appears that Mr. McIlpatrick has applied under Regulation 292, that an appraisalment of the land resumed through his portion 94 may be made by the Local Land Board.

J. L.,  
2/2/97.

## No. 96.

The Chairman, Local Land Board, Grafton, to Mr. Inspector W. P. Pope.

Local Land Board District, Grafton, 8 March, 1897.

Mr. Inspector W. P. Pope is instructed to visit and report on the roads within the conditional purchase specified hereunder, as shown by blue and red tint on tracing for appraisalment purposes, No. 743,662, under section 13, applied for by James T. McIlpatrick. Portion No. 94, area 47½ acres, parish of Lismore, county of Rous, land district of Lismore.

Area of portion reduced by 1½ acre.

Date of resumption 18th November, 1892.

HERBERT PHILLIPS  
(for Chairman).

## No. 97.

Mr. J. T. McIlpatrick to The Chairman, Land Board, Grafton.

Sir,

Wilson's Ridges, 12 April, 1897.

With reference to the application made by me at the Land Board, held at Lismore on 7th December, 1896, asking the Board to deal with the matter, as stated, viz., the alteration of an existing road and the resumption of an unnecessary road, which is two separate and distinct roads within the boundary of portion No. 94, containing 49 acres, parish of Lismore, county Rous.

You will do me a kind favour by informing me the reason that it did not come before the last Board held at Lismore, also what proceedings has been taken in the matter.

I have, &c.,

JAMES T. MCILPATRICK,  
Via Lismore.

Submitted.—HERBERT PHILLIPS, Clerk in charge, 20/4/97. Inform that the case was not ready for Board action at the next sitting, but that it will, in all probability, be set down for hearing at the ensuing Board meeting.—A. J. PARK, Chairman, 21/4/97. Clerk in charge. James T. McIlpatrick, 20/4/97. For Board,—If not ready by next sitting remind inspector.—HERBERT PHILLIPS, Clerk in charge, 21/4/97. Inspector W. P. Pope, 31/5/97. For Board,—As above.—HERBERT PHILLIPS, Clerk in charge, 31/5/97. Court at Lismore, 5/7/97. Registered notice, 18/6/97, to James T. McIlpatrick.

## No. 98.

Memorandum from The Chairman, Local Land Board, Grafton, to Mr. Inspector W. P. Pope, Burringbar.

31 May, 1897.

REFERRING to his instructions of the 8th March, 1897, No. 59, to visit and report on J. T. McIlpatrick's conditional purchase portion 94, parish of Lismore, for road-appraisalment purposes, Mr. Inspector Pope is informed that it is desired that the case come on before the Board at its ensuing sitting in June, and he is instructed to report at his early convenience, if he has not already done so.

A. J. PARK,  
Chairman  
(per H.P.).

No. 99.

## No. 99.

Mr. Inspector W. P. Pope to The Chairman, Local Land Board, Grafton.

Conditional-Purchase Inspector W. P. Pope to the Chairman, Local Land Board, Grafton, reporting for appraisal purposes, upon the road within conditional purchase 74-3,662, portion 94, of 47½ acres, parish of Lismore, county Rous.

Sir,

Burringbar, 4 June, 1897.

In accordance with instructions, dated 8th March, No. 97-59, I have the honor to report that I personally inspected the above-described road on the 9th May, 1897.

The area tinted blue on tracing embraces land of inferior quality unimproved, chiefly suitable for grazing.

The resumed road tinted red running south from the blue tint is unimproved land of fair quality, covered with light brush or scrub.

The resumed road tinted red, and running approximately parallel to Tucki Creek, is of inferior quality, chiefly suitable for grazing; it has been partially improved by ringbarking. It has been fenced on both sides, with the exception of 6 chains on south side at the eastern end.

The northern portion of the conditional purchase is cut off from water by the resumed road.

The road in question forms part of the main Lismore-Rous road, which is of distinct benefit to the owner of the land.

I have, &c.,

W. P. POPE,  
Conditional Purchase Inspector.

Exhibit G, case 490, vol. 6, fol. 105, papers, L.B.D. 97-3,827.—A. J. PARK, Chairman, Court-house, Lismore, 6/7/97.

## No. 100.

## Caption to Deposition of Witnesses.

New South Wales, }  
To wit. }

THE examination of James Thomas McIlfatrick, of Chilcott's Grass, near Lismore, in the Colony of New South Wales, labourer; Francis Lisson Murray, of Lismore, resident engineer; John Gwynne, of Lismore, farmer; Luke Loftis, of Chilcott's Plain, farmer; and Wilfred Parsley Pope, Inspector of Conditional Purchases and Forester, Burringbar, in the said Colony. Whereas by an application dated 7 December, 1896, it became necessary to appraise the value of the land resumed for road purposes from C.P. 74-3,662 Lismore, J. T. McIlfatrick, and it has been found necessary to investigate the said matter on oath, the depositions of the several witnesses are appended hereto.

Number of pages of evidence, 15.

„ „ Exhibits A to G.

For Exhibit E see Exhibit E with L.B. 98-2,910.

THIS deponent *James Thomas McIlfatrick*, of Chilcott's Grass, near Lismore, labourer, being duly sworn by making affirmation, per section 10 Common Law Procedure Act of 1857, 22 Vic. No. 7, maketh oath and saith as follows—(called by *Mr. Sullivan*, solicitor, and examined by him): I am the owner of portion No. 94, parish of Lismore, county of Rous; previous to subject resumption I had access to water in Tucki Tucki Creek, along the southern boundary of my portion 94; prior to the resumption I could not make my living out of the land by keeping cattle because my possession of the land was disturbed by constant deviations of the road; I considered the subject portion was a valuable property prior to the subject resumption; land varies so in value that I could not say the value of the land before resumption; I consider that portion 94 was worth £5 per acre, taken as a whole, before resumption; the subject road has shut me off from the water in the creek; portion 94 is valueless to me now; portion 94 is fit for grazing and cultivation as well; I cannot value the land, owing to the detriment of the portion by being cut off from water; the actual value of the land resumed may be small, but the damage done to portion 94 by separation from the water is very great; no compensation for the land resumed has been awarded to me; I received £75 as compensation from the Works Department for fencing; I fenced the subject resumed road with the £75; I originally had that fenced on the original Lismore-Wardell road, through my portion, many years before that £75 was given to me; I only removed one side of the fencing from the older road; the remainder of the fencing on the present road was done with pretty well all new stuff, and the fencing on the new road is not quite complete; the north and south road passing through portion 94 has not been fenced, as I received no money to fence that road.

Mr. Inspector Pope has no questions.

*By Chairman*: My market-town is Lismore, access to which is given by the subject road; I could also go to Wardell if I wanted to; Tucki Tucki Creek is not navigable, not even for a punt; it is discontinued as a frontage above my portion; if it were not for this road, which is the main road, I should not be able to get out from my portion; the new road does a greater damage to the portion than the old road, by severing a larger portion of land from Tucki Tucki Creek; the subject portion 94 consists of scrub and forest; there is water on the portion north of the subject road, in a spring, but it goes dry in summer; it is close to the road side; that is all the water there is north of the subject road; I used to graze horses on the portion before subject resumption; the road was opened under an agreement between me and an officer of the Roads Department, and it was used and opened for traffic about three or four years before it was surveyed; I could not fence it until it was surveyed; by the time it was surveyed I had some of the fencing up; it is not completely fenced as the place was valueless to me owing to this resumption leaving it open; the piece that is left open is from Littlechild's, and I had no money given to me to fence that part of the road; if I did not fence the north and south road nothing could be kept in the place; if I did fence it no stock in the portion could get to water; the fence on the old road formed the south boundary of the paddock containing my original conditional purchase; I could not use the land between that fence and the subject resumption in conjunction with my original conditional purchase for grazing purposes, as the cattle could not have got to water to the creek on the north of my original conditional purchase on account of scrub; the land on Tucki Creek is good cultivation land the same as that on the creek on my original conditional purchase, and was similarly scrubbed; that on Tucki Creek I have felled, but not yet cultivated it; I have sown grass on it about four or five years ago; I cannot say how much fencing I have put on the resumed road; I have fencing on each side of the road; I have got no fencing on the north and south road; I am not using the original conditional purchase because of these roads; my house was burnt on it, and I built a new house between the subject road and Tucki Creek; I can only use my holding for the purpose of a residence, all owing to these roads; if it was not for these roads I could use my holding for the purpose of dairy-farm; I could work it as a dairy-farm by putting the cows through gates on the subject road so that they could graze on the remainder of the holding, if I were constantly there and had hands to do it, but I have only got myself.

Taken and sworn at Lismore, this }

6th day of July, 1897, before,— }

A. J. PARK, Chairman.  
S. GARRARD, Member.

JAMES T. McILFATRICK.

This

This deponent, *Francis Sisson Murray*, Resident Engineer for Roads, stationed at Lismore, being duly sworn, maketh oath and saith as follows:—

*By Mr. Sullivan*, solicitor: I read a report from press copy-book, folio 329, written by Mr. Williamson, Road Engineer, dated 20th September, 1886, the following passage occurs:—"Mr. McIlpatrick is willing to give possession on condition of receiving £75 for fencing. I would ask the Commissioner's sanction to my paying this out of the vote. The offer is fair, as there will be a mile of fencing, and the advantage offered by the deviation will be very great, the original road being an obstacle to any heavy traffic." I read also a report from another press copy-book, folio 299, written by E. M. Allman, Road Superintendent, dated 26th November, 1889, from which the following passage occurs:—"The deviation was made by Mr. Williamson some years ago, and McIlpatrick has been paid £75 for fencing by this Department, voucher 47; McIlpatrick says that in the first instance it was also arranged that he should get the reserved road shown in sienna in lieu of new line, but he has nothing to show in support of this in the way of writing; and it is unlikely would definitely promise anything of the kind, not having the power to do so." I think that between the word "unlikely" and "would" the name of Williamson has been omitted.

*By Chairman*: The deviation shown upon heliograph roads 1881  $\frac{121}{10}$  in red colour produced, is, I believe, the deviation referred to in the reports from which I have read extracts; £75 for a mile of fencing is a good price; but as I do not know how far the timber had to be drawn in this particular locality, I cannot say whether it was too much.

Mr. Inspector Pope has no questions.

Sworn by Francis Sisson Murray, at the Court, at Lismore, }  
this 7th day of July, 1897,— }

A. J. PARK, Chairman.  
S. GARRARD, Member.

F. S. MURRAY.

This deponent, *John Gwynne*, of Lismore, farmer, being duly sworn, maketh oath and saith as follows:—

*By Mr. Sullivan*, solicitor: I have a selection close to McIlpatrick's portion 94, parish of Lismore, and I know the nature and quality of the soil about there; portion 94 is suitable for dairying purposes; owing to the subject resumption Mr. McIlpatrick is shut out from water on that portion; it is not now practicable to work that portion as a dairy-farm owing to subject resumption; I know McIlpatrick's original conditional purchase portion No. 70, parish of Lismore; there is some water at the northern end of that portion; it is too far for cattle to water at the water at the north end of portion 70, and it is all a dense scrub about that creek at the present moment; McIlpatrick's house is built between the Tucki Tucki Creek and the resumption; gates through the fences of the resumed road were fenced would not permit the holding to be used as a dairy-farm, cattle want to go to water at their own time; to drive the cattle to water twice a day would add to the expense of working the farm; I consider the land with free access to water would be worth £5 per acre; its present value is no value because the place is all open, and we cannot keep the cattle on it, therefore it is no use for dairying; the north and south road is not fenced; if it were fenced portion 94 would be cut off from water altogether then, and its value diminished; I would give no price for it in its present state as I should have to stop there to get the cattle to water.

*To Chairman*: The Tucki Tucki Creek, the south boundary of portion 94, is a better watering-place for cattle than the creek on the north side of portion 70, because the latter is all standing scrub; the holding could be worked as a dairy-farm if the cattle were watered at the house on portion 94, and put through gates on to the road to the pasture; at some opening cattle would go to water in the morning; I have known this land all the time McIlpatrick has had it; I cannot say if he ever had any cattle on portion 70; he had a horse; the deviation coloured red on exhibit is not wholly fenced.

*To Mr. Pope*, Conditional Purchase Inspector: On portion 70 I cannot say how much cultivation there is, nor how much scrub; it would not cost much to make a small cutting through the scrub to let cattle to water; they cannot get through without for vines; I do not know if anyone ever offered to take the place as a tenant; the horses he had on the portion 70 I cannot say how they were watered; I cannot say if the spring near the resumption is always running.

Sworn by John Gwynne, at the Court-house at Lismore, }  
this 7th day of July, 1897,— }

A. J. PARK, Chairman.  
S. GARRARD, Member.

JOHN GWYNNE.

This deponent, *Luke Lofts*, of Chilcott's Plain, farmer, being duly sworn, maketh oath and saith as follows:—

*By Mr. Sullivan*, solicitor: I own some property on the other side of the creek to portion 94, parish of Lismore, being portions 61 and 69; I know the land of subject resumption through McIlpatrick's portion 94; the effect of the resumption is to take all the water frontage off his property; the strip of land left on the water is too small to graze cattle on; it is too far for cattle to travel for water to the north boundary of portion 70, if the place were worked as a dairy-farm; if gates were placed across the road it could be so used with a great deal of trouble incurred by driving the cattle to water; the land with free access to water is worth £4 per acre; it is worth now almost nothing as a dairy-farm; there is no other purposes to which the holding is suited except as a dairy-farm; the old road resumed is not wholly fenced; there is a break in it at the east end of about 5 or 6 chains.

*To Mr. Inspector Pope*: It is too far to drive cattle to water on the north of portion 70; from south boundary of land in portion 70 is 20 chains; I have not been at that water; cannot say if the cattle could get through the scrub; I have seen dairy cattle go into the scrub for shade; two-rail fence, finding all labour and materials, is worth 4s. per rod now, it was worth 4s. 6d.; I think 5s. per rod is too much to pay.

*To Mr. Garrard*: The cattle could not get to water if the scrub were cleared away from the creek on north of portion 70 because of the fence on the old road.

Sworn by Luke Lofts, at the Court-house, Lismore, }  
this 7th day of July, 1897,— }

A. J. PARK, Chairman.  
S. GARRARD, Member.

LUKE LOFTS.

This deponent, *Wilfred Parsley Pope*, of Burringbar, Inspector of Conditional Purchases and Forester, being duly sworn, maketh oath, and saith as follows:—Under instructions dated 8th March, 1897, I visited and inspected the subject resumed land in portion 94, county of Rous, parish of Lismore, on the 9th May, 1897; the area tinted blue on tracing (Exhibit F produced) embraces land of inferior quality unimproved, chiefly suitable for grazing; the resumed road tinted red on tracing (Exhibit F) running south from the blue tint is unimproved land of fair quality covered with light brush or scrub; the resumed road tinted red on tracing (Exhibit F) running approximately parallel to Tucki Creek is of inferior quality, chiefly suitable for grazing; it has been partially improved by ringbarking about 8 acres at a cost of 9d. per acre at present rates; it has been fenced on both sides, with the exception of 6 chains on south side at the eastern end; the northern portion of portion 94 is cut off from water on its south boundary by the resumed road; the road in question forms part of the main Lismore-Rous road, which is of distinct benefit to the owner of the land; it is a formed road at the present time; I know that the owner (McIlpatrick) of portion 94, also owns portion 70 to the north of it; the latter portion is watered by Tucki Tucki Creek, the same creek that forms the southern boundary of portion 94; the two portions could be used in conjunction as a dairy-farm if the roads were fenced off by a cutting being made to water on portion 70, if the cattle could not already be watered there; portion 94 is only grazing land; part of 70 could be used as cultivation, the remainder inferior grazing land; the spring, so far as I could see, has no practical value; I refer to the spring on the boundary of resumed land; £75 would be a large sum for fencing, per mile, at the present time; I saw the fencing on resumed road, part of it had been used before for fencing purposes; it was a very good fence, and worth 16s. per chain when I saw it; I know of no recent sales of land in the vicinity; I do not think that the transposition of the fenced barrier from the land coloured blue to the land coloured red renders the portion wholly valueless, as has been alleged on oath in this Court; the road-fencing necessitates an opening through the scrub on portion 70, to give cattle access to water on north side of portion 70; the land on portion 70 is accessible to the passage of cattle to water except a fringe of scrub on the creek at north boundary of about 9 or 10 chains in depth; that is the scrub which would have to have an opening made to admit cattle to water.

*Mr. Sullivan*, solicitor, has no questions.

Sworn by Wilfred Parsley Pope, at the Court-house, at Lismore, }  
this 7th day of July, 1897,— }

A. J. PARK, Chairman.  
S. GARRARD, Member.

W. P. POPE.



## No. 101.

## Decision of Local Land Board.

Crown Lands Act of 1884—(Part II, Section 14, Subsection 4).

New South Wales, }  
to wit. } Inquiry under Regulation 292.Lismore, C.P.  
74-3,362, J. T.  
McIlpatrick.  
For Exhibit C,  
see No. 95.  
For Exhibit B,  
see No. 95.  
D, see enclosure  
herewith.  
G, see 99.

WHEREAS on the 6th, 7th, and 10th days of July, 1897, by an application dated 7th December, 1896, L.B. 96-6,978, it became necessary, on this 6th day of July, 1897, for us to appraise the value of the land resumed for road purposes from the conditional purchase noted in the margin; and having taken evidence and inquired into the said matter, we defer our decision to next Board meeting, to afford an opportunity of producing the agreement referred to in the evidence of J. T. McIlpatrick, on page 3.

Given under our hands, at the Court-house, at Lismore, in the Colony of New South Wales, this 10th day of July, 1897.

A. J. PARK,  
Chairman.  
S. GARRARD,  
Member.

Vol. 6, folios 105, 107, 108, 131, c. 490.

Inform McIlpatrick.—HERBERT PHILLIPS, Clerk in charge, 19/7/97. James T. McIlpatrick, 19/7/97. For next Board. Roads Department to be also notified.—HERBERT PHILLIPS, Clerk in charge, 19/7/97.

Submitted, whether the Resident Engineer of the Roads Department, should receive formal notice to appear.—H. BREAKELL, Deposition Clerk, 23/10/97. The Chairman.

It is for the claimant to produce evidence of the alleged agreement with the Roads officers, and no doubt the parties will ensure the attendance of their own witness. There is no need to notify the Resident Engineer on behalf of the Government.—A. J. PARK, Chairman, 23/10/97. Mr. Breakell, in absence of Clerk in charge. Court at Lismore on 12/11/97. Notice by post on 23/10/97. To James Thomas McIlpatrick, c/o A. M. Sullivan, Esq., Solicitor, Lismore.

Exhibit A, Case 847, vol. 6, folios 150 and 151. Papers, L.B.D. 97-6,219.—A. J. PARK, Chairman, Court-house, Lismore, 12/11/97.

## [Enclosure.]

## Schedule of Areas to be resumed.

Description of parts of road:—Between the Lismore-Gundurimba Road and Wardell and a branch, parish of Lismore, county of Rous. The road passes through the lands described in the following table, in which particulars are set forth. Partly in lieu of parts of road confirmed in *Government Gazette*, 12th November, 1884, folio 7589 (R. 2,635-1,603), land district of Lismore.

No. of Portion.	Portions of land through which the road passes.		Name of Parish.	Reputed Owner.	Character of Holding.	Width of Road.	Area to be Resumed.	Remarks.	
	a.	r.							p.
93	100	0	0	Lismore	Commercial Banking Company of Sydney.	C.P. 73-7,962...	links. 100	a. r. p. 4 3 0	
94	49	0	0	Lismore	J. T. McIlpatrick, Lismore.....	C.P. 74-3,662...	100	4 2 10	In lieu of a reserved road and part of confirmed road; area of portion decreased 1 a. 2 r.
69	39	1	5	.....	Luke Lofts, Lismore .....	C.P. 71-2,100...	100	0 1 0	In lieu of part of confirmed road; area of portion to remain unaltered.
43	99	2	0	.....	Henry Slade, Lismore .....	C.P. 77-329 ...	100	0 0 30	In lieu of part of confirmed road; area of portion to remain unaltered.

Exhibit D. Evidence of. Case 490, vol. 6, fol. 105. Papers, L.B.D. 97-3,827.—A. J. PARK, Chairman, Court-house, Lismore, 7/7/97.

## No. 102.

## The Under Secretary and Commissioner for Roads to Mr. James Carroll.

Sir,

Public Works Department, Sydney, 28 October, 1897.

With reference to your letters of the 14th and 29th ultimo asking, on behalf of Mr. J. T. McIlpatrick, to be supplied with copies of certain reports of the late Mr. Road-Superintendent Williamson respecting the Jeswoolgen Road (road from Goonellebah to Rous), I have to inform you that your request cannot be acceded to.

I have, &amp;c.,

ROBERT HICKSON,  
Under Secretary and Commissioner for Roads  
(per JNO. P.).

Exhibit B, case 847, vol. 6, folios 150 to 191, papers, L.B.D. 97/6,219.—A. J. PARK, Chairman, Court-house, Lismore, 12/11/97.

## No. 103.

## Caption to Deposition of Witnesses.

New South Wales, }  
to wit. }

THE examination of Francis Sisson Murray, of Lismore, in the Colony of New South Wales, Resident Engineer, Roads Branch of Public Works Department: Whereas by an application dated 7th December, 1896, it became necessary to appraise the value of the land resumed for road purposes from conditional purchase 74-3,662, Lismore, J. T. McIlfatrick, and it hath been found necessary to investigate the said matter on oath, the depositions of the several witnesses are appended hereto.

Number of pages of evidence, 1. (For previous evidence see L.B.D. 97-3,827 and L.B.D. 97-6,219.)  
Number of exhibit, A.

## [Enclosure.]

This deponent, *Francis Sisson Murray*, of Lismore, Resident Engineer, Roads Branch, Public Works Department, being duly sworn, maketh oath and saith as follows:—

Called and examined by *John Currie*, agent for J. T. McIlfatrick:—I have found no agreement made between any officer in the Roads Branch of the Public Works Department and J. T. McIlfatrick; I produce a press copy of a voucher in which the following is found:—“J. T. McIlfatrick, compensation for fencing and land resumed for road purposes through portion 94, parish of Lismore, county of Rous, as agreed between the Commissioner for Roads and J. T. McIlfatrick, the proprietor of the land, £75.” It bears no date.

To *Chairman*: From its position in the letter-book it would be, I think, before 31st January, 1887, and after 31st December, 1886; this transaction was before my time in the Roads Branch, and I cannot say if it was customary to have written agreements between Roads' officers and land owners; it is not customary now.

Taken and sworn at Lismore, this 12th day }  
of November, 1897, before—

F. S. MURRAY.

A. J. PARK, Chairman.  
D. McDouALL, }  
S. GARRARD, } Members.

## No. 104.

## Decision of Local Land Board.

Crown Lands Act of 1884—(Part II, Section 14, Sub-section 4).

New South Wales, }  
to wit. }

Inquiry under Regulation 292.

WHEREAS, by an application dated 7th December, 1896, L.B. 96-6,978, it became necessary on this 12th day of November, 1897, for us to appraise the value of land resumed for road purposes from the conditional purchase named in the margin, and having taken evidence and inquired into the said matter, we adjourn the case till next sitting for production of the agreement or correspondence between the officers of the Public Works Department and J. T. McIlfatrick, referring to the payment of £75 for fencing and land resumed for road purposes through portion 94, parish of Lismore, county of Rous, as agreed between the Commissioner for Roads and J. T. McIlfatrick, the proprietor of the land.

Lismore, C.P.  
74-3,662, J. T.  
McIlfatrick.

For exhibit A,  
see 101.  
For exhibit B,  
see No. 102.

Given under our hands, at the Court-house, at Lismore, in the Colony of New South Wales, this 12th day of November, 1897.

A. J. PARK, Chairman.  
D. McDouALL, }  
S. GARRARD, } Members.

For next Lismore Board meeting.—M. LONGFIELD, Acting Clerk in charge, 24/11/97. Exhibit A. Case 847, vol. 6, folios 150-151, papers, L.B.D. 98-1,315.—A. J. PARK, Chairman, Court-house, Lismore, 18/3/98. Court at Lismore on 18/3/98. Notice by post on 1/3/98 to James T. McIlfatrick, of Chilcott's Grass, near Lismore.

## No. 105.

## Caption to Deposition of Witnesses.

New South Wales, }  
to wit. }

THE examination of Francis Sisson Murray, of Lismore, in the Colony of New South Wales, Resident Engineer, Roads Branch, Public Works Department: Whereas, by an application dated 7th December, 1896, it became necessary to appraise the value of the land resumed for road purposes from conditional purchase 74-3,662, Lismore, J. T. McIlfatrick, and it hath been found necessary to investigate the said matter on oath, the depositions of the several witnesses are appended hereto.

Number of pages of evidence, 2. (For previous evidence see L.B. 97-38,270.)

Number of exhibits, A and B.

## [Enclosure.]

This deponent, *Francis Sisson Murray*, of Lismore, Resident Engineer, Roads Branch of Public Works Department, being duly sworn, maketh oath, and saith as follows:—

By *Chairman*: I produce the original report by Mr. Williamson, late Road Superintendent in this district, by which it is shown, in conjunction with a telegram, that the road coloured red through portion 94, shown on heliograph L.B.D. 97-710, Enclosure, Roads Branch, 1881 1,014-59, was resumed from portion 94, or to that effect, and that J. T. McIlfatrick, the owner of portion 94, received £75 as compensation; there is also a suggestion that he should receive the reserved road coloured blue, south-easterly from the north-west corner, also a short piece of road coloured red and marked branch road, extending southerly from the south-east extremity of the aforesaid blue road; there is nothing to show in those papers that those roads were ever granted to J. T. McIlfatrick, as it is a matter out of the jurisdiction of the Works Department.

*Mr. Currie*, agent for J. T. McIlfatrick, has no questions.

Sworn by Francis Sisson Murray, at the Court-house, Lismore, }  
this 18th day of March, 1898,—

F. S. MURRAY.

A. J. PARK, Chairman.  
S. GARRARD, Member.

## No. 106.

## Decision of Local Land Board.

Crown Lands Act of 1884—(Part II, Section 14, Sub-section 4).

New South Wales, }  
to wit. }

Inquiry under Regulation 292.

Lismore C.P.  
74-3,662  
J. T. McIlpatrick.

WHEREAS, by an application dated 7 December, 1896, L.B. 96-6,978, it became necessary, on the 18th day of March, 1898, for us to appraise the value of the land resumed for road purposes from the conditional purchase named in the margin, and having taken evidence and inquired into the said matter, we reserve our decision till next sitting to enable claimant to state the facts in chronological order.

Given under our hands, at the Court-house, at Lismore, in the Colony of New South Wales, this 18th day of March, 1898.

A. J. PARK, Chairman.  
S. GARRARD, Member.

Exhibit A.—Case, 527, vol. 7, folios 11 and 12; papers, L.B.D. 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

## No. 107.

## Office Memorandum.

Court-house, Lismore, 18 March, 1898.

PAPERS, Public Works Department (outside number, 97-11,442), are herein, and were only loaned to the Board, who disposed of the case. A receipt to be given to Mr. Murray, the Resident Engineer, for same.

A. J. PARK,  
Chairman.

Receipt given this day to Mr. Murray.—H. BREAKELL, Deposition Clerk, Court-house, Lismore, 18/3/98. The Chairman,—Exhibit F, and four enclosures and helio., case 527, vol. 7, folios 11 and 12, papers, L.B.D. 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98. Papers returned this day by registered post to Mr. F. S. Murray, Resident Engineer, Roads, Lismore, and copies or recorded numbers thereof placed in their stead herein.—W. A. MACPHEE, Clerk in charge, 5/7/98.

For enclosures,  
see Nos. 29 and  
30.

## No. 108.

Mr. J. T. McIlpatrick to The Chairman, Land Board, Grafton.

Sir,

Lismore, 19 March, 1898.

Please find enclosed statement by J. T. McIlpatrick as requested by you.

I am, &amp;c.,

JOHN CURRIE

(Agent for J. T. McIlpatrick).

For next Board at Lismore.—W. A. MACPHEE, Clerk in charge, 28/3/98. Court at Lismore, 18/6/98. Notice by post on, 27/5/98. To James Thomas McIlpatrick, c/o John Currie, of Lismore.—W.A.MACP., Clerk in charge.

[Enclosure.]

I, JAMES THOMAS MCILPATRICK, of Wilson's Ridges, near Lismore, do solemnly and sincerely declare that in February, 1884, a *Government Gazette* notice appeared about the resumption of a portion of my conditional purchase, No. 94, parish of Lismore, for road purposes; on November 12th, 1884, it was confirmed—please see *Gazette* of that date; in September, 1886, Mr. Williamson, the then Roads Superintendent, reported that a good road for wheel traffic could be got between portions 72, 93, 69, 143, and continued through portion 94—the latter, my property; I agreed, on the condition of the exchange of the then existing road for the proposed new one through portion 94, and to be paid for the fencing; Mr. Williamson made me an offer of £75, which I agreed to take, and was paid accordingly for the fencing; in all my interviews with Mr. Williamson I gave him distinctly to understand that I would not have two roads within my boundary (portion 94); the road as proposed and agreed to between Mr. Williamson and myself was made and in use for five years before it was surveyed; when the survey was made they, by some means or other, included a branch road that goes off at right-angles from Lismore; Wardell road has no connection whatever with Lismore-Wardell road, as agreed upon between Mr. Williamson and myself; it is not at all likely that I would have agreed to an unnecessary road that would completely cut off my water frontage, thereby rendering my property, portion 94, valueless; in 1891 and 1892, when surveys were made, I wrote to the Department for Lands again at the unnecessary encroachment upon my land (portion 94), and altogether contrary to my agreement with Mr. Williamson; I got no reply whatever to my communication; the inhabitants in the neighbourhood got up a petition—which please see amongst documents—against the road as an unnecessary encroachment upon my property, and not at all wanted for any public convenience; I have been nearly twelve years deprived of the use of my property; I beg to state that all my transactions were with Mr. Williamson; what was done after he left was done without my consent or knowledge. And I make this solemn declaration, conscientiously believing the same to be true, and in virtue of the provisions of an Act made and passed in the ninth year of the reign of Her present Majesty, entitled “An Act for the more effectual Abolition of Oaths and Affirmations, taken and made in various Departments of the Government of New South Wales, and to substitute declarations in lieu thereof, and for the suppression of Voluntary and Extra Judicial Oaths and Affidavits.”

JAMES T. MCILPATRICK.

Witness to the signature of James McIlpatrick,—  
ALEX. J. SIMPSON, J.P.,  
Lismore, 19th March, 1898.

Exhibit B.—Case 527, vol. 7, folios 11 and 12; papers, L.B.D. 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

No. 109.

## No. 109.

## Office Memorandum.

RESUMPTION of land for road purposes within J. T. McIlfatrick's portion 94, parish Lismore, county Rous, conditional purchase 74-3,662, 47½ acres.

Land Board Office, Grafton, 10 June, 1898.

THE matter of appraisal of the value of the land resumed for road purposes from the above-quoted conditional purchase will again be before the Board, at Lismore, on the 18th instant, the decision having been reserved from the last meeting on the 18th March last, and it may be of assistance to the Board to have the facts before them as briefly as possible, as obtained from the mass of papers in the case. The attached statement is hereto appended for the Board's information.

W. A. MACPHEE,  
Clerk-in-Charge.

The Chairman, Court-house, Lismore.

[Enclosure.]

Statement referred to in Memo.

Land Board Office, Grafton, 10 June, 1898.

On the 14th July, 1881, a petition from the inhabitants of Meerschaum, Tucumbil, and surrounding locality in the Richmond River District was received, 81-2,059 Roads, complaining of having to travel a circuitous route to reach Lismore—upon which a report was obtained, with the result that a deviation of the existing road was approved of—part of which was to go through McIlfatrick's portion 94, as shown in red on tracing marked Roads 1,014-4 (enclosure now to L.B. 97-710), and joining the already reserved road within that portion shown by sienna colour on same tracing, the area taken for the road and shown in red colour being 1 acre 0 roods 15 perches, as notified in *Gazette* of 29th February, 1894, under section 27, Act 43 Victoria No. 29, in lieu of the former notice of 29th February, 1884, above referred to, the land being resumed under the same Act on the 12th November, 1884, and under Act 4 William IV No. 11; the confirmation of the parish road was gazetted same date, the formal opening of the road being notified 22nd May, 1885.

McIlfatrick, on the 8th April, 1884, referring to the notification, applied that the then present surveyed road from Tucki Tucki Creek, running north to where the proposed deviation meets it, may be given him in lieu of the land to be resumed, and that he be allowed the required amount to fence the proposed new road on both sides. It was approved, 12th October, 1884, that the application be granted, but compensation for fencing was refused, Mr. McIlfatrick being so informed. On the 16th October, 1884, the proposed resumption, as approved, was gazetted under section 27, Act 43 Victoria No. 29, in lieu of the former notice of 29th February, 1884, above referred to, the land being resumed under the same Act on the 12th November, 1884, and under Act 4 William IV No. 11; the confirmation of the parish road was gazetted same date, the formal opening of the road being notified 22nd May, 1885.

Complaints having been received as to the impassable state of the road, Lismore to Wardell, especially through portion 93, Road Superintendent Williamson was instructed to attend to the matter (12th November, 1885), and reported on the 23rd November, 1885, and again on the 20th September, 1886, enclosing a tracing shown by blue colour the deviation recommended by him through portion 94, McIlfatrick's, and showing what he terms the present surveyed road in red colour, stating that the surveyed road from the angle corner of portions 93 and 94 runs up the face of a hill, allowing of no improvement, and that after reaching the highest point at corner of portion 94 descends to Tucki Tucki Creek; that Mr. McIlfatrick is willing to give possession on condition of receiving £75 for fencing. This offer Mr. Williamson considers a fair one, as there will be a mile of fencing, and the advantage offered by the deviation will be very great, the original road being an obstacle to traffic. (It may here be observed that part of the road shown in red colour on Mr. Williamson's tracing, being the access road to portion 81, H. Littlechild, had been previously given to McIlfatrick in lieu of a former deviation shown by red colour on tracing marked Roads 81/1,014-4, enclosure to L.B. 97-710.)

This would appear to be the first of the correspondence with respect to any compensation for the proposed deviation through Mr. McIlfatrick's portion 94. Upon Mr. Williamson's report the Commissioner for Roads asks—How will the proposed deviation suit the owners of other allotments fronting abandoned road, and also the branch-road running north of portion 94, A to B, as shown on the tracing with 86-11,005 Roads? also what extent of land be required, and value and extent of fence? In reply thereto (see same paper) Mr. Williamson describes the grade of existing road, including the part 2 to 3, as shown on the tracing, and further states: "The line A to 3 could be given up. No compensation beyond the £75 for fencing is asked, and the line A to 3 given, this being considered to be saved in the deviation, besides doing away with the permanent inconvenience to traffic, and stating there are 75 chains of fencing. The Commissioner for Roads thereupon, under date 15th November, 1886, directs the deviation to be made, it being too palpable an improvement to delay a moment; but that if adjoining frontages to road A to 3 object, that road cannot be given up, but in that case the improvement contemplated would justify paying for the land." (See telegram, enclosure to 86-11,005 as to payment of the £75 compensation to McIlfatrick.) On the 15th June, 1889, McIlfatrick wrote to Under Secretary, Lands, stating that about two years ago Road Superintendent Williamson made an arrangement with him to run the road through his selection, portion 94, on account of giving the old road within the portion in exchange for the one he, Williamson, preferred, upon which the Surveyor-General (3rd August, 1889) asks whether any deviation from the proclaimed road within applicant's land has been made, and, if so, whether any arrangement were made as regards exchange of roads (proclaimed road shown on tracing 81/1,014-4 by red colour)? In reply Road Superintendent Allman shows on tracing (R. 81/1,014-4) approximately by dotted lines the position of roads in use, and that that deviation was made by Mr. Williamson some years before, McIlfatrick being paid £75 for fencing by Roads Department (Voucher I-87), McIlfatrick claiming that it was originally arranged that he should get the reserved road (shown in sienna colour on tracing) in lieu of the new line, Mr. Allman further stating that there was no writing to support the statement made by McIlfatrick, and that it was unlikely that such a promise would be made, but that there is no objection to his getting the road.

Action with regard to the survey of the deviations through portions 93 and 94 was requested by the Works Department, instruction for the survey being issued on the 19th August, 1890. In submitting a plan of the survey the District Surveyor stated it was presumed access to portion 81 would be left by reopening the old reserved road through portion 94 a sufficient distance to afford access. On the 29th September, 1891, the holder of portion 81 was notified of the intention to proclaim a road in the position formerly occupied by the reserved road to provide access to the new road from his portion. Complaints were received from Littlechild, the owner of portion 81, of want of access to his portion, and urging that same be provided.

On the 24th November, 1891, the proposed resumption of the deviation, and the branch road of access to portion 81, was notified under section 42, Act 89, in lieu of reserved road, and part of confirmed road, *vide Gazette* 12th November, 1884, the area of the portion being decreased by 1 acre 1 rood 20 perches. Further communications were received from H. Littlechild, the owner of portion 81, and from McIlfatrick, the latter objecting to the resumption of the branch road which was given to him in lieu of confirmed road in 1884—*vide Gazette*, 12th November, 1884. An amended survey, Roads 1,014-59, was made, showing the course of the deviation as proposed by the Works Department (see tracing marked R. 1,014-98), and notification of proposed resumption was again gazetted on the 20th September, 1892, reducing the area of portion 94 by 1½ acre. The owner of portion 81 again urged the opening of the access road, which McIlfatrick as strongly opposed. The land, however, was duly resumed on the 18th November, 1892, and gazetted open to traffic 13th December, 1892. McIlfatrick was duly informed of the reasons for reopening the branch road, and that the owner of portion 81 would not consent to its being closed, as it was specially reserved for access to his portion.

Further communications were received from McIlfatrick urging his claim to the branch road, stating his consent to the present deviation had been obtained by Road Superintendent Williamson on the grounds that he had to suffer no loss or inconvenience, and that the then existing road was to be in lieu of the altered one, as two roads were not to exist within his portion. On the 9th June, 1896, McIlfatrick was informed that the previous decision could not be departed from, and that further correspondence must cease.

Application

Application was then made by McIlpatrick, 7th December, 1896, for the Board to appraise the value of the land resumed, which came before the Board on the 10th July, 1897, and again on the 12th November, 1897, but was adjourned for production of the alleged agreement and correspondence between McIlpatrick and the Works Department.

On the matter again coming before the Board on the 18th March last, the decision was reserved till next sitting, to enable McIlpatrick to state the facts in chronological order. McIlpatrick has sent in a statement, 19th March 1898, and the case is now set down for hearing on the 18th instant, at Lismore.

W. A. MACPHEE,  
Clerk-in-Charge.

Exhibit D.—Case 527, vol. 7, folios 11 and 12; papers, L.B.D. 98-2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

### No. 110.

#### Decision of Local Land Board.

Crown Lands Act of 1884—(Part II, Section 14, Sub-section 4).

Lismore,  
C.P. 74-3,662,  
J. T. McIlpatrick.

New South Wales, }  
to wit. }

Inquiry under Regulation 292.

For Exhibit A,  
see 106.  
For Exhibit B,  
see 108.  
For Exhibit D,  
see 109.  
For Exhibit E,  
see 60, enclosure.  
For Exhibit F,  
see 107.  
For Exhibit G,  
see 14.  
For Exhibit H,  
see 19.  
For Exhibit J,  
see 35.  
For Exhibit K,  
see 50.  
For Exhibit L,  
see 55.  
For Exhibit M,  
see 60.

WHEREAS by an application dated 7 December, 1896 L.B. 96-6,978, it became necessary on this 18th day of June, 1898, for us to appraise the value of the land resumed for road purposes from the conditional purchase named in the margin, and having taken evidence and inquired into the said matter, we report that for the resumption of that piece of land coloured red and marked A.B. on heliograph, Exhibit E, James Thomas McIlpatrick is entitled to no compensation beyond what he has already received. For that coloured red, and marked C.D., he is entitled to compensation for damages, loss of land, and severance, in addition to the land to be given in lieu thereof. We appraise the value of that compensation at £20 sterling.

Given under our hands, at the Court-house, at Lismore, in the Colony of New South Wales, this 18th day of June, 1898.

A. J. PARK, Chairman.  
S. GARRARD, Member.

[Enclosure.]

*Chronicle of Portion No. 94.*

Mr. R. Barling in 1873, when surveying the applications for land of John Gwynne, junr., P. Gwynne, and R. Marshall—that is, portions Nos. 91, 92, and 93—in the days following surveyed portion No. 94, with a reserved road passing through it. Portion 94 then remained a measured portion up to 26th March, 1874. Portion 94 remained unaltered to 1884, when an alteration was made of part of the reserved road within boundary of said portion under the Parish Roads Act. By this transaction I was granted that part of the reserved road in lieu of proclaimed road extending from the proclaimed to Tucki Creek, within the said boundary, by the Executive Council. That part then ceased to be a road, and ceased to be any reserved right held by the Crown, and then formed part of my conditional purchase.

This transaction had been completed a considerable time before Mr. Williamson came to this district. In 1886, when public money was about to be expended on the road, as no public money had been expended on it before—the part passing through portion 94 was neither in a direct course nor the grade suitable—Mr. Williamson proposed to me to alter the position of this part of the road for the reason stated. The proposed position of the alteration was a direct course across my conditional purchase from west to east, viz., from between portions 92 and 93 on the west side to between 69 and 140 on the east side. For this alteration I was to get in exchange for the land the then existing road within the boundary and be paid for erecting the fences on either sides at usual price, or £75 bulk sum, otherwise my consent would not have been obtained. With this understanding on both sides, the road was made in the position of the proposed alteration as stated, and as a road of traffic by the public. I erected the fences as far as I considered it was safe, but could proceed no further without a survey. I waited till 1889, but no surveyor came. I was anxious to regain the use of the land. I wrote then to the Mines Department for a survey on the grounds as already stated. In reply I was directed to the Lands Department. I afterwards wrote to the Lands Department, urging a survey on the grounds of the alteration that had been made between Mr. Williamson and I, as I had no transaction with any other. After waiting a little longer, instead of a survey, as I was expecting, Mr. Allman came, he said, to make a report of it. He (Mr. Allman) was quite a stranger to me at that time; but no survey came to 1891, when Mr. Anderson surveyed it. Then another survey in 1892 by Mr. Hunter. In these surveys was included that part that I now do object to, as it has no connection with the existing road after the alteration was made in 1884; nor did it form any of the road that was made by Mr. Williamson in 1886 and 1887, and is quite unnecessary, and was without my knowledge or consent.

JAMES T. McILPATRICK.

Handed in Court this day by Mr. Currie, agent for J. T. McIlpatrick.—H. BREAKELL, Deposition Clerk, Court-house, Lismore, 18/6/98. Exhibit C.—Case 527, vol. 7, fol. 11 and 12; Papers, L.B.D. 98/2,910.—A. J. PARK, Chairman, Court-house, Lismore, 18/6/98.

### No. 111.

Mr. J. T. McIlpatrick to The Chairman, Local Land Board, Grafton.

Form 3.—Crown Lands Acts.

Notice of Appeal to the Land Appeal Court from decision of Local Land Board.

New South Wales, }  
to wit. }

WHEREAS on the eighteenth day of June, 1898, a certain matter, wherein James T. McIlpatrick was applicant for the appraisal of land resumed for road purposes within his conditional purchase 74-3,662, portion 94, parish of Lismore, county Rous, came before the Local Land Board at Lismore, in New South Wales, for decision; and whereas the said Board awarded that the sum of twenty pounds stg. (£20) was sufficient compensation for said resumption, which deprives me of all access to water, thereby making my conditional purchase next to valueless; and whereas I am aggrieved by such decision, and desire



desire to appeal therefrom to the Land Appeal Court: These are, therefore, to give you notice that I appeal as aforesaid, and that I deposit the sum of £5 as security for the costs of such appeal. The grounds of such appeal are set out below. I desire that this appeal shall be heard in Sydney.

Signed this twenty-seventh day of June, 1898.

JAMES T. McILFATRICK,  
Chilcott's Grass, Lismore, Richmond River.

Received the sum of £5 referred to above.

Grounds of Appeal.

That the decision is against the weight of evidence, oral or documentary, as placed before the Land Board.

I beg to state that I purpose, with the permission of the Court, to bring forward additional evidence—the correspondence that passed between myself and the Department of Mines during the year 1884 relative to the resumption through my conditional purchase.

J. T. McILFATRICK.

No. 112.

The Under Secretary for Lands to The Crown Solicitor.

Sir,

Referring to your letter of the 16th instant, respecting the Land Appeal Court case noted in the margin hereof, I am directed by the Secretary for Lands to inform you that, in reply to a letter from Messrs. Norrie and McGuren, these gentlemen were, on the 28th February last, apprised that their communication had been written apparently under a misapprehension, as no arrangement is admitted by Mr. Stopps, and that it might be an advantage if they would call at this Department and see that officer personally. I am to add that no further action in the matter has been taken by this Department.

I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(per F. H. WILSON).

No. 113.

Memorandum from The Chairman, Local Land Board, Grafton, to The Registrar,  
Land Appeal Court, Sydney.

6 July, 1898.

HEREWITH enclosed is an appeal lodged by J. T. McIlfattrick against the Board's appraisal of land resumed for road purposes in the parish of Lismore, county Rous, within portion 94, together with the papers in the case.

A. J. PARK,  
Chairman  
(Per W.A.M.).

[Enclosure.]

Form 3.—Crown Lands Acts.

*Notice of Appeal to the Land Appeal Court from decision of Local Land Board.*

New South Wales }  
to wit

WHEREAS on the eighteenth day of June, 1898, a certain matter, wherein James T. McIlfattrick was applicant for the appraisal of land resumed for road purposes within his conditional purchase 74-3,662, portion 94, parish of Lismore, county Rous, came before the Local Land Board at Lismore, in New South Wales, for decision; and whereas the said Board awarded that the sum of twenty pounds sterling (£20) was sufficient compensation for said resumption, which deprives me of all access to water, thereby making my conditional purchase next to valueless; and whereas I am aggrieved by such decision, and desire to appeal therefrom to the Land Appeal Court: These are, therefore, to give you notice that I appeal as aforesaid, and that I deposit the sum of £5 as security for the costs of such appeal. The grounds of such appeal are set out below. I desire that this appeal shall be heard in Sydney.

Signed this twenty-seventh day of June, 1898.

JAMES T. McILFATRICK,  
Chilcott's Grass, Lismore, Richmond River.

To the Chairman, Land Board, Grafton.

Received the sum of £5 referred to above.

W. A. MACPHEE,  
Clerk-in-Charge  
(Pro Chairman).

Land Board Office, Grafton, 29th June, 1898.

Grounds of Appeal.

That the decision is against the weight of evidence, oral and documentary, as placed before the Land Board. I beg to state that I purpose, with the permission of the Court, to bring forward additional evidence—the correspondence that passed between myself and the Department of Mines during the year 1884 relative to the resumption through my conditional purchase.

J. T. McILFATRICK.

## No. 114.

The Registrar, Land Appeal Court, to Mr. J. T. McIlpatrick.

Land Appeal Court, No. 5,243.—Form 3A.

Notice of Case coming on before the Land Appeal Court.

In the Land Appeal Court of }  
 New South Wales. } In the matter of C.P. 74-3,662, Lismore, J. T. McIlpatrick.

THE above-mentioned matter having come under the cognizance of the Land Appeal Court upon the appeal against the appraised value of the land resumed for road purposes from said conditional purchase made in respect thereof upon the 29th day of June, 1898, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Sydney on the 2nd day of August next and following days, the said matter will be brought before the Court for hearing or otherwise as may be ordered in that behalf.

Signed this ninth day of July, 1898.

J. T. KEATING,  
 Registrar.

Statement of service or attempts made to effect service.

I, William James Tippett, of Lismore, Senior-sergeant of Police, do solemnly and sincerely declare and affirm, that on the 18th day of July, 1898, I served a true copy of the within notice upon James Thomas McIlpatrick, the person to whom it is addressed, by delivering the same to him personally at Lismore.

WILLIAM J. TIPPETT.

I, William J. Tippett, do hereby solemnly declare and affirm that the above statement is true; and I make this solemn declaration as to the matters aforesaid according to the law in this behalf made, and subject to punishment by law provided for any wilfully false statement in any such declaration.

WILLIAM J. TIPPETT.

Made before me, at Lismore, this 18th day }  
 of July, 1898,— }  
 ANDREW T. COCHRANE, J.P.

## No. 115.

The Registrar, Land Appeal Court, to The Under Secretary for Mines and Agriculture.

Land Appeal Court No. 5243.—Form 2.

In the Land Appeal Court of }  
 New South Wales. } *Summons and Subpœna.*

To The Under Secretary for Mines and Agriculture,—

WHEREAS, in a certain matter of the appeal of J. T. McIlpatrick, conditional purchase 74-3,662, Lismore, it hath been made to appear that you are likely to give material evidence touching the said matter: These are therefore to command you, in Her Majesty's name, to be and appear on Tuesday, the twenty-third day of August instant, at ten of the clock in the forenoon, at the Land Appeal Court at Darlinghurst, and then and there give such evidence, and testify to what you may know concerning the matter, and produce all books, papers, deeds, and documents—particularly all correspondence and other documents in your custody, possession, or control, relating to the resumption of land through the conditional purchase of John Thomas McIlpatrick, No. 74-3,662, portion 94, county of Rous, parish of Lismore, advertised in the *Government Gazette* of 29th February, 1884, 16th September, 1884, and 12th November, 1884—which may be in your possession or under your control, having any reference to the matter under investigation, and so attend from day to day until the said matter be disposed of.

Signed this 29th day of July, 1898.

W. N. DOVE  
 (for the Registrar).

Issued at the instance of Messrs. Norrie and McGuren, 369, George-street, Sydney. The Under Secretary for Mines, Sydney. Mr. Collis,—Do we know anything of this? If we do, see me with the papers.—D.McL., 19/8/98.

This refers to a resumption for road purposes. The action was taken by this Department before the transfer of the "Roads" business to the Lands. It is now a matter for the Lands Department. This paper may be sent on.—W.R.C., 22/8/98.

Submitted. The Under Secretary for Lands.—D.McL., 22/8/98. Urgent.

## No. 116.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Office of Land Appeal Court, Darlinghurst, 3 August, 1898.

I have the honor to inform you that the matter of the appeal, as per margin, was brought before the Land Appeal Court of New South Wales, sitting at Sydney on the 2nd instant, when the following order was made:—Case postponed to next sitting of the Court at Sydney, commencing the 23rd instant.

I have, &amp;c.,

J. T. KEATING,  
 Registrar.

Appeal by  
 J. T. McIlpatrick  
 against the  
 appraised value  
 of the land  
 resumed for  
 road purposes  
 from his  
 C.P. 74-3,662,  
 Lismore.

No. 117.

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## No. 117.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Office of Land Appeal Court, Darlinghurst, 23 September, 1898.

I have the honor to inform you that the matter of the appeal, as per margin, was brought before the Land Appeal Court of New South Wales, sitting at Sydney, on the 20th instant, when the following order was made:—On application of Mr. Norrie, with consent of Mr. Davies, case to stand over generally.

I have, &amp;c.,

J. T. KEATING,

Registrar.

Appeal by J. T. McIlfrick against the appraised value of the land resumed for road purposes from his C.P. No. 74-3,662, Lismore. Papers retained.

## - No. 118.

Messrs. Norrie and McGuren to The Under Secretary for Lands.

Re McIlfrick, J. T.

Sir,

Sydney, 369, George-street, 26 September, 1898.

We beg respectfully to request that all the papers in this matter be forwarded as soon as possible to the Chairman of the Land Board, at Grafton, with a view to the inquiry being held as arranged.

We understand that the Land Board will hold a Court at Lismore very shortly.

We have, &amp;c.,

NORRIE AND MCGUREN,

Solicitors.

It is understood that the papers are with the Land Appeal Court.—A. J. STORRS, 23th September, 1898. The Chief Inspector.

## No. 119.

The Registrar, Land Appeal Court, to The Draftsman-in-Charge, Roads Branch.

Re McIlfrick.

Land Appeal Court of New South Wales, Sydney, 5 January, 1899.

MEMO.—The order of this Court, of 20th September last, was "Case to stand over generally." Apparently Messrs. Norrie and McGuren (Solicitors) are desirous of having these papers before the Board for some purpose. If that purpose be merely for reference, or as exhibits in some case, there would be no objection to forwarding them; but it would be useless to send them to deal with McIlfrick's case *per se*, as that case is not before the Board, nor does the order of the Court empower the Board to reopen the matter.

Papers, Roads. 81/1,014-107 herewith.

J. T. KEATING,

Registrar, Land Appeal Court.

Messrs. Norrie and McGuren personally expressed a desire that the papers in this case should be before the Land Board at their next sitting, which is to be soon. As the case is before the Land Appeal Court, I did not consider it was for the Department to take any action at this stage, and therefore wrote a memo. (herewith) to the Registrar, asking him whether anything was required to be done by the Department. The Registrar sends down the papers with this reply, "Submitted for direction."—A. J. STORRS, 5/1/99.

F.H.W.—Inform that it is not apparent for what purpose the papers could be forwarded to the Land Board, as the case is in the hands of the Appeal Court still.—H. CURRY, 7/1/99. Norrie and McGuren informed, 11/1/99. Returned to the Registrar of Land Appeal Court.—A. J. STORRS, Chief Draftsman of Roads, 10 March, 1899.

## No. 120.

The Under Secretary for Lands to Messrs. Norrie and McGuren.

Gentlemen,

Department of Lands, Sydney, 11 January, 1899.

Referring to your personal request that the papers in Mr. J. T. McIlfrick's case may be before the Local Land Board at their next meeting, I have the honor to inform you that it is not apparent for what purpose the papers could be forwarded to the Land Board, as the case is still in the hands of the Land Appeal Court.

I have, &amp;c.,

WM. HOUSTON,

Under Secretary

(per F.H.W.)

## No. 121.

Messrs. Norrie and McGuren to The Under Secretary for Lands.

Sir,

369, George-street, Sydney, 12 January, 1899.

We have to acknowledge receipt of your letter of yesterday, 81/1,014-108, referring to the case of J. T. McIlfrick.

From the tenor thereof we can see that you do not understand the arrangement arrived at between your Department, the Crown, and our Mr. Norrie. We shall, therefore, put you in possession of the facts.

Our client, Mr. McIlfrick, is the owner of a conditional purchase on Tucki Tucki Creek, near Lismore, containing 49 acres, and being conditional purchase No. 94. The road from Lismore to Wardell ran through this portion.

In

In the year 1884 the Mines Department made an alteration in this road, and gave a part of the old road to our client, in lieu of the new road.

In 1886 the Roads Department came along and made another alteration in this road, for which our client received certain compensation.

It appears from the papers that the Government subsequently resumed the small portion of the old road which had been given our client when the first alteration was made.

Our client, on receipt of notice of the proposed resumption, at once sent in objections, in accordance with the Act, backed up by a petition from all the residents but one, that the proposed road was unnecessary, and would completely cut him off from water.

He repeatedly tried to have the matter referred to the Local Land Board for a report as to the necessity for this road. At last he received word from the Land Board that the matter would be inquired into, and attended the Court at Lismore, with a number of witnesses, to prove the road was unnecessary.

Much to his surprise, he was informed by the Chairman that the only matter referred to them by the Minister was the amount of compensation to be paid him for the resumed road. This question was gone into by the Board, who assessed the compensation at £20 for this particular piece of road; and against this decision our client appealed, and thus the matter got before the Land Appeal Court.

After the matter was first before the Appeal Court, our Mr. Norrie called upon Mr. Stopps, of your Department, and went over the papers with him, and explained what our client really wanted was access to water.

It was then arranged that the appeal should stand over generally, and Mr. Stopps drafted a memorandum to the effect that it should be referred to the Local Land Board to inquire and report whether that road was necessary or not. If the Board, after hearing evidence, reported the road was unnecessary, we would abandon our claim to the £20 compensation allowed, and the appeal would be at an end. If, on the other hand, the Board reported in favour of the road, it would then be for Appeal Court to say on the evidence whether the £20 was sufficient compensation.

This was the arrangement arrived at between Mr. Davies, representing the Crown, Mr. Tillet, of the Crown Solicitor's Office, and our Mr. Norrie, and we were indeed surprised to learn from our client that the matter had not been sent on to the Local Board.

On inquiry at the Appeal Court we ascertained that the papers were still there, and had not been asked for by your Department.

Of course you must see that the Local Board could not hold the inquiry agreed upon without the papers, and the necessary instructions from the Minister.

We trust that you will, as soon as possible, have the papers sent on to the Chairman at Grafton, together with Mr. Stopps' memo, which contains the terms of our arrangement.

We have, &c.,

NORRIE AND MCGUREN.

If any arrangements were made with the consent of the Crown Solicitor, would not the Department have been formally informed?—  
A. J. S.

## No. 122.

### Office Memorandum.

Messrs. Norrie and McGuren *re* McIlpatrick's appeal to the Land Appeal Court and alleged Memo. referring a certain matter to Local Land Board for inquiry, &c.

16 January, 1899.

REFERENCE is herein made to a memorandum which I am represented to have made to the effect that the question whether a road resumed from McIlpatrick and leading to Littlechild's land, portion 81, for which the Land Board appraised compensation in the sum of £20 was required or not.

I have no recollection of any such memo having been drafted or written by me, and the following reasons lead to the direct inference that Messrs. Norrie and McGuren are in error.

The matter was at the time before the Land Appeal Court on the appeal of McIlpatrick, and it would have been necessary for the Court to direct the Department to take some course before it would have moved further in the matter.

Presumably the Court could have referred the case back to the Land Board, if it desired further evidence to be taken.

Moreover the Land Appeal Court retained the papers in the case after informing the Department on the 23rd September, 1898, that the case was to "stand over generally," and did not request any action to be taken by the Department.

Presumably too, if Messrs. Norrie and McGuren desired that further information should be placed before the Court which would be favourable to their client's cause, it was for them to ensure that the necessary steps were taken.

The Department had decided that the road should be reopened which McIlpatrick desires to have closed, as the reopening of it only restores rights of access to Littlechild which had specially been provided for him alone when the Crown estate was surveyed for alienation; and even had the Land Board (should reference have been made to it) reported that the road was of no public advantage, the Department would not again have deprived Littlechild of rights of access it had deliberately restored by resuming land the appraised value of which was the subject of McIlpatrick's appeal.

The only way to get the road closed is for McIlpatrick to get Littlechild's consent.

A. J. STOPPS.

The papers were borrowed from the Land Appeal Court to deal with Messrs. Norrie and McGuren's inquiries.—F. H. W. Referred to the Crown Solicitor, having reference to the statements in Messrs. Norrie and McGuren's letter of the 12th instant concerning an alleged arrangement between them and Mr. H. Davies.—W. H., 18/1/99. The Crown Solicitor accordingly.—A. J. STOPPS, for Under Secretary, 21/1/99.

## No. 123.

## The Crown Solicitor to The Under Secretary for Lands.

Sir,

Crown Solicitor's Office, Sydney, 20 February, 1899.

I have the honor to return herewith the papers numbered as in the margin forwarded to me with reference to an alleged arrangement between Mr. Hanbury Davies and Messrs. Norrie and McGuren as to the appeal of J. T. McIlpatrick. 1881/1,014-110

Mr. Hanbury Davies made no arrangement with Messrs. Norrie and McGuren with regard to this appeal further than as follows:—Mr. Norrie informed Mr. Davies that he had come to an arrangement with Mr. Stopps, of the Lands Department, much as is stated in Messrs. Norrie and McGuren's letter of the 12th ultimo, and he asked that the appeal should be allowed to stand over generally to admit of that arrangement being carried out, and to that Mr. Davies consented.

I have, &amp;c.,

GEORGE COLQUHOUN,

Crown Solicitor.

See my memo. of 16th January on paper 110.—A. J. STOPPS, 22/2/99. F. H. Wilson, Chief Clerk, 22/2/99. Chief Inspector.—W.H., 23/2/99.

The case was before the Land Appeal Court on a question of compensation, but Messrs. Norrie and McGuren obviously desire the Land Board to inquire and report as to whether the road (which had been resumed) was necessary or not—in fact, to review the departmental action as to resumption. It may be pointed out to these gentlemen that their letter has been written apparently under a misapprehension, as no arrangement is admitted by Mr. Stopps. It might be an advantage if they would call at the Department and see Mr. Stopps personally.—H. CURRY, 22/2/99. Approved.—W. H., 23/2/99. Norrie and McGuren informed, 28/2/99.

## No. 124.

## The Under Secretary for Lands to Messrs. Norrie and McGuren.

Gentlemen,

Department of Lands, Sydney, 28 February, 1899.

Referring to your letter of the 12th ultimo, respecting the case of Mr. J. T. McIlpatrick, I have the honor to point out that such communication has been written apparently under a misapprehension, as no arrangement is admitted by Mr. Stopps, and that it might be an advantage if you would call at this Department and see that officer personally.

I have, &amp;c.,

WM. HOUSTON,

Under Secretary,

(per F.H.W.)

## No. 125.

## The Registrar, Land Appeal Court, to Mr. J. T. McIlpatrick.

Land Appeal Court No. 5243.—Form 3A.

Notice of Case coming on before the Land Appeal Court.

In the Land Appeal Court of } In the matter of C.P. 74-3,662, Lismore, J. T. McIlpatrick.  
New South Wales. }

THE above-mentioned matter having come under the cognizance of the Land Appeal Court upon the appeal against the appraised value of the land resumed for road purposes from said conditional purchase made in respect thereof upon the 29th day of June, 1898, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Sydney on the 10th day of April, 1899, and following days, the said matter will be brought before the Court for hearing or otherwise as may be ordered in that behalf.

Signed this 15th day of March, 1899.

J. T. KEATING,

Registrar.

Statement of Service, or attempts made to effect Service.

I, ROBERT HENDON, Senior-constable, did, this 18th day of March, 1899, serve a copy of this Land Notice upon Leonard Jobberns (a clerk), in Mr. Norrie's office, and who accepted service on Mr. Norrie's behalf.  
ROBERT HENDON.

I, ROBERT HENDON, do hereby solemnly declare and affirm, that the above statement is true; and I make this solemn declaration as to the matters aforesaid, according to the law in this behalf made, and subject to punishment by law provided for any wilfully-false statement in any such declaration.

Made before me at Sydney, this }  
18th day of March, 1899,— }

ROBERT HENDON.

JOHN MACINTOSH, J.P.

## No. 126.

## Office Memorandum.

6 April, 1899.

MR. NORRIE, Solicitor, 369 George-street, called to-day on behalf of Mr. McIlpatrick, and asked that the Crown should not oppose an application for postponement of the case now before the Appeal Court.

Ask Crown Solicitor to instruct Mr. Hanbury Davies. Mr. Norrie desires to make application to close an unnecessary road, and although I pointed out that there was no necessary connection between the unnecessary road question and the case before the Land Appeal Court, he stated that he desired a postponement in order to consider the situation.

H. CURRY.

Crown Solicitor instructed, and Mr. Norrie informed, 6/4/99.

No. 127.



## No. 127.

## The Registrar, Land Appeal Court, to The Under-Secretary for Lands.

Sir,

Office of Land Appeal Court, Darlinghurst, 11 April, 1899.

Appeal by J. T. McIlfrick against the appraised value of land resumed for road purposes from his C. P., No. 74-3,662, Lismore.

I have the honor to inform you that the matter of the appeal, as per margin, was brought before the Land Appeal Court of New South Wales, sitting at Sydney on the 10th instant, when the following order was made:—On application of Mr. Norrie, and with consent of Mr. Davies, counsel for the Crown, case stands over to first sitting of Court in Sydney during month of May next.

I have, &amp;c.,

J. T. KEATING,  
Registrar.

## No. 128.

## The Registrar, Land Appeal Court, to Mr. J. T. McIlfrick.

Land Appeal Court, No. 5,243,—Form 3A.

Notice of Case coming on before the Land Appeal Court.

In the Land Appeal Court of }  
New South Wales. }

In the matter of C.P. 74-3,662, Lismore, J. T. McIlfrick.

THE above-mentioned matter having come under the cognizance of the Land Appeal Court upon the appeal against the appraised value of the land resumed for road purposes from said conditional purchase made in respect thereof upon the 29th day of June, 1899, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Sydney on the 17th day of May next and following days, the said matter will be brought before the Court for hearing or otherwise as may be ordered in that behalf.

Signed this 12th day of April, 1899.

J. T. KEATING,

Registrar.

Statement of service, or attempts made to effect service.

SENIOR Constable OWEN L. POWELL states that he served a true copy of within Land Court Notice on the within-named F. Norrie, Esq., Solicitor, 369, George-street, Sydney, personally, on the 17th day of April, 1899.

OWEN L. POWELL.

I, OWEN L. POWELL, do hereby solemnly declare and affirm that the above statement is true; and I make this solemn declaration as to the matters aforesaid, according to the law in this behalf made, and subject to punishment by law provided for any wilfully-false statement in any such declaration.

Made before me, at Sydney, this }  
17th day of April, 1899,— }

OWEN L. POWELL.

H. C. MATHEWS, J.P.

Accepted service on behalf of J. T. McIlfrick.—FRANK NORRIE, Solicitor for J. T. McIlfrick, 17/4/99.

## No. 129.

## The Crown Solicitor to The Under Secretary for Lands.

Sir,

Crown Solicitor's Office, Sydney, 16 June, 1899.

With regard to the case mentioned in the margin, which has been postponed from Court to Court for some considerable time past, owing, it was understood, to negotiations taking place between the Department and the appellant with a view to a settlement, I have now the honor to request that I may be instructed how the matter stands at present, as the Court proposes to deal with the case at its next sittings on the 4th proximo.

I have, &amp;c.,

GEORGE COLQUHOUN,

Crown Solicitor.

The Crown Solicitor might be informed in terms of Mr. Curry's minute of 22/2/99, on paper No. 111, and that no further action has been taken by the Department in the matter.—A. J. STOPPS, 22/6/99. For approval.—F. H. WILSON, Chief Clerk, 23/6/99. W. H. Approved.—J.H.C., 26/6/99. The Crown Solicitor informed, 28/6/99.

## No. 130.

## The Registrar, Land Appeal Court, to The Under Secretary for Lands.

In the Land Appeal Court of }  
New South Wales. }

Land Appeal Court, No. 5,243.

APPEAL to be heard at sitting to be held at Sydney, commencing on the 2nd day of August, 1898; Sydney, 23rd August, 1898; Sydney, 26th September, 1898; Sydney, 10th April, 1899.

Appeal by James T. McIlfrick.

Nature of Appeal.—Against the appraised value of the land resumed for road purposes from his conditional purchase No. 74-3,662, Lismore.

Names and addresses of any other parties interested.—J. T. McIlfrick, Chilcott's Grass, Lismore, now forwarded to the Minister for Lands, the case having been brought before the Land Appeal Court sitting as above on the fourth day of July, 1899.

Decision given at Sydney, 18th July, 1899. A copy of the order of the Court will be found below  
19th July, 1899.

J. T. KEATING,  
Registrar.

Copy of Order of Court.

Appeal dismissed; Board's finding confirmed; deposit to be refunded.

No. 131.

No. 5,243, C.P. 74-3,662, Lismore, re road resumption.

Registration No. of Papers, L. B. 98-2,984, Grafton.

Notice of intention to hold Court gazetted, 6/7/98, 3/8/98, 13/8/98, 15/3/99.

Notice issued to undermentioned parties, and date of issue.—J. McIlfrick, 9/7/98, 3/8/98, 15/3/99. Service effected, 18/7/98.

## No. 131.

## The Registrar, Land Appeal Court, to The Under Secretary for Lands.

In the Land Appeal Court of New South Wales.

Sir,

Land Appeal Court Office, Darlinghurst, 19 July, 1899.

I have the honor to forward herewith draft certificate of the order of the Land Appeal Court in the matter of appeal noted in the margin, and you are hereby to take notice that I appoint 31st instant, at 11 o'clock in the forenoon, as the day when you may attend before me, and if so advised may take exception to the said draft certificate, if it does not properly set forth the order made by the Court.

If you do not attend on that day it will be assumed that you do not desire to take any such exception, and a certificate will be issued in terms of the draft forwarded herewith to the Under Secretary for Lands.

I have, &amp;c.,

J. T. KEATING,

Registrar.

Land Appeal Court No. 5,243. Appeal re land resumed from C.P. 74-3,662, Lismore. J. T. McIlpatrick. Enclosure.

[Enclosure.]

Land Appeal Court No.

FORM 1.

Certificate of the Order of the Land Appeal Court.

In the Land Appeal Court }  
of New South Wales. }

WHEREAS, on the 4th and 18th days of July, 1899, a certain matter, wherein James Thomas McIlpatrick and the Minister for Lands were concerned, in connection with the land resumed for road purposes from the said James Thomas McIlpatrick's conditional purchase No. 74-3,662, Lismore, was brought under the cognizance of the Land Appeal Court of New South Wales upon the appeal by James Thomas McIlpatrick against the appraised value of said land; and whereas the Land Appeal Court duly heard and determined the said matter, and on the 18th day of July, 1899, made a final order in respect thereof: These are therefore to certify that the final order of the Land Appeal Court in the premises was as follows:—  
Appeal dismissed; Board's finding confirmed; deposit to be refunded.

The seal of the Land Appeal Court was hereunto affixed by me, this                      day of                      189.

J. T. K.,

Registrar.

## No. 132.

## The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Land Appeal Court, No. 5,243.

Office of Land Appeal Court, Darlinghurst, 31 July, 1899.

Sir,

I have the honor to forward herewith certificate of the final order of the Land Appeal Court in matter of the appeal, as per margin, and to request that you will be good enough to acknowledge receipt of the same.

I have, &amp;c.,

J. T. KEATING,

Registrar.

Appeal re C.P. 74-3,662, Lismore. J. T. McIlpatrick. Enclosure.

[Enclosure.]

Land Appeal Court, No. 5243.

FORM 1.

Certificate of the Order of the Land Appeal Court.

In the Land Appeal Court }  
of New South Wales. }

WHEREAS, on the 4th and 18th days of July, 1899, a certain matter, wherein James Thomas McIlpatrick and the Minister for Lands were concerned, in connection with the lands resumed for road purposes from the said James Thomas McIlpatrick's conditional purchase No. 74-3,662, Lismore, was brought under the cognizance of the Land Appeal Court of New South Wales upon the appeal by James Thomas McIlpatrick against the appraised value of said land; and whereas the Land Appeal Court duly heard and determined the said matter, and on the 18th day of July, 1899, made a final order in respect thereof: These are therefore to certify that the final order of the Land Appeal Court in the premises was as follows:—  
Appeal dismissed; Board's finding confirmed; deposit to be refunded.

The seal of the Land Appeal Court was hereunto affixed by me, this 31st day of July, 1899.

J. T. KEATING,

Registrar.

## No. 133.

## Office Memorandum.

4 August, 1899.

COMPENSATION for land resumed under section 42, Crown Land Act of 1899, for road within Mr. J. T. McIlpatrick's conditional purchase, portion 94, parish of Lismore, county Rous.

Order of Land Appeal Court, on appeal by Mr. McIlpatrick, against the Land Board's appraisal of compensation.

Under the order of the Land Appeal Court, confirming the appraisal by the Land Board, it is recommended that the Treasury be authorised to pay to claimant, Mr. J. T. McIlpatrick, holder of portion 94, under conditional purchase 74-3,662, Lismore, the sum of £20, as compensation for the resumption for road within that portion.

A. J. STOPPS.

For approval.—F. H. WILSON, Chief Clerk, 7/8/99.      Approved.—J.H.Y., 8/8/99.      Treasury authorised to pay J. T. McIlpatrick £20, and payee informed, 18/8/99.

## No. 134.

The Under Secretary for Lands to Mr. J. T. McIlpatrick.

Roads No. 81/1,014-119

Department of Lands, Sydney, 18 August, 1899.

I AM directed by the Secretary for Lands to inform you that the Under Secretary for Finance and Trade has been requested to cause the sum of twenty pounds to be paid to you, or your order, on application at the Treasury, as compensation in connection with a road through portion No. 94, parish of Lismore, county of Rous, where it passes through your land.

I have, &amp;c.,

WM. HOUSTON,

Under Secretary

(per F.H.W.).

## No. 135.

The Under Secretary for Lands to The Under Secretary for Finance and Trade.

Roads No. 81/1,014-119.

Department of Lands, Sydney, 18 August, 1899.

Sir, I am directed to request that you will be good enough to cause the sum of twenty pounds to be paid to Mr. J. T. McIlpatrick, c/o Messrs. Norrie and McGuren, solicitors, 369, George-street, Sydney, or order, on application at the Treasury, as compensation in connection with a road through portion No. 94, parish Lismore, county of Rous, where it passes through his land. Claimant- J. T. McIlpatrick, c/o Messrs. Norrie and McGuren, solicitors, 369, George-street, Sydney.

2. This expense is chargeable against the Temporary Supply, 1899-1900, to pay compensation in connection with the resumption of land for roads under the Public Roads Act of 1897.

I have, &amp;c.,

WM. HOUSTON,

Under Secretary

(per F.H.W.).

[Five Plans.]

Surveyor General's Office  
Road's Branch 10. 4 .83  
1881  $\frac{1014}{4}$

# PLAN

of Road through Portions 94, 61, 69, & 143

## PARISH OF LISMORE COUNTY OF ROUS

Proposed to be opened as a Parish Road under Act of Council 4. Will<sup>m</sup> IV. N<sup>o</sup> 11.

and resumed under the 27<sup>th</sup> Clause of the Act 43<sup>rd</sup> Victoria N<sup>o</sup> 29

Road to be opened One chain wide, shewn in Red

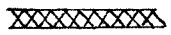
Scale 10 chains to an inch

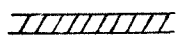
Laid before the Executive Council  
on the 29<sup>th</sup> January 1884.

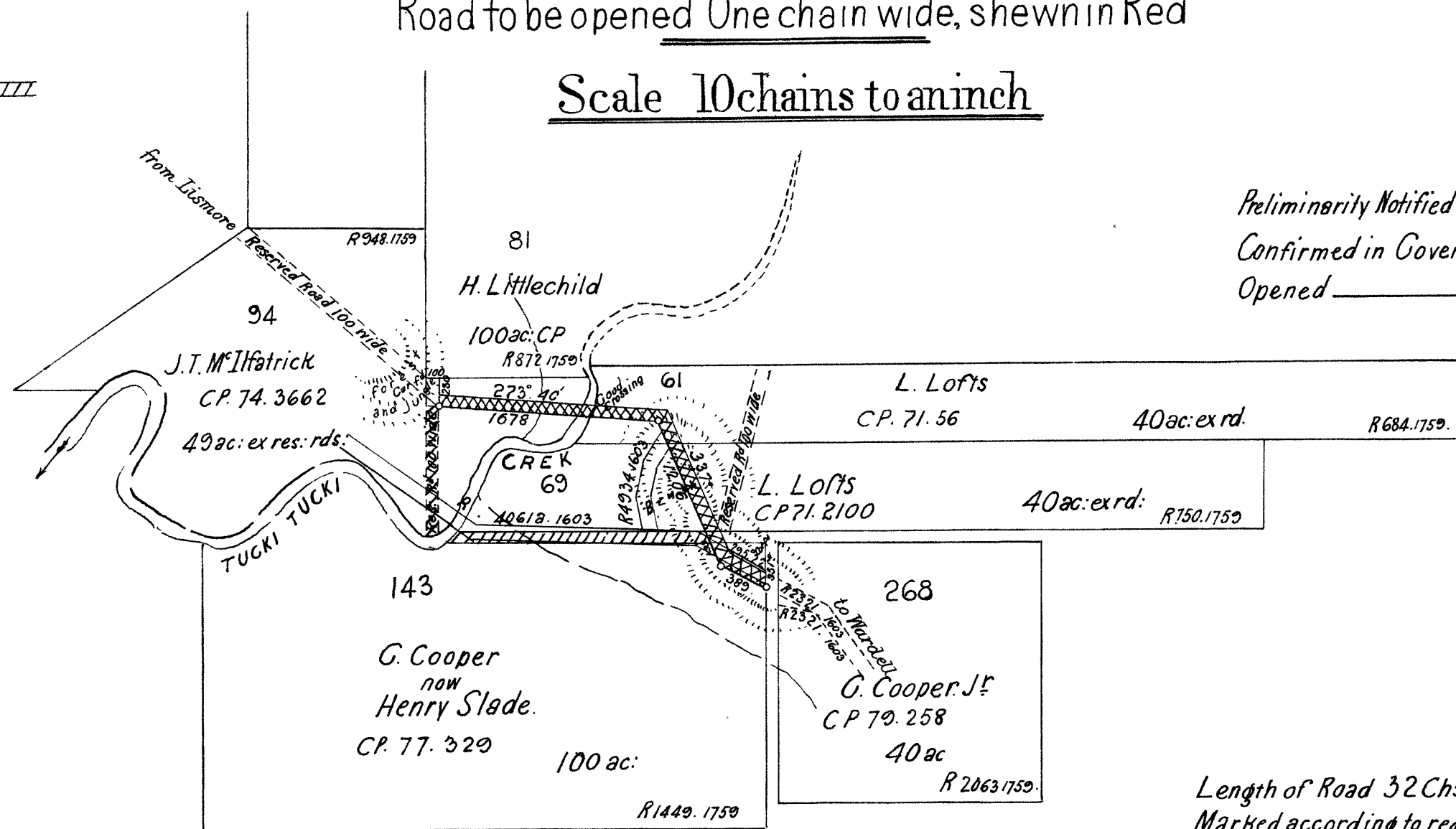
S<sup>d</sup> Alex. C. Budge  
Clerk of the Council

Preliminary Notified in Gov<sup>t</sup> Gaz<sup>te</sup> of 29<sup>th</sup> Feb<sup>r</sup> 1884 folio 1465  
Confirmed in Government Gaz<sup>te</sup> 12<sup>th</sup> Nov<sup>r</sup> 1884 folio 7589  
Opened \_\_\_\_\_ do \_\_\_\_\_ 22<sup>nd</sup> May 1885 folio 3333

Note

{ Red tint on original  
shown hereon thus 

{ Blue tint on original  
shown hereon thus 



Length of Road 32 Chs: 73 lks:  
Marked according to regulations  
Instrument used, Theodolite  
Date of Survey, Jan<sup>y</sup> 1883.

Transmitted to the Surveyor General with my letter of the 26<sup>th</sup> March  
N<sup>o</sup> 83.11  
(S<sup>d</sup>) Thos. I. Ewing Surveyor

Charted etc. and Schedule prep<sup>d</sup> for D.S.O.  
(S<sup>d</sup>) J.H.F. 19.3.88

Ex<sup>d</sup> & Co S<sup>d</sup> E<sup>d</sup>.  
Dec 83

— Cat: N<sup>o</sup> R2635.1603 —

D L  
1 - 6 - 91  
1881 1014  
38  
ROADS BRANCH

93/4007  
Roads R.W.

PLAN OF ROAD  
from the LISMORE - GUNDURIMBA ROAD to WARDELL  
between the North West corner of R. Marshall now Commercial Banking Company's 100 ac. C.P. Portion 93  
and the East boundary of G Cooper now H. Slades 99 ac. 2 rd. C.P. Portion 143.  
with a BRANCH to Reserved Road South of Portion 81

PARISH OF LISMORE  
COUNTY OF ROUS

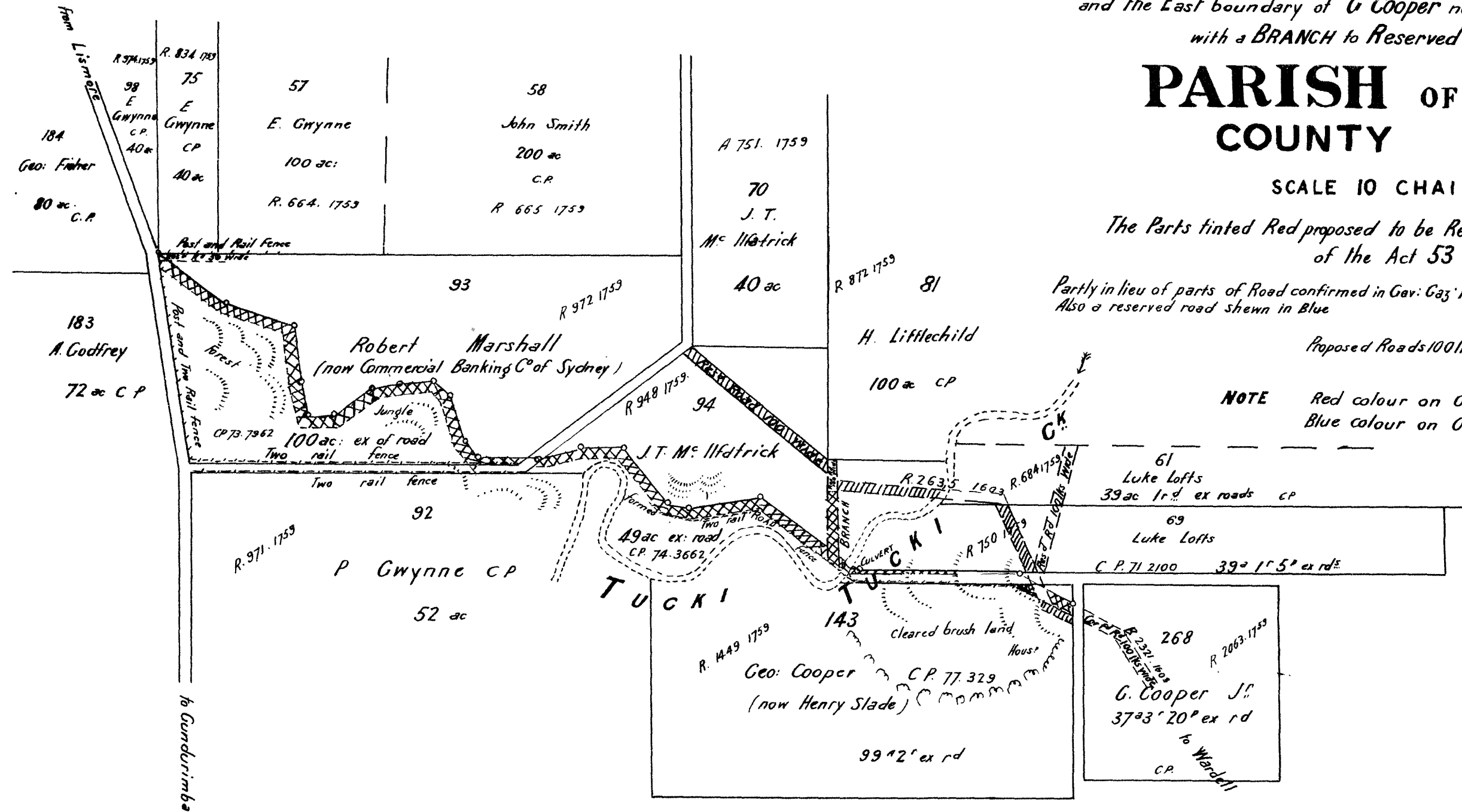
SCALE 10 CHAINS TO ONE INCH

The Parts tinted Red proposed to be Resumed under the 42<sup>nd</sup> clause  
of the Act 53 Victoria N<sup>o</sup> 21

Partly in lieu of parts of Road confirmed in Gov. Gaz. 12<sup>th</sup> Nov. '84 folio 7589 (R. 2635 1603) shewn in Blue  
Also a reserved road shewn in Blue

Proposed Roads 100 links wide

NOTE Red colour on Original shown hereon thus XXXXX  
Blue colour on Original shown hereon thus |||||



For Land Agent Lismore District

Plan transmitted to the Surveyor General with my letter of the 11<sup>th</sup> April N<sup>o</sup> 31.19

(Signed) F. Verden. Hunter

Lic Sur.

R. 4061 1603



DEPARTMENT OF LANDS.  
27. 6. 92  
1881 1014  
59  
ROADS BRANCH

Land Board District  
N<sup>o</sup> 92. 4993  
Enclosure  
Head Office Crafston

(L.D. Lismore)

Enclosure to No. 60.

# Amended PLAN Survey

Of Road through portions N<sup>os</sup> 93 94 and 69 & 143  
Shewing deviations from old Road  
With a Branch

## COUNTY OF ROUS PARISH OF LISMORE

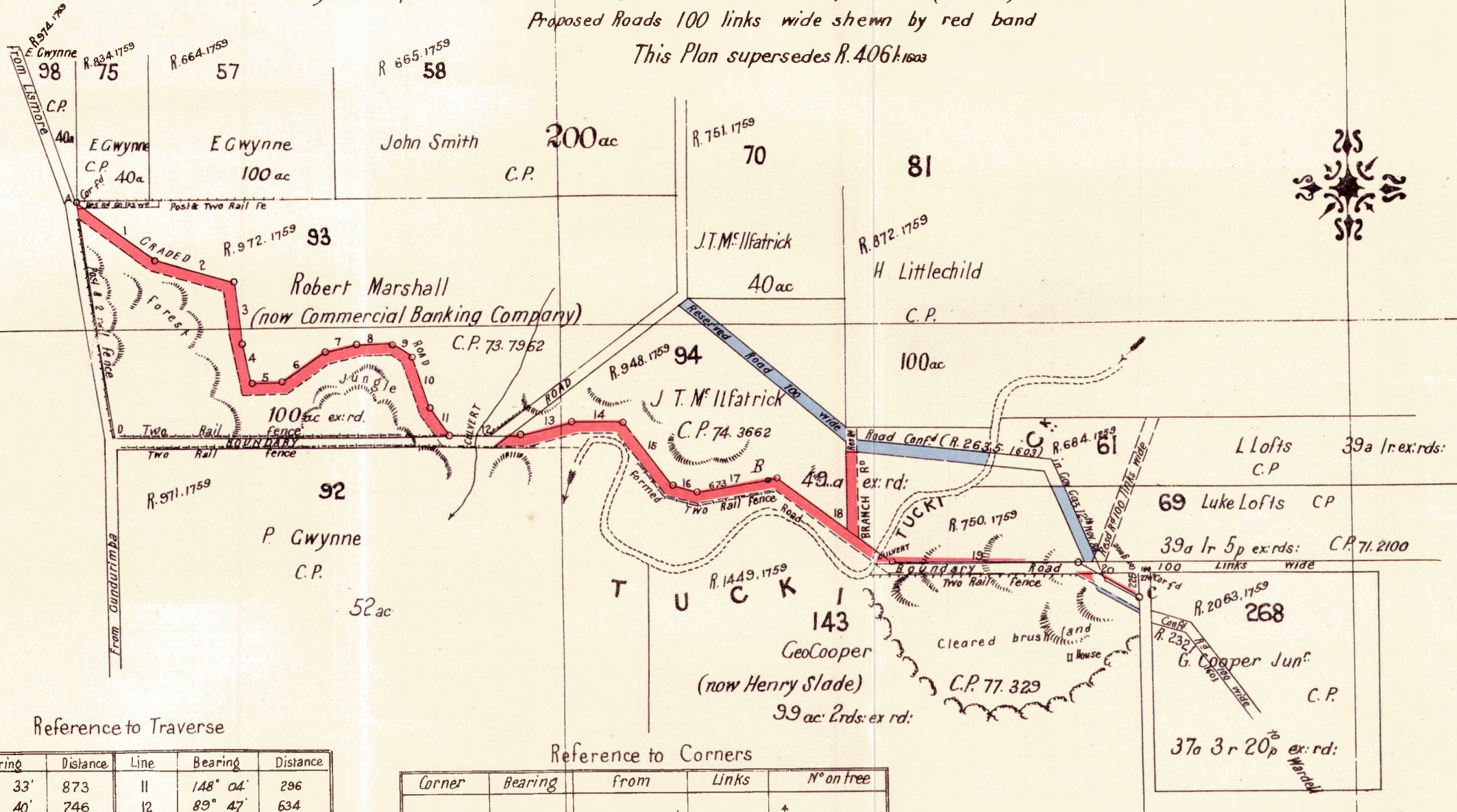
Proposed to be resumed under the 42<sup>d</sup> Clause of the Act 53 Victoria N<sup>o</sup> 21

Roads to be resumed one chain wide tinted Red  
Roads to be given in lieu tinted dark blue

Partly in lieu of parts of Road conf<sup>d</sup> in Gov. Gaz. 12<sup>th</sup> Nov<sup>r</sup> 84 folio 7589 shewn by dark blue tint (R. 2635.1603) & a reserved road shewn by dark blue tint

Proposed Roads 100 links wide shewn by red band

This Plan supersedes R. 4061.1603



Reference to Traverse

Line	Bearing	Distance	Line	Bearing	Distance	
1	127° 33'	873	11	148° 04'	296	
2	105° 40'	746	12	89° 47'	634	
3	174° 08'	571	13	76° 33'	459	
4	168° 21'	360	14	90° 30'	459	
5	86° 07'	269	15	141° 51'	721	
6	56° 47'	474	16	105° 17'	220	
7	75° 57'	276	17	80° 08'	725	
8	87° 50'	339	18	126° 16'	1255	
9	122° 22'	213	19	90° 53'	1652	
10	162° 12'	500	20	120° 06'	633	
					Total	11685

Reference to Corners

Corner	Bearing	from	Links	N <sup>o</sup> on tree
A	S 32° E	Bloodw <sup>d</sup>	79	R 75. 93.98
B	254° 58'	Bloodw <sup>d</sup>	18 3/4	
C	on	Stake		

Length of Road 1 Mile 36 Chains 85 Links  
do do Branch 0 do 7 do 00 do (about)  
Total Length 1 do 43 do 85 do

Azimuth taken from 93 AD  
Scale 10 Chains to 1 Inch

Proposed Resumption Notified in Gov Gazette of 20<sup>th</sup> Sept, 1892, folio 7613.  
Resumption do do 18<sup>th</sup> Nov, 1892, folio 9171.  
Procl<sup>d</sup> a Road for Public Traffic do do 13<sup>th</sup> Dec, 1892, folio 9777.

R. 4061.a. 1603

Plan, Transmitted to the District Surveyor with my letter of 7<sup>th</sup> June 92.11.

I hereby certify that I in person made and on the 8<sup>th</sup> Feby 1892 completed the survey represented on this plan on which are written the bearings and lengths of the lines measured by me and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors.  
J. Ussher Hunter  
Sd  
Lic. Surveyor.

Examined s<sup>d</sup> G.O.E.  
13.7.92  
F.H.B.

Co<sup>d</sup> of 27.5.92



Enclosure

1881

1014  
66

Roads Branch

TRACING

Showing Sketch Re J. T. McIlfatrick's letter

Parish

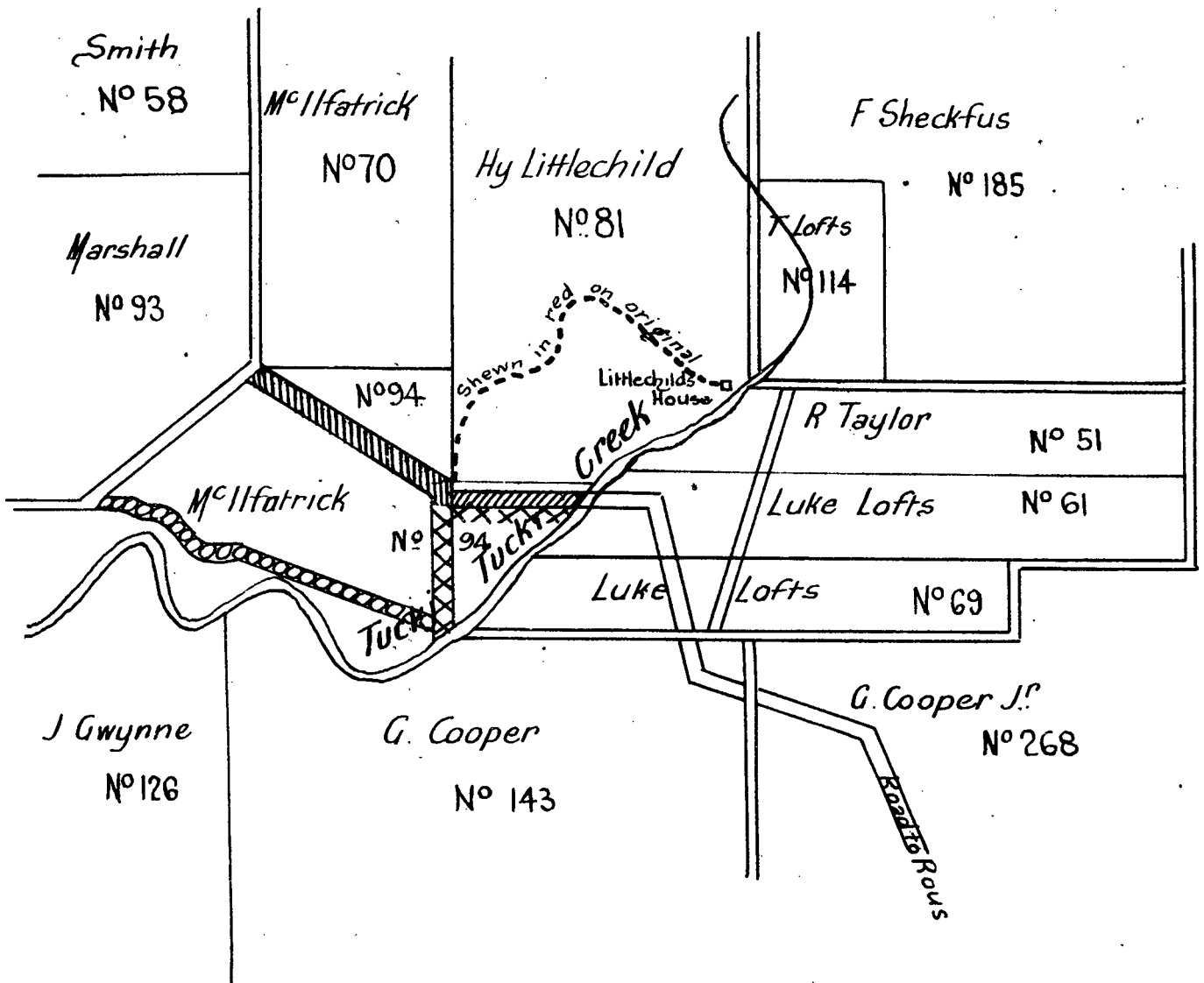
of

Lismore

County

of

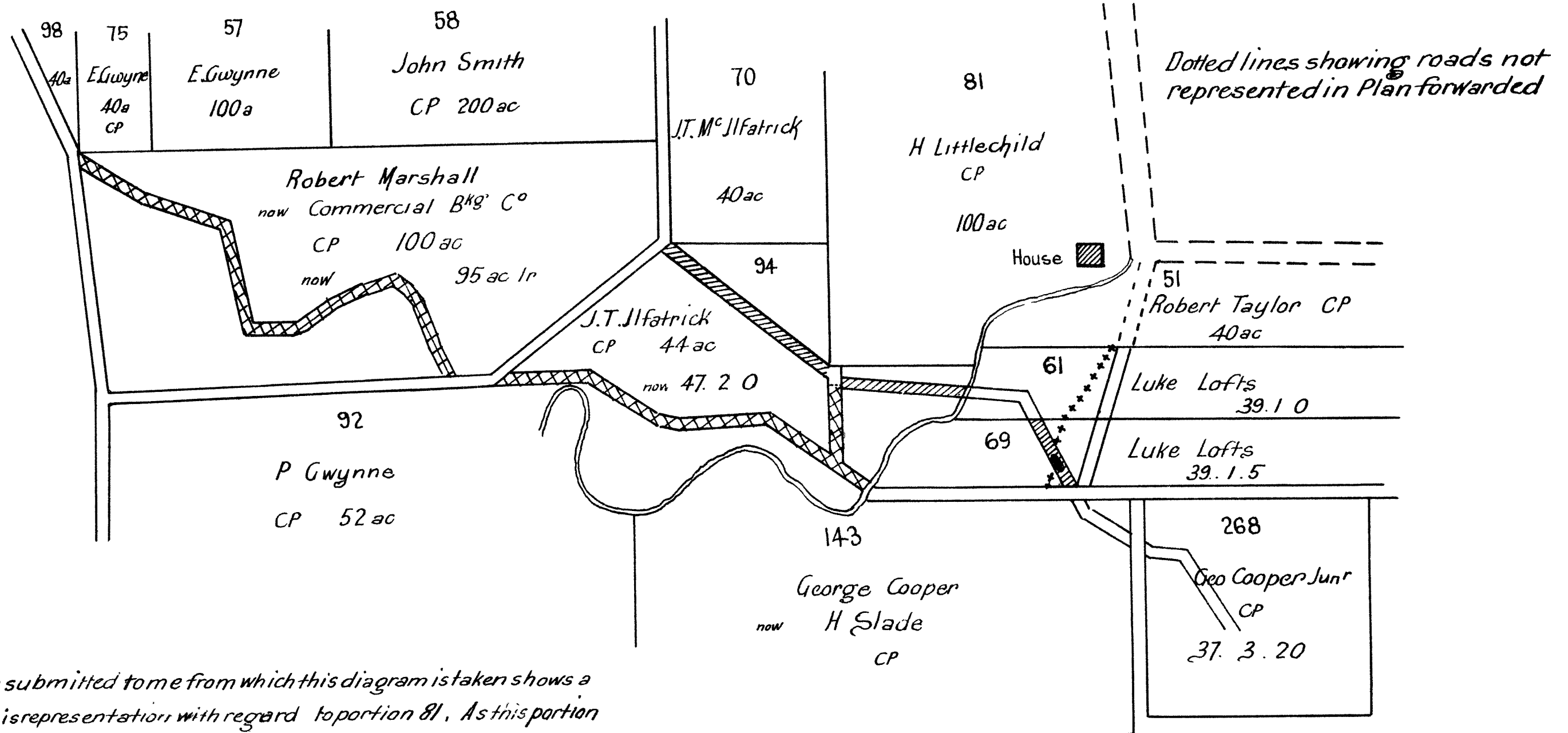
Rous



NOTE

Red color on original shewn hereon thus *xxxxxx*  
 Blue color on original shewn hereon thus *|||||*  
 Green color on original shewn hereon thus *oooo*

1881 1014  
Roads Branch



The plan submitted to me from which this diagram is taken shows a gross misrepresentation with regard to portion 81. As this portion causes all the trouble, but the roads of access is not traced to it. Almost any portion of land could be represented to be without access, for instance take E Gwynnes Portion 57. If <sup>the</sup>owner was <sup>so</sup> ambitious a cause as good could be shewn to give access to the new deviation, and John Smith also. (s<sup>d</sup>) J. T. McIl 2.1.93

Red dotted lines through Portions 69 & 61 shews the deviation surveyed by M<sup>r</sup>. Bailie (shewn hereon thus XXXXX)

**— NOTE —**

Purple color on original shewn hereon thus XXXXX  
Blue color on original shewn hereon thus /////

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

# ALFRED AUSTIN SAMPSON'S SETTLEMENT LEASE, GUNNEDAH.

(RETURN RESPECTING.)

Printed under No. 10 Report from Printing Committee, 16 November, 1899.

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 15th August, 1899, That there be laid upon the Table of this House,—

“All papers relating to the valuation of improvements on Alfred Austin Sampson's settlement lease No. 96-21, Gunnedah.”

(Mr. Moore.)

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277—A

[580 copies—Approximate cost of Printing (labour and material), £24 18s. 6d.]

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## No. 1.

### Decision of Local Land Board.

Crown Lands Act of 1884—(Part II, Section 14, Sub-section 4.)

New South Wales, )  
to wit. }

WHEREAS on the 16th, 17th, and 18th days of February, 1897, it became a matter for investigation before us to determine the ownership at date of application of improvements on Alfred Austin Sampson's settlement lease No. 96-21, of 3,534 acres, applied for at Gunnedah on 29th October, 1896, and confirmed on 16th February, 1897, and to appraise the values thereof as on the date of application; and having taken evidence and inquired into the said matter, we determine the ownership and appraise the values as indicated in Appendix "A" hereto. The total value, as appraised, of improvements, the property of the Crown, is £226 4s., and of improvements, the property of the occupation licensee, £121 6s. 1d.; in all £347 10s. 1d. for Crown and station property as appraised.

As to the fence, W X Y, on the easterly boundary (*see* Exhibit "A") it was at first contended by Mr. Creagh, for the occupation licensees, in effect, that under the decision of the Land Appeal Court in case 3,737 of *Molesworth and Ware v. Gibson* (vol. 5, fol. 217, Pike). Mr. Creagh stated that he was speaking from memory; that Mr. Sampson, the settlement lessee, is successor in title to the occupation licensees; and that if an award were made against Mr. Sampson for the total value of that fence he would be entitled to obtain half contribution from the holders of the adjoining lands, held under conditional leases 85-52, 91-21, and 87-14 respectively, being a settlement leaseholder under a lease having more than five years to run. (It is to be borne in mind—*see* page 31 of the evidence—that the fence W X Y was erected before conditional leases 85-52, &c., were applied for.)

We cannot adopt the view advanced by Mr. Creagh, and deem that it would be most inequitable for Mr. Sampson to be placed in the position of having to pursue claims against the holders of the conditional leases. Section 141, Crown Lands Act of 1884, does not seem framed to meet such a case as involved in connection with the fence W X Y, and we must, to the best of our judgment, proceed under section 44, Crown Lands Act of 1889. We deem that substantial justice is done by awarding against Mr. Sampson the amount of the half value of the fence W X Y as at the time of his settlement lease application. This we consider more expedient than to incur the delay of a reference to the Land Appeal Court.

If the holders or owners of the conditional leases referred to are able to advance claim (if they have any claim to any proportions of fence W X Y at all) to more than half the remaining value of the party fence, it will be open to the Board to proceed under Regulation 279, and without the intervention of a higher court—*i.e.*, if our present action in this special matter as the fence W X Y be not varied or set aside.

The evidence shows that the cost of the ringbarking is considerably less than our valuation thereof; but we are bound in this matter to have due regard to section 51, Crown Lands Act of 1895, as interpreted by the Land Appeal Court in the case of *Barnes*, No. 3,792 (vol. 6, fol. 91, Pike), which we have referred to. We have also referred to case 3,737, *Molesworth and Ware v. Gibson* (vol. 5, folio 217, Pike), in view of Mr. Creagh's remarks.

We would point out that Mr. E. W. Turner (a witness) yesterday claimed to have practically settled, some years back, with the lessees of the then Wondoobar leasehold area (now Wondoobar preferential occupation license), as to contribution towards the party fence along the westerly boundary of his conditional leases 85-52, &c. (*See* Exhibit A.)

Mr. Creagh, solicitor, of Tamworth (of Ross and Creagh), on the 16th and 17th instant, appeared for Mrs. Hungerford, owner of the Wondoobar preferential occupation license and estate.

Mr. A. H. Sampson, appeared on the same dates for his son, the settlement lessee; he also attended to-day.

Given under our hands, at the Court-house, at Gunnedah, in the Colony of New South Wales, this 18th day of February, 1897.

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members of  
ALEX. CRAWFORD, } Board.

## APPENDIX A.

APPENDIX A to our findings and decision of to-day in the matter of appraisement of value of improvements upon A. A. Sampson's settlement lease, No. 96-21, of 3,534 acres, in the Land District of Gunnedah. [*Refer to Exhibit A.*]

## Crown Improvements.

	£	s.	d.
Tank, 2,367 cubic yards, at 9d. ... ..	88	15	3
Mixed fence around tank ... ..	4	0	0
27 chains of 6-wire boundary fence, 5-6, at 3s. 9d. ... ..	5	1	0
83 chains of 6-wire intersecting fence, 1-2 and 3-4, at 2s. 6d... ..	10	7	6
1,770 acres ringbarking, at 1s. 4d. ... ..	118	0	0
	<u>£226</u>	<u>4</u>	<u>0</u>

## Station Property.

87 chains of 6-wire boundary fence, B 5, at 3s. 9d. ... ..	16	6	3
Half value of 155 chains of boundary fence W X Y, at 3s. 9d. per chain, 6-wire fence ... ..	14	10	8
137 chains of 6-wire intersecting fence, 2-3 and 4-5, at 2s. 6d. ... ..	17	2	6
1,100 acres of ringbarking, at 1s. 4d. ... ..	73	6	8
	<u>£121</u>	<u>6</u>	<u>1</u>

Total value of both sets of improvements ... .. £347 10 1

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members of Local  
ALEX. CRAWFORD, } Land Board.

Court-house, Gunnedah, 18th February, 1897.

## [Enclosure.]

## CAPTION TO DEPOSITION OF WITNESSES.

New South Wales, }  
to wit. }

THE examination of Frederick Poate, of Tamworth, in the Colony of New South Wales, District Surveyor; William Frederick Robey, of Tamworth; Edwin Woodward Turner, of Curlewis; William Thomson, of Gunnedah; Robert Elms, of Wondobar; Andrew Hornery, of Gunnedah; Alfred Bacon, of Gunnedah; Percy Albert Sampson, of Gunnedah; Samuel Hole, of Wondobar; Edwin W. Turner, Thomas Henry Hall Goodwin, and Edwin W. Turner: Whereas it hath become necessary to determine ownership, and appraise value of improvements on settlement lease 96-21, Gunnedah; and it hath been found necessary to investigate the said matter on oath, the depositions of the several witnesses are appended hereto.

This deponent, *Frederick Poate*, of Tamworth, District Surveyor, being duly sworn, maketh oath, and saith as follows:— In the matter of settlement lease 96-21, I claim, on behalf of the Crown, 830 acres of ringbarking, being ringbarking on land that was continuously reserved from sale as reserve 577 and reserve 2,014, from the 18th November, 1874, to the 8th November, 1895; I also claim 940 acres of ringbarking contained in the two areas marked "A B 5 C," and "D E F G," on heliograph marked Exhibit "A," for the reason that the ringbarking was done without permission; the continuous reservations referred to were as reserve 577 and reserve 2,014; the northern limits of the permits for ringbarking are indicated by the line "A X"; permits in pursuance of ringbarking applications 86-9 and 86-10, of the 14th May, 1886, and granted on 21st July, 1886, L.B. 88-1,155; north of the line "A X," within the cancelled reserve, there are 250 acres of ringbarking; of the fencing the parts indicated on Exhibit "A," between the points 1 and 2, 3 and 4, 5 and 6; 1 and 2, and 3 and 4 comprise 83 chains, 5 and 6, 27 chains, are Crown improvements, being on the cancelled reserve 577 and 2,014, and for the same reason the tank shown on Exhibit "A" is Crown property; it is near the south-west corner of portion 41.

Sworn by Frederick Poate, at Gunnedah, before us, } FRED. POATE.  
this 16th day of February, 1897,— }  
WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, Member.  
ALEX. CRAWFORD, Member.

This deponent, *William Frederick Robey*, of Tamworth, Manager of Commercial Bank, being duly sworn, maketh oath, and saith as follows:—

*By Mr. Creagh*: I know portion 54, parish of Wondoba, county of Pottinger, being settlement lease 96-21, to-day confirmed to A. A. Sampson; when the lease was applied for in November, 1896, the portion formed part of Wondoba occupation license, the holders of which are myself and Robert Alfred Orville Gill, as trustees for Mrs. Alice Hungerford; I am the managing trustee, and have the conduct of all matters financial; the license fee was paid in November last up to the end of 1897; I claim the ringbarking south of the line "A X" on Exhibit "A," with the exception of that which was in the reserve mentioned in Mr. Poate's evidence; I also claim for a fence on the north boundary, B to 5, and W X Y on east boundary; also the fence shown on Exhibit "A" from 2 to 3, and from 4 to 5; there is no record in the Wondoba Estate books of any payment having been made as contribution towards the cost of the fencing W X Y; the improvements claimed by the Crown were effected by the owners of Wondoba—the ringbarking and the dam about 1886 and 1887; I cannot speak as to the time of the erection of the fences; according to the books the dam was 2,688 yards, for which Mr. John Gill paid 1s. per yard.

*By Mr. Sampson*: I had nothing to do with Wondoba when "W X Y" was erected; I had nothing to do with any of the erection of the fences in connection with this settlement lease; I only became connected with the estate about three years back; I can only speak from what I have seen in the books; I would not know whether Mr. John Gill made any arrangements as to the fences, if such did not appear in the books.

Sworn by W. F. Robey, at Gunnedah, } W. F. ROBEY.  
this 16th of February, 1897,— }  
WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members.  
ALEX. CRAWFORD, }

This deponent, *Edwin Woodward Turner*, of Curlewis, licensed surveyor, being duly sworn, maketh oath, and saith as follows:—

*By the District Surveyor*: Cancelled reserves 577 and 2,014 are ringbarked, except about 20 acres; the areas "A B 5 C" and "D E F G," are ringbarked, with the exception of shade trees; the ringing is pretty heavily suckered, large suckers at least five years old; the ringbarking, or rather similar country, could be ringbarked now for 9d. per acre; I should say it would cost about 4d. per acre to remove the suckers; the ringbarking has improved the land very much,  
either



either for pastoral or agricultural purposes; I think the ringing, in its present state, has doubled the carrying capacity the capacity is now about a sheep to  $1\frac{1}{2}$  acre; I think it could be cleared for the plough now for 15s. per acre; in a green state I think it would cost £2 per acre; all the cancelled reserves is first-class agricultural land; the area "D E F G" is level, good agricultural land, but very stony in places, and fully half of "A B C" is good agricultural land, the rest of it is too hilly and stony; the fencing between 1 and 2, and 3 and 4—the intersecting fencing—was erected about twelve years ago; pine posts, 9 x  $4\frac{1}{2}$  inches on top, 15 feet apart, 40 inches high from ground to top; the wire is various, from No. 4 to No. 10, averaging about No. 8; the strainers are pine, round, 1 foot in diameter, six wires; I estimate the present value at £13 per mile; the fence between 5 and 6, 27 chains, is six-wire, erected about 1884; the posts, pine, 8 x 4 inches, two No. 8, and four No. 10 wires; posts 12 feet apart, pine strainers about 1 foot in diameter; the sap is now rotten and the strainers cannot now be plugged; present value, £18 per mile.

*By the Chairman:* My evidence in respect to this fence will apply in every respect to fence "W X Y."

*By the District Surveyor:* The tank is situated in a drainage valley, about 100 yards wide and 5 feet deep in the centre; the dimensions are 40 x 42 yards on top and 20 x 32 on bottom, 75 inches deep on the average, the extremes being 66 and 93 inches deep; the content is 2,367 cubic yards; the earth taken out of the excavation was used to form a bank; the bank is the same as it was twelve months ago, there being no silting rains in the interval; it was made about ten years ago; I consider the site the best that could be obtained, there being a catchment of about 500 acres; the total storage of the reservoir, without the tank, would be about 7,000 cubic yards of water, having an average depth of 18 inches; the reservoir full, the depth of water in the tank would be between 10 and 11 feet; 5 feet of this would be due to the bank; the earth taken from the excavation banks up water right across the valley, and throws the water back, I should say, about 10 chains; I value this excavation and forming the bank at 9d. per yard, including a small quantity of soft rock on the south side; when making the tank they had to cart water at least 2 miles; the most accessible water, however, was 4 miles distant; I value the tank at £93, allowing £4 for supervision; this evidence is the result of a special inspection on the 18th November last; there is a fence close round the tank to keep cattle from breaking the bank—6 chains of two-sapling fence, value 15s. per chain, and 2 chains of six-wire fence at 10s. per chain.

*By the Chairman:* I think all the fencing I have valued would last eighteen years longer, with fair maintenance; I have land adjoining this settlement lease for about 40 chains, and I have had experience on it in grazing and agriculture; I have not had any personal experience in clearing green timber, but I had 60 acres of dead timber cleared for the plough, the cheapest of which cost me £1 per acre; the timber was more dense than the timber on the settlement lease; the proportion would be about twenty-five trees to the acre on this settlement lease, and thirty-three trees to the acre on mine; I had my clearing done by good men on wages; I had about twenty green trees burned, which gave three times as much trouble as the dead ones.

*By Mr. Creagh:* There are about 1,770 acres of ringbarking claimed by the Crown; of this area about 1,200 acres is good agricultural land; in addition to the ringing claimed by the Crown, there are 1,100 acres of ringing, the property of the occupation licensees, covered by the ringbarking permits, and not on reserved land, making in all about 2,870 acres; the evidence I have given in respect to the 1,770 acres of ringing applies equally to the ringbarking on the 1,100 acres, 1,000 of which, I should say, is good agricultural land; I think, from the size of the suckers, the ringing had been suckered once; about half of the trees are free from suckers; the suckers are not too large to be split off with an axe; I do not think this work could be done for less than 4d. per acre; the timber on the slopes is narrow-leaved box, and on the low-lying land it is bibik, which is much harder to kill than the narrow-leaved box; the first suckering after the ringbarking would cost 4d. per acre; it was probably done about four years after the ringbarking; the annual net profit on an average sheep would be about 1s. 6d. on this country, allowing for ravages by dogs, wallabies, and grass-seed; of the intersecting fence, there are 137 chains not on cancelled reserves mentioned in this evidence; the evidence I have given as to the other part of this fence applies to this part in every respect; it is in very fair order; I saw no broken wires or burnt posts in it; a similar fence could be put up now for £12 per mile, with the wire laid on the line, the timber being so handy; it takes about 19 cwt. of No. 8 wire to a mile of six-wire fencing, and about 13 cwt. of No. 10; the intersecting fence is not a judicious subdivision of the settlement lease; my evidence with reference to the fencing 5 to 6 applies in all respects to the fence B to 5, the length of which is 87 chains; the length of the fence W X Y is 155 chains; a similar fence could be erected for £15 per mile excluding wire; the fences on the north and east boundaries were in good repair; I saw no broken wires or burnt posts; the country eastward of the tank is hard, red, loam, drains well off, and is not bad for silting; it is on an unusually symmetrical embankment, and perfectly safely constructed; it is a really first-class job; I know the tank is retentive, as I have seen it nearly full; there is no water on the portion besides the tank; the value of the ringing in its present state to an incoming tenant is about £1 per acre, assuming the unimproved value of the land to be £1 per acre; the easy capability of the land to improvements is the inducement to select it; the land, as a freehold improved to the cost of 5s. per acre, would sell at £1 15s. per acre; the value of the ringing as distinguished from its cost would be 15s. per acre; if the land were put up for sale, with a condition of keeping the timber alive or not killing the timber, it would bring 15s. per acre less.

*By Mr. Sampson:* Virtually I contributed contribution to the fencing common to my land and the settlement lease; I have known Wondobar about thirteen years; I have known worms to be in sheep on this settlement lease about three years ago; previous to that the country was healthy; they were young sheep; not all the country on the fall to the tank is rung; there is no silt tank to it; there is a strip about 30 chains above the dam, and about 10 chains below, about 5 chains wide left for shade; in this good judgment is displayed; sheep would be likely to camp in this shade, but I do not consider their droppings would cause the tank to silt materially; the water in the tank now would require boiling before being fit for human consumption; when full the water is fit for human consumption, and I have drunk it myself; if the present water were mixed up with water sufficient to fill the tank it would not spoil the water; the description of the country on Exhibit C is substantially correct, and probably is condensed from my report; to my knowledge there is no water nearer to this tank than 2 miles; I consider it easier to cart water from New Wondobar Well, 4 miles distant, than from Old Wondobar, 2 miles distant; beyond the value of the wire I consider the intersecting fence of no value to an incoming tenant; I have had land burned off level to the ground for 10s. per acre, but not cleared for the plough for less than £1 per acre; I know of several methods of clearing for the plough, and I adopted the one I think the best; I think 6d. per year for the grass for a sheep on this country would be a fair rental; taking the rent of the land as the basis of its capital value, I would estimate it to be twenty times the rental—that is to say, 6s. 8d. per acre for sheep-grazing; if it were wire-netted, the country would be worth more than 6d. per sheep; for all sorts of grazing purposes the land could be let at 1s. per acre per annum.

How do you make it up? Fourpence per acre for sheep, and 1s. per acre for cattle; I have lost heavily by overstocking; personally I saw the common about a week ago; the fenced part looks well, but outside the fence on the south side it is scalded country, and has never much grass on it; on parts I have never seen grass; ringbarking, in addition to increasing the growth of grass, sweetens it; the grass on the ringbarked part is sweeter than on the unrung part; I refer to country of the same class; the grass being good attracts the wallabies; wallabies eat nothing but the choicest grass; there is an immense number of wallabies out there, which tends to ruin the pasturage; I have no idea how long it would take the the land to recover, supposing the wallabies were netted out; it would be most necessary to wire-net this settlement lease; I am of opinion the wallabies have greatly injured the pasture; to the best of my memory, there was a lot of pine scrub there about ten years ago; they have been taking logs to the mill from there; I think all the large pines are picked out; I think the worst of the pine can be completely killed for 2s. 6d. per acre; none of the overhanging trees have been cleared along the lines of fencing; I suppose it would be worth £10 per mile to do it now, as all the wires would have to be taken out; it would be necessary before erecting a wire-netting fence, but not for a twelve-wire fence, which would keep the wallabies back.

*By Mr. Creagh:* I have been offered for my country, which is not so good as this, a rental of 1s. per acre for general grazing purposes; when I last saw the country it was good for cattle and fair for wethers; to make a six-wire fence into a twelve-wire fence, the cost would be about £20 per mile, and it would keep out wallabies; there is a fence running nearly parallel with the west boundary of portion 54 about 7 chains from it on P. A. Sampson's portion 37; if the western boundary of portion 54 was fenced, the intersection fence would connect with it.

E. W. TURNER.

The parties agreed to consider the cost of the wire laid on this line to be £14 per ton.

JOHN H. CLEARY,  
Deposition Clerk, 16/2/97.

Sworn by E. W. Turner, at Gunnedah, before us, }  
this 16th day of February, 1897.—

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members.  
ALEX. CRAWFORD, }

This

This deponent, *William Thomson*, of Black Jack, Gunnedah, farmer, being duly sworn, maketh oath, and saith as follows:—

*By Mr. Sampson*: I know the Wondobar holding, and the lease, the subject of this inquiry; the settlement lease, portion 54, is not good country; the larger proportion is basalt country; I have known it twenty-five years; I have never had any stock of my own to speak of, but I have seen a lot of grazing; about ten years ago there was a lot of large pine on this settlement lease, but it has been taken away to the saw-mills; I have cut 600 to 700 logs myself on it; I have known of others to be cutting there; I have not seen them cutting, but I have seen the logs cut and branded; the logs I cut were for the saw-mills; I saw Mr. Pike's brand on some of the logs cut; he is the owner of a saw-mill; I did not give Wondobar Station any consideration for the privilege of cutting the logs; the pine scrub started to grow up about fifteen years ago; I put down the cost of the ringing at 8d. or 9d. per acre; I have seen it quite recently; I should say it would cost 6d. per acre afresh; there are four or five saplings growing from some of the trees, 8 inches through I should say; one in every three trees have suckers too large to remove; I do not think the settlement lease would at present carry a sheep to 10 acres; it was no better before it was ringbarked; ringbarking sweetens the grass, and where there are wallabies it attracts them; the wallabies have increased on this settlement lease, and injured the pasture; if they were netted out the country would take two or three years to recover; they eat closer than sheep; they eat the grass out by the roots; I have seen the tank; I have never seen it full; the catch appears to be good, but it is not good; if the catch were good the tank would be often-filled with the rains we have had; I saw it about two months ago; it was then very low; the water looked good, but I did not drink any of it; I was afraid to give my horse a drink; it being boggy, there was no fence around it; there is a soakage about a mile from the tank; it is in the position marked "S" on Exhibit A; similar tank work could be done for 8d. or 9d. per yard; I know the fence along the north boundary; the labour of it would cost about £15 per mile, with the wire laid on the ground; the ringbarking has not made the land any better.

*By Mr. Creagh*: The person who stated the ringing has doubled the carrying capacity is not stating a fact; I am 37 years old—born here; I have been living on Wondobar; I was employed by the station; I have seen much of this country since it has been ringbarked; I have not seen it suckered, but I have seen signs of some of the suckers having been removed; if the suckers were small, the suckering would not cost 6d. per acre.

*By the Chairman*: The suckers that were removed were removed about twelve months after the ringing.

*By Mr. Creagh*: I did not see the suckers being removed, but I saw them lying on the ground; nearly all of the ringbarking has suckered; I am farming for my mother; it is on similar country to the settlement lease; between 4 and 5 miles from it; our land is ringbarked and fenced by a twelve-wire fence, which seems to keep out the wallabies; the ringbarking has made the settlement lease land no better; it makes it worse for grass; there are 600 or 700 acres good agricultural land; I did not know Sampson before he applied for the lease; the reason I say the catch to the tank is not good is because I have never seen the tank full; if I saw it full I would call the catch good; the soakage "S" dries up; I have not seen the tank since two months ago; I did not make any special inspection of the land for the purpose of this inquiry; I am only speaking of it from my recollection of it as part of Wondobar; I have had some conversation with A. A. Sampson during the day, but not as he came out of the court; he spoke to his brother when he came out of the court.

*By Mr. Sampson*: If you saw the tank full once, would you say the catch is good? No, I still adhere to my opinion that it is not good; I have seen the tank over twenty times, and never saw it full.

When you saw the settlement lease two months ago, did you then consider it part of Wondobar? Yes. No.

Did you mean to tell Mr. Creagh that two months ago you thought this lease part of Wondobar? No.

As a matter of fact you knew otherwise? Yes.

Sworn by W. Thomson, at Gunnedah, before us, }  
this 16th day of February, 1897,—

W. THOMSON.

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members.  
ALEX. CRAWFORD, }

This deponent, *Robert Elms*, of Wondobar, kangaroo shooter, being duly sworn, maketh oath, and saith as follows:—

*By Mr. Sampson*: I have practical knowledge of ringbarking; I know settlement lease, the subject of this inquiry; I am over it every day; I would ringbark similar country for about 9d. per acre.

As the settlement lease is at present, what would you ringbark it for? One shilling per acre if I had to cut the pine scrub, and 6d. per acre omitting it.

When the trees are rung and the large pine cut down, how would the ground be if neglected? Young pine would come up and suckers would grow.

*By Mr. Creagh*: I have been kangaroo shooting for fifteen or sixteen years; it has been my occupation for the last two years in this district.

Sworn by Robert Elms, at Gunnedah, before us, }  
this 16th day of February, 1897,—

ROBERT ELMS

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members.  
ALEX. CRAWFORD, }

This deponent, *Andrew Hornery*, of Gunnedah, labourer, maketh oath and saith as follows:—

*By Mr. Sampson*: I have done ringing; I know the settlement lease, the subject of this inquiry.

What would you estimate the original cost of the ringbarking? About 9d. per acre, and to ringbark it now as the suckers are, 7d. per acre; and, including cutting the pine, 3s. per acre; the suckers growing on the settlement lease are large and, I am sure, could not be knocked off with an axe; I do not think the ringing has sweetened the grass on the settlement lease, because the timber has grown up very nearly as thick, if not thicker, than the original timber, as a result of the ringing; before this growth the grass was sweetened by the ringbarking; wallabies like sweet grass; I should say the scrub would bring the wallabies to the settlement lease—it would be a harbour; I have seen the settlement lease quite recently; I have known the country four years; the grass on it now is not very good, caused by want of ringbarking; I know the tank on the lease; I have known it about four years; I have never seen it full; there has been sufficient rain to fill ordinary tanks within the last two years; I have done a good bit of tank-sinking; it would be worth about 7d. per yard to excavate that tank and make the tank; I do not work for low wages, and would be prepared to take a contract at that rate; there is a spring a little more than a mile from the tank; I was camped at it; the old Wondobar Spring is behind on the other side of the ridge; I do not think much of the spring; I should say there are between ten and fifteen horses at the spring; I saw the tank a few days ago; it is not full; the water was from 6 to 13 inches deep when I saw Mr. Sampson measure it two days ago; some of the lease is sandstone.

*By Mr. Creagh*: I do not know how many acres are in the lease; I cannot say how many acres are sandstone; some of the rest seems nice red soil; I did not know it before it was ringbarked; I am kangaroo-shooting at present; I generally shoot in the winter-time—during the rest of the year I am shearing; I am shearing about three months in the year, on an average; my last contract for tank-sinking was some time last year; it was 8 or 9 miles from Carroll in this district; I got 7d. per yard; it was for Mr. Perrett; I did the work by scooping; the earth was put round one end of the tank only; we left it where we scooped it out; we had one of Mr. Perrett's teams, and one of our own; he gave us grass for the horses; a plough and scoop were provided by Mr. Perrett; the tank on the settlement lease would not be bad if cleaned out; the embankment is made pretty well; I do not care much about the site; the spring seems to be going dry now; I have been over pretty well all the lease; I know the land, because Mr. Sampson gave me permission to shoot on the land, and because of the survey line; the survey line might be the survey line of another lease.

Sworn by Andrew Hornery, at Gunnedah, before us, }  
this 16th day of February, 1897,—

ANDREW HORNERY.

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, } Members.  
ALEX. CRAWFORD, }

This deponent, *Alfred Bacon*, of Gunnedah, agent, being duly sworn, maketh oath, and saith as follows :—  
*By Mr. Sampson* : I have had large experience in grazing ; sheep country is more valuable than cattle country ; I know Wondobar ; some of it is cattle country, and a good deal of it is sheep country ; I do not know Wondobar very well ; I do not know the settlement lease Mr. Sampson applied for ; most of this district is sheep country, but there are parts more suited for cattle.

*By Mr. Creagh* : Any information I can give is of very little value, as I do not know the settlement lease ; from my experience I have never known a case in which wallabies have been attracted in such numbers as a consequence of the grass being sweetened by ringbarking as to render the country worse than its original state ; wallabies would be attracted by country sweetened by ringing.

Sworn by Alfred Bacon at Gunnedah, before us, }  
 this 17th day of February, 1897,—

ALFRED BACON.

WILLIAM FREEMAN, Chairman.  
 JAMES G. DIGHT, } Members.  
 ALEX. CRAWFORD, }

This deponent, *Percy Albert Sampson*, of Gunnedah, selector, being duly sworn, maketh oath, and saith as follows :—  
*By Mr. Sampson* : I know the settlement lease the subject of this inquiry ; I know the tank on it ; the value of excavation of the kind is 6d. per yard ; a man has offered to put down a 2,000-yard tank on my lease for 6d. per yard ; the catch towards the head of the gully is good, but it becomes bad within a quarter of a mile of the tank ; the tank at present is nearly empty ; most of the tanks about are nearly dry ; Morris Tank has a good drop of water, and there are others lower down nearly dry ; the nearest water to the tank is a spring on my brother's lease, a little over a mile from the tank ; the spring is watering between thirty and forty head of large stock ; I should think this country is suited for sheep naturally, but being surrounded with scrub it would not carry so many ; if the scrub were infested with native dogs it would not be suitable for sheep ; if it were wire-netted it would be good sheep country—more valuable for sheep than cattle ; some of the sheep on Wondobar are very poor, but I do not know if it is from worms ; the description on Exhibit "C" is very fair, but in my opinion there is another 100 acres suited for agriculture ; the intersecting fence is no use at all ; it will not control sheep or cattle ; the wire is of very little service ; I would estimate its value at £3 per mile for removal ; the labour of fencing similar to that on the north and east boundary would cost now £8 11s. per mile ; the fencing on those boundaries is not a sufficient fence ; I am erecting fencing—posts 10 feet apart, seven wires ; the line is cleared free of anything that might fall on the fence ; the total cost was £21 10s ; it was done by weekly work ; I have 1½ mile post up and one-third of a mile bored ; I have had experience in ringbarking ; I consider the original cost of the ringing on the settlement lease would be 8d. to 9d. per acre ; it would cost £1 per acre to clear the green timber on this settlement lease for the plough ; I should not think there were more than nine or ten trees to the acre ; I based my estimate on this assumption ; a man has contracted to clear 20 acres on my settlement lease, with larger trees than on my brother's land, for £1 per acre ; the trees are larger than on my brother's ; he has not commenced yet ; he wants to take 50 acres instead of the 20 ; his name is Edwin Blackman, Quirindi his address ; ringbarking pretty well doubles the carrying capacity the first few years, but after nine or ten years it goes back ; I have had my attention drawn to this ; there is not much difference in this land in its present state and land not rung ; I would sooner have the timber green and ringbark it myself, as I could do it in slack times, and besides I would be sure of having the full benefit of it ; I would have to wait between three and four years before I could start clearing it as dead timber ; for the first few years I would not have much time to clear, as I would be occupied in other work, and the timber would be pretty well dead by the time I would be ready to clear ; I have had experience in wheat-farming.

*By the Chairman* : I am 28 years old ; I have been farming, fencing, and working on a station, and the owner of sheep in a small way.

Do you mean to say that it is your deliberate opinion that ringbarked country, instead of improving as years go on, deteriorates for grazing purposes after the first two or three years ? It is at its best two or three years after, and after five years it goes back, as the ground gets hard, and there seems to be only short grass that grows on it, which burns off very quickly ; I fancy that the timber that has been dead ten or eleven years is easier cleared than timber dead three or four years ; I think it is a great deal easier.

*By Mr. Creagh* : I have the adjoining settlement lease, portion 37 ; I took it up in July, 1896 ; the soil and timbers are much the same on the two leases ; there was some ringing on my settlement lease when I took it up ; I do not admit the ringing on my brother's settlement lease has doubled the carrying capacity ; it did a few years after ; I think the ringing of my land was done about the same time as that on my brother's ; it was all the one paddock ; I do not think I stated to the Land Board in September that the ringing on the part rung on my land doubled the carrying capacity ; I may have ; my brother gave evidence on my behalf then ; he was working on my land, and had plenty of opportunity of seeing the land he was going to take up ; my estimate of cost of clearing green timber is on the assumption there are nine or ten trees to the acre ; Blackman could not get lamb-shearing at Wondobar, and came looking for work ; I did not know my brother's settlement lease before it was ringbarked ; I do not consider the ringbarking has improved the country, judging from green country in the locality ; I was farming on my own account between five and six years ; I had sheep before that ; I was partner with my father ; the greatest number of sheep we had was 500 ; afterwards I had 300 myself ; I sent in stock returns in my own name ; I have done a little ringing by contract ; my last contract was about four years ago ; it was Blackman who offered to make the tank for 6d. per yard ; he would find his own plant ; I have only known the Spring five or six months ; it is lowering ; the men working at the fencing are Jack Dowd, from Manilla, and Blackman ; I had three other men, but they are not working now ; I work at it myself sometimes ; I was here when this case started, and was outside the court all day yesterday ready to give evidence ; I was not called till this morning.

PERCY A. SAMPSON.

Sworn by P. A. Sampson, at Gunnedah, before us, }  
 this 17th day of February, 1897,—

WILLIAM FREEMAN, Chairman.  
 JAMES G. DIGHT, } Members.  
 ALEX. CRAWFORD, }

This deponent, *Samuel Hole*, Manager of Wondobar Station, being duly sworn, maketh oath, and saith as follows :—

*By Mr. Creagh* : I have been forty years engaged in pastoral pursuits, and I have been managing stations thirty-five years ; I managed Gullendaddy seven years, Bomera nearly twenty-eight years, and I have also managed other stations ; I know portion 54, parish Wondoba, county Pottinger, taken up by Mr. Sampson ; I inspected it with a view to giving evidence in January last, and I have been over the portion a dozen times ; all the suckers, except those growing out of the ground, can be knocked off with an axe ; on one part there are a good many suckers ; the area rung could be suckered for 2d. to 3d. an acre ; the thick suckers are on 300 or 400 acres, the balance is not badly suckered ; I wait from two to four years before I sucker ringbarking ; there are not worms in the sheep on Wondobar ; the cost of clearing similar land to the settlement lease with the timber green would be about £2 5s. per acre.

*By the Chairman* : There would be about twenty trees to the acre.

*By Mr. Creagh* : As the land is now the cost of clearing for the plough would be about 10s. or 12s. per acre.

*By the Chairman* : I cannot say how much pine scrub there is on the ringbarked area.

*By Mr. Creagh* : The pine is very close together ; one blow of a billhook would cut any one of the pines off ; there is also pine scrub on the land unringed, but there is no difference—it is as thick in the one place as the other ; I have had experience in this kind of country ; there is no doubt that the ringing has doubled the carrying capacity ; wallabies would come there more after the ringing on account of the sweet grass, but I should say that the statement that they come in such numbers as to render the land worse than it was before is not correct ; I should say the water in the tank was about 15 inches deep in January last ; I should say a man provided with plant and horses should do tank excavation 3d. a yard cheaper than if he found his own plant.

*By Mr. Sampson* : I think this settlement lease land that is ringbarked would carry twice as many stock as similar land adjoining unringed, notwithstanding the marsupials and native dogs ; it is sound sheep country.

*By the Chairman* : Is it safe sheep country ? Undoubtedly.

By

*By Mr. Sampson*: It is more valuable for sheep than cattle; if wallabies are in the adjacent country there is no doubt they would come in great numbers to the ringbarked part; if they did come in great numbers the carrying capacity would be lessened; I think they have lessened the carrying capacity; it is merely a question as to the number of wallabies that come there; I believe there are a great many wallabies there; I have seen pines on the land 6 inches in diameter; these would be in the pine scrub; there are odd ones thicker than the rest.

Sworn by Samuel Hole, at Gunnedah, before us, }  
this 17th day of February, 1897,—

SAMUEL HOLE.

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, }  
ALEX. CRAWFORD, } Members.

This deponent, *Edwin Woodward Turner*, being duly sworn, maketh oath, and saith as follows (recalled):—

*By the Chairman*: The information on Exhibit "C," as to the area of agricultural land, is in accordance with my report; there is more than that arable, but 500 acres is the best; my report is now marked Exhibit "D," Appendix 1; by my evidence yesterday, I believe there are upwards of 2,000 acres of arable land; I described it as first-class to good—500 acres first-class; on my recent inspection I did not inspect as to agricultural land; now I consider I took too sanguine a view of the quality of most of the agricultural land yesterday; I was aware of subsection 1 of section 24 of Crown Lands Act of 1895 at time of my report, and I thought the land was too good for settlement lease when I was surveying it; I cannot say there is no spring at the place marked "S"; it is scrubby there, and I may have missed it.

*By Mr. Creagh*: Having heard all about the spring, I still consider the dam necessary; if there is a spring as described by the other witnesses, the subdivision fence is not valueless or useless; the embankment is placed about 2 chains below the excavation; I believe, from the size of the present suckers, that the whole of the ringing has been suckered once; I think that nine out of ten of the suckers could be knocked off with an axe easily; about three years ago the worms were bad everywhere; they were no worse at Wondobar than they were at Boggabri; they are not bad now, and were not bad last winter; I graze sheep of my own; I think the wallabies were reduced by shooters; I think there are less now than there were three years ago; I graze sheep, and do a little farming on land adjoining.

*By the Chairman*: I have 5,000 acres, on which I run about 1,600 sheep; I am not half stocked; wallabies and dingoes drove me off one side.

*By Mr. Creagh*: It is more on account of want of capital than trouble from the marsupials and dingoes that I have not more stock; the excavation was overflowing about three years ago; it was fairly full when I inspected the improvements in connection with an application for the extension of the pastoral lease; that was about three years ago.

*By Mr. Sampson*: My opinion of the land now is that 100 acres is first-class agricultural land, and 500 acres good—I mean 600 acres altogether; the information as to improvements on Exhibit "C" is from my report.

*By Mr. Creagh*: Since forming my estimate of the values of improvements, as mentioned in Exhibit "C," I made a detailed inspection, and my evidence is a result of that inspection; in fixing the value of the ringing, I thought that I was bound by the cost at present rates.

Sworn by E. W. Turner, at Gunnedah, this }  
17th day of February, 1897,—

E. W. TURNER.

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, }  
ALEX. CRAWFORD, } Members.

This deponent, *Thomas Henry Hall Goodwin*, of Gunnedah, grazier, being duly sworn, maketh oath, and saith as follows:—

*By Mr. Creagh*: I have been living in this district nearly twenty-five years; I have been a licensed surveyor and stock-owner; I surveyed the road on the north of the settlement lease; I know portion 54, parish of Wondoba; I have not been over it for six or seven years; I know similar country in the district that has been rung; speaking generally, ringbarking doubles the carrying capacity; this would apply to the land in question, notwithstanding the marsupials; the cost of clearing for the plough, timber—green timber—on this land would be £2 to £2 15s. per acre; £2 would be a low estimate; I cannot say how many trees to the acre; it is the ordinary forest country of the district; the sweetened grass attracts the wallabies, which are in numerous colonies in the adjacent lands; I held land adjacent up to some time last year; I have never known wallabies to be attracted, as a consequence of the ringing, in such numbers as to render the land worse than it was before being rung; if the land had not been part of Wondobar leasehold area there is no doubt it would have been selected long ago at £1 per acre; I have known similar land to bring more than £1 per acre—land improved to about 10s. per acre, inclusive of ringbarking; I am referring to conditional purchases.

*By Mr. Sampson*: What distance from town would this be? From 8 to 40 miles.

How far is this settlement lease from Gunnedah? About 15 miles. The £1 would be in addition to the amount owing to the Crown; I have never noticed any ringbarked country worse than it was before ringing, caused by the attraction of wallabies to the sweetened grass.

THOMAS H. H. GOODWIN.

Sworn by Thomas H. H. Goodwin, at Gunnedah, before us, }  
this 17th day of February, 1897,—

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, }  
ALEX. CRAWFORD, } Members.

This deponent, *Edwin Woodward Turner*, recalled:—

*By the Chairman*: The fence "W X Y" was erected about a year before I applied for my conditional lease 85-52; the years in which the adjoining conditional leases were taken up, viz., years 1887 and 1891 are indicated in Exhibit "A."

E. W. TURNER.

Sworn by E. W. Turner, at Gunnedah, this }  
17th day of February, 1897,—

WILLIAM FREEMAN, Chairman.  
JAMES G. DIGHT, }  
ALEX. CRAWFORD, } Members.

*Exhibit D, Appendix 1.—Evidence of E. W. Turner.*

Chairman: William Freeman.

Licensed Surveyor E. W. Turner to the District Surveyor, furnishing information in reference to portion numbered 54, parish of Wondoba, county of Pottinger. Plan transmitted under cover of letter dated 4th October, No. 95-21.—E. W. TURNER, Licensed Surveyor, 4th October, 1895.

1. Capital value per acre:—£1.
2. Most accessible railway station:—Curlewis, distance 7 miles.  
Most accessible township:—Gunnedah, distance 14 miles.
3. Means of access and description of roads to railway station and township:—Teams; unimproved, good bush walks over gravelly country.
4. Character of country (level, undulating, hilly, &c.):—Undulating, hilly to level; greater part gently undulating.  
Character of soil:—Red loam with stony patches; sandstone along east, volcanic towards north-west.  
Character of pasturage:—Fair; seedy and reedy towards the east, but good about the centre and south-west.
5. Climate:—Mild.
6. Mean annual rainfall:—26 inches.
7. Water supply and facilities for obtaining or storing same:—No natural surface water, but there is an abundant supply in a tank about the centre.

8. Present grazing capacity :— $1\frac{1}{2}$  acre to a sheep.  
Is any improvement of same possible (by ringbarking, clearing, providing an ample supply of water, &c.) ; and, if so, to what extent? The ringbarking is much in need of "sweetening," and there is a great deal of scrubby pine that should be cut down. By this means the capacity could be increased to about 1 acre to a sheep.
9. Agricultural capabilities :—Fair for 500 acres, about south-west part of portion.
10. Timber (nature and distribution of) :—Open forest country, timbered with box, pine, currajong, yarran ; nearly all ringbarked (the box) about ten years. Proportion of area of portion covered—the whole. Thick forest, timbered with scrub ; timbered with scrubby pine and a little hop ; proportion of area of portion covered—half.
11. Existence of rabbits or other noxious animals :—Wallabies are abundant, and dingoes are troublesome.
12. Whether clearing of scrub, or undergrowth, or noxious weeds should be a condition in the selection or lease :—The useless pine and hop should be destroyed, choice pine being preserved at intervals for timber.
13. Improvements (value, date of erection, and ownership at date of survey) :—Ringbarking 2,870 acres, 1884, at 9d.—£108 ; 6-wire fence, A B, 1884, £29 ; half present value of 6-wire fence, D E, made 1884, £19 ; 6-wire fence, F B, 1884, £44. Tank 30 x 30 x 2 yards, made 1884—£75 ; total £275, all the property of the pastoral tenant. (Of the ringbarking, 560 acres valued at £21, of the fencing 110 chains, or about, at £23 14s., are Crown improvements, as is also the tank, being on land reserved from sale continuously from 18th November, 1874, to 8th November, 1895, as reserves Nos. 577 and 2,014.—F.P. 13th April, 1896.)
14. Objections, on the ground of mining occupation :—Partly within coal-mining reserve, but not likely to be required for coal-mining.
15. Any special characteristics in connection with the land.

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## No. 2.

### Messrs. Ross and Creagh to The Under Secretary for Lands.

Sir,

Tamworth, 6 March, 1897.

At the inquiry by the Gunnedah Land Board, on the 16th, 17th, and 19th ultimo, as to value and ownership of improvements on A. A. Sampson's settlement lease, No. 96-21, Gunnedah, the Board found that improvements consisting of some boundary and intersecting fencing and ringbarking, to the value of £121 6s. 1d., are the property of the occupation licensees of Wondobar holding (resumed area), and that a tank and fence round same and balance of boundary and intersecting fencing and ringbarking, to the total value of £226 4s., are the property of the Crown.

The occupation licensees have instructed us to lodge an application for the remission of the value of the improvements allotted to the Crown, and being dissatisfied with the value placed by the Board upon the ringbarking and fencing have also instructed us to appeal to the Land Court in respect of these. If the Land Court placed a greater value upon the improvements mentioned, their decision will only affect those which the Board have decided are our clients' property ; and they are, therefore, desirous that the Honorable the Minister for Lands should refer to the Land Appeal Court the question of value of those parts of the fencing and ringbarking which were decided to be the property of the Crown, and we have the honor to request that this will be done ; as, assuming that the Court will sustain the lessees' appeal, and that their application for remission will be granted, they will otherwise obtain only part of the value of the improvements effected by them. We may also point out that if their application for remission be not granted, the extra value which would be the result of an appeal will be lost to the Crown unless the matter is referred to the Court as suggested.

As the evidence is equally applicable to the Crown and lessee's improvements, the Crown need not incur any expense before the Land Appeal Court, as the two matters can be taken together and argued by our client's counsel.

We have the honor to request the favour of an early reply and prompt attention to the matter, as the time for lodging and serving the appeal will expire on the 19th instant.

We have, &c.,

ROSS AND CREAUGH.

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Settlement lease application, 96-21, Gunnedah—A. A. Sampson.—Messrs. Ross and Creagh, solicitors for occupation licensees, of Wondobar resumed area, state that the Local Land Board at Gunnedah have appraised the value of improvements on the settlement lease at £121 6s. 1d., the property of the licensees, and £226 4s., the property of the Crown. The licensees intend appealing against the valuation of those improvements set down by the Board as their property, and to apply for a remission of the value of those said to be the property of the Crown. They are dissatisfied with the valuation of these latter, and desire that the Minister should appeal against the Board's valuation of them, so that if their application for remission is allowed, they will not lose part of what they consider the proper value. It should, perhaps, be stated that the writers intimate "that the Crown need not incur any expense before the Land Appeal Court, as the two matters can be taken together and argued by our counsel." Writers urge early consideration of the case, as time for appeal expires on 19th instant. Under section 24, subsection 3, it appears that the matter of appraisal of improvements, whether owned by Crown or otherwise, rests with the Minister—after inquiry and report by the Local Land Board—and if the Minister considers a reference to the Land Appeal Court desirable, there is no limit to the time in which such may be made (*vide* section 59, Crown Lands Act, 1895). As the case now stands, Messrs. Ross and Creagh wish the Minister to appeal on their *ex parte* statement. The papers are still with the Board, and if appeal be lodged with the licensees, will be forwarded to the Land Appeal Court before being sent here.—J. P. MCGUANNE, Miscellaneous Leases Branch, 11/3/97. Special.

Submitted. At present it will be sufficient for Ross and Creagh to be informed that the Department has not before it sufficient particulars to enable it to say whether it will have the case brought under review by the Land Appeal Court.—R.H.D., 12/3/97.

F. H. Wilson, Chief Clerk, 13/3/97. Inform.—W.M. HOUSTON, 15/3/97. Messrs. Ross and Creagh informed, 16/3/97.



## No. 3.

## Notice of Appeal to the Land Appeal Court from decision of Local Land Board.

New South Wales, }  
to wit. } Form 3, Crown Lands Acts.

WHEREAS on the 16th, 17th, and 18th days of February, 1897, a certain matter wherein it became necessary to determine the ownership at date of application of improvements on Alfred Austin Sampson's settlement lease No. 96-21 of 3,534 acres, applied for on 29th October, 1896, and confirmed on 16th February, 1897, and to appraise values thereof as on the date of application, came before the Local Land Board at Gunnedah, in New South Wales, for determination. And whereas the said Board determined that the ownership and values of the said improvements and the said determination is fully set out in Appendix A hereto. And whereas we are aggrieved by such decision, and desire to appeal therefrom to the Land Appeal Court: These are, therefore, to give you notice that we appeal as aforesaid, and that I deposit the sum of £5 as security for the costs of such appeal. The grounds of such appeal are set out below. We desire that this appeal shall be heard in Sydney.

Signed this 13th day of March, 1897.

WILLIAM FREDERICK ROBEY,  
ROBERT ALFRED ORVILLE GILL  
(Trustees for Alice Hungerford, Tamworth),  
By their Solicitor and Agent,

COLIN J. ROSS.

To the Chairman, Local Land Board, Tamworth.

*Grounds of Appeal.*

1. That the decision of the Board is against the evidence and weight of evidence.
2. That the Board was in error in not appraising the value of the improvements as to the incoming tenant.
3. That the basis of the Board's valuation was not in accordance with the provisions of sections 24 and 25 of the Crown Lands Act of 1895.
4. That the Board was in error in only allowing half value for the eastern boundary fence.

Received the sum of £5, referred to above.—T. W. WARD (*pro* Chairman), Tamworth, 13th March, 1897.

## No. 4.

## The Under Secretary for Lands to Messrs. Ross and Creagh.

Gentlemen,

Department of Lands, Sydney, 16 March, 1897.

Referring to your letter of the 6th instant, urging that the Secretary for Lands should, for the reasons advanced by you, appeal to the Land Appeal Court against the Local Land Board's appraisal of the value of the improvements belonging to the Crown on the settlement lease farm applied for by Mr. A. A. Sampson, I have the honor to inform you that the Department has not before it sufficient particulars to enable it to say whether it will have the matter referred to brought under review by the Land Appeal Court.

I have, &c.,

WM. HOUSTON,  
Under Secretary  
(*per* R.H.D.)

Application  
96-21, Narrabri

## No. 5.

## Notice of Appeal to the Land Appeal Court from decision of Local Land Board.

New South Wales, }  
to wit. } Form 3, Crown Lands Acts.

WHEREAS on the 16th, 17th, and 18th days of February 1897, a certain matter wherein it became necessary to determine the ownership at date of application of improvements on Alfred Austin Sampson's settlement lease No. 96-21 of 3,534 acres, applied for on 29th October, 1896, and confirmed on 16th February, 1897, and to appraise values thereof as on date of application, came before the Local Land Board at Gunnedah, in New South Wales, for decision. And whereas the said Board decided that there were Crown improvements to the value of £226 4s., and station improvements to the value of £126 6s. 1d. And whereas I am aggrieved by such decision, and desire to appeal therefrom to the Land Appeal Court: These are, therefore, to give you notice that I appeal as aforesaid, and that I deposit the sum of £5 as security for the costs of such appeal. The grounds of such appeal are set out below. I desire that this appeal shall be heard in Sydney.

Signed this 18th day of March, 1897.

AUSTIN SAMPSON,  
C/o A. H. SAMPSON,  
Upper Manilla.

To the Chairman, Local Land Board, Tamworth.

*Grounds of Appeal.*

- That the Board was in error in deciding that the ringbarking, the tank, and the intersecting fence were improvements of value to the incoming tenant.
- That even if the ringbarking, the tank, and the intersecting fence were improvements at all, then the Board's decision as to their value was far in excess of their real value.

Received the sum of £5, referred to above, at 10 a.m.—T. W. WARD (*pro* Chairman), Tamworth, 18th March, 1897.

## No. 6.

*Précis of Appeal Cases, Land Appeal Court.**A. A. Sampson (Settlement Lessee) v. Crown and the Trustees for Alice Hungerford.**Trustees for Alice Hungerford v. A. A. Sampson.*Section 51, Crown Lands Act of 1895, Land Court Case; *re* Barnes, No. 3,792.

ALFRED AUSTIN SAMPSON appealing against appraisalment of value of Crown and station improvements on his settlement lease 96-21 of 3,534 acres, applied for at Gunnedah, on 29th October, 1896, and confirmed on 16th February, 1897, at time of application; and William Frederick Robey and Robert Alfred Orville Gill, trustees for Alice Hungerford, by their solicitor and agent, Colin James Ross, appealing against appraisalment of values of improvements on the above-stated settlement lease at time of application therefor.

This is a specially important case under sections 6 and 44, Crown Lands Act of 1889, and section 51, Crown Lands Act of 1895, particularly as to appraisalment of the value of ringbarking some 2,870 acres, done many years back, partly under ringbarking permit and partly without authority—also partly on reserves from sale.

Sixty-three pages of evidence were taken on 16th and 17th ultimo, and at about quarter to 1 p.m. next day reserved decision was given thus:—

We determine the ownership and appraise the values as indicated in Appendix A hereto. Appendix A is thus:—

## Crown Improvements.

	£	s.	d.
Tank, 2,367 cubic yards at 9d. ... ..	88	15	3
Mixed fence around tank ... ..	4	0	0
27 chains of 6-wire boundary fence, 5-6,* at 3s. 9d. ... ..	5	1	3
83 chains of intersecting fence, 1-2* and 3-4,* at 2s. 6d. ... ..	10	7	6
1,770 acres ringbarking at 1s. 4d. ... ..	118	0	0
	£226	4	0

## Station Property.

	£	s.	d.
87 chains of 6-wire boundary fence, B 5,* at 3s. 9d. ... ..	16	6	3
Half value of 155 chains of boundary fence, WXY,* at 3s. 9d. per chain, 6-wire fence ... ..	14	10	8
137 chains of 6-wire intersecting fence, 2-3 and 4-5, at 2s. 6d. ... ..	17	2	6
1,100 acres of ringbarking at 1s. 4d. ... ..	73	6	8
	£121	6	1

Total value of both sets of improvements ... .. £347 10 1

As to the fence WXY\* on the easterly boundary, see Exhibit "A,"† it was at first contended by Mr. Creagh, for the occupation licensees, in effect, that under the decision of the Land Appeal Court in case 3,737, of Molesworth and Ware *v.* Gibson (Vol. 5, fol. 217, Pike)—Mr. Creagh stated he was speaking from memory—that Mr. Sampson, the settlement lessee, is successor in title to the occupation licensees, and that if an award were made against Mr. Sampson for the total value of that fence, he would be entitled to obtain half contribution from the holders of the adjoining lands, held under conditional leases 85-52, 91-21, and 87-14 respectively, being a settlement leaseholder under a lease having more than five years to run. (It is to be borne in mind, see page 63 of the evidence, that the fence WXY was erected before conditional leases 85-52, &c., were applied for.)

We cannot adopt the view advanced by Mr. Creagh, and deem that it would be most inequitable for Mr. Sampson to be placed in the position of having to pursue claims against the holders of the conditional leases.

Section 141, Crown Lands Act of 1884, does not seem framed to meet such a case as is involved in connection with the fence WXY, and we must, to the best of our judgment, proceed under section 44, Crown Lands Act of 1889. We deem that substantial justice is done by awarding against Mr. Sampson the amount of the half value of the fence WXY, as at the time of his settlement lease application.

This we consider more expedient than to incur the delay of a reference to the Land Appeal Court.

If the holders or owners of the conditional leases referred to are able to advance claim (if they have any claim to any proportions of the fence WXY at all), to more than half the remaining value of the party-fence, it will be open to the Board to proceed under Regulation 279, and without the intervention of a higher court, *i.e.*, if our present action in this special matter, as to the fence WXY, be not varied or set aside.

The evidence shows that the cost of the ringbarking is considerably less than our valuation thereof, but we are bound, in this matter, to have due regard to section 51, Crown Lands Act of 1895, as interpreted by the Land Appeal Court in the case of Barnes, No. 3,792 (Vol. 6, fol. 91, Pike), which we have referred to; we have also referred to case 3,737, Molesworth and Ware *v.* Gibson (Vol. 5, fol. 217, Pike), in view of Mr. Creagh's remarks.

We would point out that Mr. E. W. Turner (a witness) yesterday, 17/2/97, claimed to have practically settled, some years back, with the lessees of Wandooobar Leasehold Area (now Wandooobar Preferential Occupation License), as to contribution towards the party fence along the westerly boundary of his conditional leases 85-52, &c.—see Exhibit "A."

Mr. Creagh, solicitor, of Tamworth (of Rees & Creagh), on 16th and 17th instant, appeared for Messrs. Robey and Gill, trustees for Mrs. Hungerford, owner of the Wandooobar Preferential Occupation License and Estate. Mr.

\* Refers to marking on heliograph Exhibit A in the case. † Copy herewith for reference.—W.F., 19/3/97.

Mr. A. H. Sampson appeared on the same dates for his son, the settlement lessee ; he also attended to day.

(Then the signatures of the Board memo. at Court-house, at Gunnedah, under date 18th February, 1897.)

On the 13th instant notice of appeal, from William Frederick Robey and Robert Alfred Orville Gill, trustees for Alice Hungerford, by their solicitor and agent, Colin J. Ross, was received.

The alleged grounds are —

1. That the decision of the Board is against the evidence and weight of evidence.
2. That the Board was in error in not appraising the value of the improvements as to the incoming tenant.
3. That the basis of the Board's valuation was not in accordance with the provisions of sections 24 and 25 of the Crown Lands Act of 1895.
4. That the Board was in error in only allowing half value for the eastern boundary fence.

Yesterday at 10 a.m. notice of appeal from settlement lessee, Alfred Austin Sampson, was received. The alleged grounds are—

That the Board was in error in deciding that the ringbarking, the tank, and the intersecting fence were improvements of value to the incoming tenant.

That even if the ringbarking, the tank, and the intersecting fence were improvements at all, then the Board's decision as to their value was far in excess of their real value.

The decision in this case is practically a *précis*. I may, however, state that the difference between the cost and our appraised value of the ringbarking is in the Board's opinion the advantage to the settlement lessee in being able to start clearing for wheat-growing at a cheaper rate than if the timber were green, and stock-grazing more advantageously on account of the grass increase through the ringbarking of a number of years back ; interest on outlay being saved, and the increased profit that is quickly realised.

Submitted.

WILLIAM FREEMAN, Chairman,  
Tamworth, 19/3/97.

### No. 7.

The Registrar, Land Appeal Court, to Messrs. Robey and Gill.

*Notice of Case coming on before the Land Appeal Court.*

In the Land Appeal Court of }  
New South Wales. }

In the matter of Settlement Lease No. 96-21, Gunnedah, A. A. Sampson.

THE above-mentioned matter having come under the cognisance of the Land Appeal Court upon the appeal by the trustees of Mrs. A. Hungerford against the decision of the Board in respect of improvements on above settlement lease made in respect thereof upon the 13th day of March, 1897, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Tamworth on the 24th day of June, 1897, and following days, the said matter will be brought before the Court for hearing or otherwise, as may be ordered in that behalf.

Signed this 27th day of May, 1897.

J. T. KEATING,  
Registrar.

Statement of service or attempts made to effect service.

I beg to state that I served a true copy of the within notice on C. J. Ross, Esq., solicitor, Tamworth, this 1st day of June, 1897, by handing the same to him personally.

R. GAMBLE.

I, Robert Gamble, sergeant of police, do hereby solemnly declare and affirm that the above statement is true, and I make this solemn declaration as to the matters aforesaid according to the law in this behalf made, and subject to punishment by law provided for any wilfully false statement in any such declaration.

Made before me at Tamworth this }  
3rd day of June, 1897,— }

R. GAMBLE.

HY. L. COUSENS, J.P.

### No. 8.

The Registrar, Land Appeal Court, to Messrs. Robey and Gill.

*Notice of Case coming on before the Land Appeal Court.*

In the Land Appeal Court of }  
New South Wales. }

In the matter of Settlement Lease No. 96-21, Gunnedah, A. A. Sampson.

THE above-mentioned matter having come under the cognisance of the Land Appeal Court upon the appeal by A. A. Sampson against the decision of Board in respect of improvements on above settlement lease made in respect thereof upon the 18th day of March, 1897, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Tamworth on the 24th day of June, 1897, and following days, the said matter will be brought before the Court for hearing or otherwise, as may be ordered in that behalf.

Signed this 27th day of May, 1897.

J. T. KEATING,  
Registrar.

Statement

## Statement of service or attempts made to effect service.

I beg to state that I served a true copy of the within notice on C. J. Ross, Esq., solicitor, Tamworth, this 1st day of June, 1897, by handing the same to him personally.

R. GAMBLE.

I, Robert Gamble, sergeant of police, do hereby solemnly declare and affirm that the above statement is true, and I make this solemn declaration as to the matters aforesaid according to the law in this behalf made, and subject to punishment by law provided for any wilfully false statement in any such declaration.

Made before me at Tamworth, this }  
3rd day of June, 1897,— }  
HY. L. COUSENS, J.P.

R. GAMBLE.

## No. 9.

The Registrar, Land Appeal Court, to Mr. A. A. Sampson.

*Notice of Case coming on before the Land Appeal Court.*

In the Land Appeal Court of }  
New South Wales. }

In the matter of Settlement Lease No. 96-21, Gunnedah, A. A. Sampson. THE above-mentioned matter having come under the cognisance of the Land Appeal Court upon the appeal by the trustees of Mrs. A. Hungerford against the decision of Board in respect of improvements on above settlement lease made in respect thereof upon the 13th day of March, 1897, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Tamworth on the 24th day of June, 1897, and following days, the said matter will be brought before the Court for hearing or otherwise, as may be ordered in that behalf.

Signed this 27th day of May, 1897.

J. T. KEATING,  
Registrar.

## Statement of service or attempts made to effect service.

I, John Furneaux, a constable in the New South Wales Police Force, do hereby state that I did on the 7th day of June, 1897, serve a true copy of the within notice on the within named A. A. Sampson, by handing the same to his father, A. H. Sampson, his agent.

JOHN FURNEAUX,  
Constable.

I, John Furneaux, do hereby solemnly declare and affirm that the above statement is true, and I make this solemn declaration as to the matters aforesaid according to the law in this behalf made, and subject to punishment by law provided for any wilfully false statement in any such declaration.

Made before me at Manilla, this }  
7th day of June, 1897,— }  
ARTHUR WILSHIRE, J.P.

JOHN FURNEAUX,  
Constable.

## No. 10.

The Registrar, Land Appeal Court, to Mr. A. A. Sampson.

*Notice of Case coming on before the Land Appeal Court.*

In the Land Appeal Court of }  
New South Wales. }

In the matter of Settlement Lease No. 96-21, Gunnedah, A. A. Sampson. THE above-mentioned matter having come under the cognisance of the Land Appeal Court upon the appeal by A. A. Sampson against the decision of Board in respect of improvements on above settlement lease made in respect thereof upon the 18th day of March, 1897, you are hereby notified that, at the sittings of the Land Appeal Court, to be holden at Tamworth on the 24th day of June, 1897, and following days, the said matter will be brought before the Court for hearing or otherwise, as may be ordered in that behalf.

Signed this 27th day of May, 1897.

J. T. KEATING,  
Registrar.

## Statement of service or attempts made to effect service.

I, John Furneaux, a constable in the New South Wales Police Force, do hereby state that I did on the 7th day of June, 1897, serve a true copy of the within notice to the within named A. A. Sampson, by handing the same to his father, A. H. Sampson, his agent.

JOHN FURNEAUX,  
Constable.

I, John Furneaux, do hereby solemnly declare and affirm that the above statement is true, and I make this solemn declaration as to the matters aforesaid according to the law in this behalf made, and subject to punishment by law provided for any wilfully false statement in any such declaration.

Made before me at Manilla, this }  
7th day of June, 1897,— }  
ARTHUR WILSHIRE, J.P.

JOHN FURNEAUX,  
Constable.

## No. 11.

## Office Memorandum.

In the Land Appeal Court of New South Wales, Tamworth, 24 June, 1897.

No. 4,757A.—Appeal by Alfred A. Sampson against the Board's decision in respect of improvements on his settlement lease No. 96-21, Gunnedah.

The land embraced in Sampson's application forms a farm of 3,534 acres, portion 54, within settlement lease area No. 50, notified on 30th November, 1895. The improvements are described in the notification as fencing, £92; ringbarking, £108; tank, £75—£275.

Section 24, subsection III, Act of 1895, provides that the value to an incoming tenant of any improvements on any such farm may be appraised by the Minister after inquiry and report by the Local Land Board in the prescribed manner, and such appraisal shall, as between the Crown or the owner of the improvements, as the case may be, and any person taking such farm, be conclusive evidence of the value of the improvements at the date of the appraisal.

See also Regulations 271-275.

The Local Land Board determined the ownership and appraised the value of the improvements, and found that there were Crown improvements to the value of £226 4s., viz. :—

	£	s.	d.
Tank, 2,367 cubic yards, at 9d. ... ..	88	15	3
27 chains 6-wire boundary fence, 5-6, at 3s. 9d....	5	1	3
Mixed fence around tank ... ..	4	0	0
83 chains 6-wire intersecting fence, 1-2 and 3-4, at 2s. 6d. ...	10	7	6
1,770 acres ringbarking, at 1s. 4d. ... ..	118	0	0
	<hr/>		
And station improvements to the value of ... ..	121	6	1
	<hr/>		
Total value ... ..	£347	10	1

The grounds of appeal are—

That the Board was in error in deciding that the ringbarking, the tank, and the intersecting fences were improvements of value to the incoming tenant.

That even if the ringbarking, the tank, and the intersecting fences were improvements at all, then the Board's decision as to their value was far in excess of their real value.

That the improvements are improvements to an incoming tenant, there can be no doubt. With regard to the intersecting fence, it is not necessary that a fence to constitute an improvement should form or effect an enclosure, or be on the boundary. In *re Fox* and in *re Bank New South Wales*, Land Appeal Court Reports, Vol. 3, pages 31 and 99.

Counsel should support the interests of the Crown as regards the valuation of the Crown's improvements, and attention is invited to Licensed Surveyor E. W. Turner's evidence with regard thereto.

WM. HOUSTON,  
Under Secretary.

18/6/97.

Approved.—J.H.C., 18/6/97.

## No. 12.

## Mr. A. H. Sampson to The Secretary for Lands.

Sir,

Town Hall Coffee Palace, Sydney, 14 July, 1897.

I have the honor to bring under your notice the decision of the Land Appeal Court given to day in *re Austin Sampson's settlement lease No. 96-21, Gunnedah*, by which decision ringbarking, which costs 9d. per acre, is valued to the incoming tenant at 5s. per acre.

This is tantamount to ordering the settlement lessee to quit, as it is quite impossible to pay such an amount and have any hope of profitable occupation of the land; and what is our fate to-day may be the fate of others to-morrow. I know, also, that such has been the fate of some would-be settlers quite recently.

The *Gazette* notice which announced this settlement lease open for application gave the value of the ringbarking as 9d. per acre (£108 for the whole), and the appraisal of value by the Land Board which we expected to have to deal with was the question of fact as to whether the ringbarking could be done for this in the first instance, and what is its unexhausted value now, owing to a great quantity of suckers having sprung up. We certainly thought, and believe we are right in still thinking, that the value which inheres in the land—its capacity to produce wealth—is its capital value, and as such belongs to the Crown—is, in fact, the very thing it asks us to pay rent for—that the capacity to produce is in the land as in a reservoir, and that ringbarking is but the tap which allows it to flow. However, the Land Appeal Court has held otherwise; has, in fact, held that the value inheres in the improvements and not in the land.

I cannot believe that this view, so disastrous to settlement, is concurred in by you. I do not know what can be done in the matter; but something may be suggested to your mind by my bringing the matter promptly under your notice. If nothing can be done, we must, beyond all question, abandon the settlement lease.

I have, &c.,  
A. H. SAMPSON.

No. 13.



## No. 13.

## Office Memorandum.

A. A. Sampson's Case.

THIS case has reference to the question of value of improvements on 3,534 acres of land applied for under settlement lease.

In the *Gazette* notice, setting the land apart for settlement lease, the "nature and reported value of improvements" were given as follows:—"Fencing, £92; ringbarking, £108; tank, £75." These were the values reported by the District Surveyor (*vide* Misc. 95-9,089 Dep.). The capital value of the land was fixed at £1 per acre; the annual rental is therefore £44 3s. 6d.

The application was confirmed on the 16th February, 1897.

On the 18th February the Land Board appraised the value of the improvements, and decided that the Crown owned £226 4s. worth, and the occupation licensee £121 6s. 1d. worth, a total of £347 10s. 1d. In giving their decision the Board said, "The evidence shows that the cost of ringbarking is considerably less than our valuation thereof, but we are bound in this matter to have due regard to section 51, Crown Lands Act, 1895, as interpreted by the Land Appeal Court in the case of Barnes (No. 3,792, vol. 6, folio 91, Pike), which we have referred to. We have also referred to case Molesworth and Ware *v.* Gibson, in view of Mr. Creagh's remarks."

Two appeals were made—one by the occupation licensee, and one by the applicant for the land.

The grounds of appeal were:—

By the Settlement Lessee—

That the Board was in error in deciding that the ringbarking, the tank, and the intersecting fences were improvements of value to the incoming tenant.

That even if the ringbarking, the tank, and the intersecting fences were improvements at all, then the Board's decision as to their value was far in excess of their real value.

By the Occupation Licensee—

1. That the decision of the Board is against the evidence and weight of evidence.

2. That the Board was in error in not appraising the value of the improvements as to the incoming tenant.

3. That the basis of the Board's valuation was not in accordance with the provisions of sections 24 and 25 of the Crown Lands Act of 1895.

4. That the Board was in error in only allowing half value for the eastern boundary fence.

Sampson's appeal was dismissed, and Robey and Gill's appeal sustained, the decision of the Land Appeal Court on both appeals being that the Board's appraisal should be sustained so far as concerned all the improvements except the ringbarking, which should be allowed for at 5s. per acre.

The following table shows the different improvements as appraised by the Board:—

Crown Improvements.						£	s.	d.
Tank, 2,367 yards, at 9d.	...	...	...	...	...	88	15	3
Mixed fence round tank	...	...	...	...	...	4	0	0
27 chains six-wire boundary fence, 5-6, at 3s. 9d.	...	...	...	...	...	5	1	3
83 chains six-wire intersecting fence, at 2s. 6d.	...	...	...	...	...	10	7	6
1,770 acres ringbarking, at 1s. 4d.	...	...	...	...	...	118	0	0
						£226	4	0
Station Property.						£	s.	d.
87 chains boundary fence, at 3s. 9d.	...	...	...	...	...	16	6	3
Half value 155 chains boundary fence, at 3s. 9d.	...	...	...	...	...	14	10	8
137 chains six-wire fence, at 2s. 6d.	...	...	...	...	...	17	2	6
1,100 acres ringbarking, at 1s. 4d.	...	...	...	...	...	73	6	8
						£121	6	1

In this way the Board's appraisal of the Crown's improvements has been increased to £550 14s., and those of the licensee's to £322 19s. 5d.; in other words, the total value of the improvements has been raised from £347 10s. 1d. to £873 13s. 5d.

Mr. Sampson asked the Land Appeal Court to make its decision appealable, so that he could refer to the Supreme Court, but the Court, it is understood, declined to do this, holding that the question was one of fact, and not of law.

By the 39th rule of the Land Appeal Court a fortnight is given for lodging a notice, with £20 deposit, requiring the Appeal Court to state a case for the Supreme Court. The Court may (on personal application, it seems) extend the time, but in the present instance the Court would, it seems, have to sit specially for the purpose, as there will be no regular sitting within the fortnight.

Even should a notice be lodged, the probability is that the Court will refuse to state a case, on the ground that the question is not one of law; and should the Court take up this position the only course open would be to apply to the Supreme Court for a mandamus.

In the present case the Crown was represented at the Court in support of the Crown's interests; but this was done merely as a matter of course.

Mr. Sampson, who, with Mr. Moore, M.P., has personally attended the Department in connection with the case, thinks that the Crown should support him and pay his expenses in an endeavour to pursue the matter. He holds that there is a question of law involved in the case, and that the question has reference to the basis of value on which the Appeal Court's decision rests, and that the question being a general one which would extend beyond his own individual case, the Crown should assist in the direction indicated.

H. CURRY, 17/7/97.

The

The case is fully set out in the above memo. The Land Appeal Court appear to have followed in this instance the doctrine laid down by them in the case of *Greene v. Hargraves*, and valued the improvements even above the actual cost. Possibly counsel's opinion might be asked as to whether there is any means of securing a review of the decision. Special.—Wm. Houston, Under Secretary, 17/7/97.

Counsel's opinion may be taken. I have written my views very fully in a minute to-day, copy of which may go with these papers.—J.H.C., 20/7/97. A copy of the Minister's minute is placed herewith. Forwarded to the Crown Solicitor. Urgent.—H.A.G.C. (*pro* Under Secretary), B.C., Lands Department, 20/7/97.

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## No. 14.

### Office Memorandum.

#### Assessment of Improvements.

THERE can be no question that Parliament has definitely laid down a basis for the assessment of value of improvements on Crown lands, viz., the value to an incoming tenant. Therefore no other basis, such as cost, is admissible, and the decision of the Land Appeal Court in *Greene v. Hargrave* is absolutely and clearly unassailable. Certain "*obiter dicta*" occur in the Court's judgment in this case, but they must be ignored until such time as they become actual decisions of the Court.

Having agreed that the Land Appeal Court decision in *Greene v. Hargrave* is sound, what follows? That the Land Boards must find on whatever evidence may be before them what is the value to an incoming tenant. There are various modes of ascertaining the value, but it is the Board's duty to decide on the case as presented to it, and if either party fails by his evidence to demonstrate his case as favourably as circumstances may warrant, he has no remedy against a decision ultimately founded on the actual evidence. Evidence of the value of the land unimproved is one good method; evidence of what it would cost to effect the improvements in actual outlay, in interest and loss of time, and, on the other hand, the increased usufruct of the land improved is another sound method. But in each case there should be evidence of the force of Nature which is silently working to complete the improvement begun by human hands. Actual expert testimony, however, on all these points must be before the Board ere it can be expected to give a proper decision. If any such evidence be absent, then the decision given must be accepted on the evidence adduced.

If a case be properly represented before the Board, I take it that the following is the rule of a wise decision:—

- 1st. That the difference in value between the land in an unimproved state and in the improved state is the value of the improvement.
- 2nd. That unless there be evidence that such value or a portion of it is included in the capital value of the land, then the value of the improvement ascertained under No. 1 should be so declared by the Board. (N.B.—Few cases will be found to be complicated by any of the improvements, value being included in the capital value; but when such cases exist they will be met by my remarks later on.)
- 3rd. The value under the foregoing being ascertained, the Board should find if there are any circumstances either of tenure, area, or conditions to diminish it to the incoming tenant, and if such circumstances exist they should make such clear, and diminish the value accordingly. If none such exist then the value remains, and in either case the result is the value to an incoming tenant.
- 4th. The next question arising for the Board's decision is, who is the owner of the value of the improvements? Clearly, to my mind, the outgoing tenant is not entitled to claim the benefit of Nature's work in addition to his own. If so, the man who added a ton of manure, costing £6 in material and labour, might claim the value of increased crops for three or four years as the value payable to him for his improvements, crediting Nature and the soil with nothing. In ringbarking, man kills the tree; then Nature does the rest, and the result is that the same soil undergoes, under the influence of the sun and air, certain chemical changes which render it more productive and less difficult to work. I take it that the owner in fee is entitled to claim the value effected in the soil by natural agencies, whilst the outgoing tenant is entitled to claim the cost, the interest on cost on a liberal scale, and reasonable compensation for any other proved loss in time, or other element relevant to value.
- 5th. When adjustment is made as to relative ownership by the Crown and the outgoing tenant, there should be taken into consideration the capital value, so as to exclude any possibility of a double charging of any part of the value of an improvement.

Now, in the cases which have been before me, there has been no clear handling of the evidence, so as to elucidate the points essential to a wise decision, and my difficulty has been to seize upon a case which will be a fit one for a test case.

In Sampson's case there seems to me to be this difficulty—that the cardinal principles of assessment as above set out were lost sight of by the Land Board, and, on the evidence before that body, the Land Appeal Court has given a decision which cannot be set aside as bad in law, inasmuch as it has set up no hard and fast basis for its decision, but has given its assessment on the evidence and weight of evidence as it appeared to the Court. The surveyor (Turner) testified that the land unimproved was worth £1 per acre; improved, £2 per acre; and this is not contradicted to any extent. That leaves a value of £1 per acre, of which the Court assess 5s. to be outgoing tenant's. My opinion is that the Land Appeal Court's decision is a finding on fact, and not on law; and, that being so, no appeal can be sustained, as the Supreme Court cannot review the decision of the Land Appeal Court on questions of fact. For these reasons, the Crown will not be justified in joining in or supporting an appeal in this case, but an endeavour will be made to have the case referred to the Land Appeal Court again, so as to have a clear distinction drawn as to the Crown's rights, as apart from the tenant's, in the value of improvements.

J.H.C.,

20 July, 1897.

## No. 15.

Extract from *The Daily Telegraph* of 21 July, 1897.

Value of Improvements to an Incoming Tenant.

*To the Editor.*

Sir,

As the interpretation of the words "value of improvements to an incoming tenant" by the Land Appeal Court must result in the ruin of many who have taken up land for settlement, and also cause a loss of hundreds of thousands of pounds to the Crown, as well as prohibit settlement on improved lands in the future, the matter becomes one of such grave public import that I crave your indulgence while I endeavour to show that the Land Act is right and the Land Appeal Court wrong.

The position I take is, that almost the whole of the evidence given before the Local Land Boards as to the value of improvements to an incoming tenant is absolutely irrelevant to the question, though it would be quite relevant if the question were the determination of the capital value of the land itself. To illustrate:—

Suppose the Crown to have two pieces of swampy land open for settlement, each of which would be worth £2,000 when drained, but at present are worth only £20 each. Assume that one of these pieces of land is made swampy by a bar of hard rock which crosses it, and which it would cost £1,000 to cut through, while the other piece is made swampy by a bar of soft rock which can be cut through for £100. How would the Crown determine the capital value of these two pieces of land? Evidence would be adduced to bring out the facts above stated, and the capital value would be determined at £2,000 each, less the costs of the improvements, *i.e.*, the capital value in the one case would be £1,000; in the other, £1,900; and it is upon these values that the Crown would charge rent to an incoming tenant. Here the evidence is good and relevant. But, now, had there been an outgoing tenant, from whom the Crown had resumed one portion of this land, and who had cut through (say) the soft rock, would this evidence, which had already determined the capital value of the land, be relevant also to determine the value of improvements to an incoming tenant. Is it competent for the outgoing tenant to claim from the incoming tenant £900 as the result of £100 outlay in improvements, seeing that this £900 has already been included in the capital value, for which the incoming tenant is charged rent? Further, in what way can the capital value of land be ascertained except by taking its productive capacity less the cost of obtaining that productive capacity? Of course, I do not say original cost; that may be greater or less than the value, but I do say cost to date valued now, which includes cost of maintenance of improvements as well as interest on outlay, while waiting for a return. In other words, that the value of improvements, as of anything else, cannot be more than the price at which the incoming tenant could produce them for himself. But here we must carefully guard ourselves from considering the usufruct of the land as pertaining to the improvements, because that has already been absorbed in the capital value.

As, however, the great *casus belli* is the value of ringbarking, permit me an illustration which, I think, will cover that.

Assume that an outgoing tenant has three pieces of exactly similar land—one piece near Sydney, another at Gunnedah, and the third 500 miles still further west. Suppose the land, good and lightly timbered, and ringbarked at a cost of 8d. per acre, that previous to ringbarking it would carry a sheep to 2 acres, but will now carry a sheep to 1 acre; in fact, that ringbarking has doubled the carrying capacity, and that the grass of a sheep is worth 8d. per annum. Then, according to the Land Appeal Court, the outgoing tenant's position would be this: For his original outlay of 8d. an acre he would, except during the first year, receive 100 per cent. per annum; 1,000 per cent. altogether if he held the land ten years, and would now be entitled to 5s. per acre for the land at Gunnedah, 2s. 6d. per acre for the land further west, because the profit on such land for grazing would be only half that of the Gunnedah land, and 10s. per acre for the land near Sydney, because the profit on grazing there would be double that at Gunnedah. He it is who, according to the Land Appeal Court, is to derive the advantages accruing from the position of the land with respect to railways and markets. But, observe, if this land had not been ringbarked all this difference of value of position would have been claimed by the Crown as the capital value of the land. There is not a supreme question of law to decide as to whom this value belongs. The Crown claims it, and the outgoing tenant claims it, and is allowed it by the Land Appeal Court; yet it cannot belong to both, nor should the incoming tenant be asked to pay for it twice, as he now is—once in the form of capital value, and again as value of improvements to incoming tenants.

The value of improvements to the incoming tenant is dependent upon the position of the land with regard to markets; and I submit, with all due deference to the Land Appeal Court, that the value of position, less cost, as I have defined it, belongs to the Crown. Were it otherwise, a conditional purchaser who should ringbark his land as soon as he took it up could rightfully claim at the end of five years that he had improved his land up to the requirements of the Act by simply ringbarking.

So far I have dealt only with grazing land; but if we substitute agricultural for grazing land in one hypothetical case, the result would be very startling. For the land far west the outgoing tenant would get nothing as the result of ringbarking, except the 2s. 6d. an acre, because however good for agriculture the land might be, there would be no market. At Gunnedah he might get £1 an acre, and near Sydney £20, or even £100. I think, therefore, that it cannot possibly be maintained that evidence which is used to determine the capital value of land is relevant also to determine the value of improvements on that land, and so give a double value where only one exists.

Sydney, 20 July, 1897.

Yours, &c.,  
A. H. SAMPSON.

## No. 16.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

In the Land Appeal Court }  
of New South Wales. }

21 July, 1897.

NOTICE of intention to hold Court gazetted, 29/5/97.

Appeal to be heard at sitting to be held at Tamworth, commencing on the 24th day of June, 1897.

Appeal by Alfred A. Sampson.

Nature of appeal:—Against the Board's decision in respect of improvements on his settlement lease No. 96-21, Gunnedah.

Notices

Notices issued to undermentioned parties, and date of issue:—A. Sampson, Robey, and Gill, 28/5/97; service effected, 1 and 7/6/97.

Copies of evidence supplied to Land Appeal Court.

Names and addresses of other parties interested:—Alfred A. Sampson, Upper Manilla; W. F. Robey and R. A. O. Gill, c/o C. Ross, Tamworth.

Now forwarded to the Minister for Lands, the case having been brought before the Land Appeal Court, sitting as above, on the 24th day of June, 1897.

Reserved decision given at Sydney, 14/7/97.

A copy of the Order of the Court will be found below.

J. T. KEATING,  
Registrar.

Land Court, No. 4,757A.—Copy of Order of Court.

Appeal dismissed. Value of ringbarking determined at five shillings (5s.) per acre. Value of the remaining improvements determined at the amounts fixed by the Board. Deposit to be refunded.

### No. 17.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

In the Land Appeal Court }  
of New South Wales. }

21 July, 1897.

NOTICE of intention to hold Court gazetted, 29/5/97.

Appeal to be heard at sitting to be held at Tamworth, commencing on the 24th day of June, 1897.

Appeal by W. F. Robey and R. A. O. Gill (trustees for Mrs. A. Hungerford).

Nature of appeal:—Against the decision of the Board in respect of improvements on Alfred Austin Sampson's settlement lease No. 96-21, Gunnedah.

Notices issued to undermentioned parties and date of issue:—Robey and Gill, A. Sampson, 28/5/97; service effected, 1 and 7/6/97.

Copies of evidence supplied to Land Appeal Court.

Names and addresses of any other parties interested:—W. F. Robey and R. A. O. Gill, care of C. J. Ross, Tamworth; Austin Sampson, Upper Manilla.

Now forwarded to the Minister for Lands, the case having been brought before the Land Appeal Court, sitting as above, on the 24th day of June, 1897.

Reserved decision given at Sydney, 14/7/97.

A copy of the Order of the Court will be found below.

J. T. KEATING,  
Registrar.

Land Court, No. 4,757.—Copy of Order of Court.

Appeal sustained, in so far that the value of the ringbarking is determined at five shillings (5s.) per acre. Value of remaining improvements determined at the amounts fixed by the Board. Deposit to be refunded.

### No. 18.

The Crown Solicitor to The Under Secretary for Lands.

Sir,

Crown Solicitor's Office, Sydney, 26 July, 1897.

I have the honor to return herewith the papers, numbered as in the margin, forwarded with your blank cover communication of the 20th instant for me to obtain the opinion of counsel on the points raised therein. Misc. Lease No 8,405.

I have obtained Mr. Hanbury Davies' opinion, of which I forward a copy herewith.

I have, &c.,

GEO. COLQUHOUN,  
Crown Solicitor.

[Enclosure.]

A. A. SAMPSON'S CASE.

(Opinion.)

On account of its great importance, I have considered this case very carefully, with the view to discover if by any means the opinion of the Full Court can be obtained upon it.

It is only when a principle of law is involved in any case that the decision of the Land Court is subject to review, and I fail to see from the manner in which this case has been brought before the Land Board and the Land Court how the latter Court can be asked to state a case for decision by the Supreme Court in this particular manner.

If Mr. Sampson asked the Land Court to state such a case, he would, I have no doubt, be met with a refusal, and on an application for a mandamus, he could not, in my opinion, point out from the papers in the case to which he would be restricted that a principle of law "arose in the case before them."

If the important point which he wishes decided had been brought before them, they would have been bound to decide it one way or the other; but I understand they delivered no judgment, but merely varied the decision of the Board by increasing the amount payable by way of ringbarking, which the Board themselves had assessed at a rate higher than cost price.

If, then, no point of law was brought before them, they cannot be compelled to state a case, and, in my opinion, the application to the Court in Banco made with this object would for this reason fail.

Then the Act provides no other way of getting the opinion of the Supreme Court in this matter, so, in so far as this particular case is concerned, the decision of the Land Court must be regarded as final.

In any future case this point can be so raised by the incoming tenant as to come before the Land Court in a manner which would give the right of having a case stated, involving a full discussion of the principle on which the value of the particular improvement by ringbarking to the land should be arrived at.

I venture, too, to suggest to the Crown, if they should be disposed to assist any incoming tenant in such a matter, to go further, and get the point raised for the purpose of decision as to whether ringbarking is an "improvement" at all within the meaning of section 51 (a) and (b); for if the subject-matter of this section should ever form a portion of an Amending Act, consequent on the decision of the Full Court, this point might at the same time be rendered absolutely clear.

Selborne Chambers, 24th July, 1897.

HANBURY DAVIES.

For the information of the Minister.—W.M. HOUSTON, 28/7/97.

Since writing the above I have been informed that Sampson has sent in a notice asking the Land Appeal Court to state a case for the Supreme Court, and that the notice may come before the Court on the 17th proximo—the date of next sittings. It is suggested for consideration whether Mr. Davies should not be instructed, on behalf of the Crown, to render Mr. Sampson whatever assistance may be possible when the matter comes before the Land Appeal Court.—W.M. HOUSTON, Under Secretary, 28/7/97. Special.

Approved.—J.H.C. The Crown Solicitor.—H.A.G.C. (*pro* Under Secretary), B.C., Lands Department, 29/7/97.

### No. 19.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Land Appeal Court of New South Wales, Sydney, 27 July, 1897.

I have the honor to inform you that I am in receipt of notice requiring the Land Appeal Court to state a case for the decision of the Supreme Court in the matter as per margin.

I have, &c.,

J. T. KEATING,

Registrar.

Send to Mr. Curry.—R.H.D., 29/7/97. Seen. The fact was personally ascertained and noted on the other papers.—H. CURRY, 29/7/97.

Gunnedah settlement lease No. 96-21, A. A. Sampson.

### No. 20.

The Crown Solicitor to The Under Secretary for Lands.

Sir, Crown Solicitor's Office, Sydney, 23 September, 1897.

I have the honor to return herewith the papers, numbered as in the margin, forwarded with your blank cover communication of the 29th July last, instructing me to brief Mr. Hanbury Davies to support Mr. A. A. Sampson's application to the Land Appeal Court to state a case for the decision of the Supreme Court.

The matter came before the Court yesterday, when it was arranged, at the suggestion of the Court, that the application should stand over until the final determination of the case of *Greene v. Hargraves*.

I have, &c.,

GEO. COLQUHOUN,

Crown Solicitor.

Sampson's case submitted for information.—H. CURRY, 29/9/97. Shortly. The Land Appeal Court have postponed Sampson's case until *Greene v. Hargraves*' case is dealt with.—W.M. HOUSTON, Under Secretary, 29/9/97. Seen.—J.H.C., 30th September, 1897.

97-8,633, Misc. Lease.

### No. 21.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Land Appeal Court of New South Wales, Sydney, 13 October, 1897.

I have the honor to inform you that the matter, as per margin, was brought before the Land Appeal Court sitting at Sydney on the 22nd ultimo, when, by the consent of all parties, it was arranged that this case should stand over (the time for stating a case being extended from time to time as necessary by order of the Court) until the case of *Greene v. Hargrave*, No. 4,942, shall have been decided by this Court; or in the event of either party requiring a case to be stated for the decision of the Supreme Court, until the decision of that Court. Mr. Sampson undertakes to give security for the payment of the amount found due by the Land Appeal Court to the outgoing tenant with interest at 5 per cent. per annum from date 22nd September, 1897, such sum and interest not to exceed £330. Security to be given within fourteen days from date (22nd September, 1897) to the satisfaction of Mr. Ross, solicitor, of Tamworth.

I have, &c.,

J. T. KEATING,

Registrar.

Appeal by A. A. Sampson against the Board's decision in respect of improvements on his settlement lease No. 96-21, Gunnedah.

### No. 22.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Land Appeal Court of New South Wales, Sydney, 16 February, 1898.

I have the honor to invite your attention to my letter of 13th October last, conveying the order of this Court in the appeal as per margin, and to inform you that as no appeal has been made in the matter of *Greene v. Hargrave* (L.C.C. 4,942) for the decision of the Supreme Court, this case may be mentioned at the sitting of the Land Appeal Court in Sydney, commencing 8th March next, for such further action as may be advised.

I have, &c.,

J. T. KEATING,

Registrar.

Appeal by A. A. Sampson against the decision of Board in respect of improvements on his settlement lease No. 96-21, Gunnedah.

This case was postponed pending the result of *Hargrave's* case. That case has been settled without reference to the Supreme Court. It is understood that Mr. Sampson has been informed of the case coming forward, and, presumably, his counsel will argue that there is a question of law which can and should be submitted to the Supreme Court. Mr. Hanbury Davies may be asked to appear and, on behalf of the Crown, to urge the reference.—H. CURRY, 21/2/98.

For approval.—W.M. HOUSTON, Under Secretary, 22/2/98. Approved.—S. SMITH, 24/2/98.

## No. 23.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Office of Land Appeal Court, Darlinghurst, 9 March, 1898.

I have the honor to inform you that the matter as per margin was brought before the Land Appeal Court of New South Wales, sitting at Sydney on the 8th instant, when the following order was made:—Case postponed to sitting of Court in Sydney, commencing 29th instant.

I have, &c.,  
J. T. KEATING,  
Sydney.

Appeal by A. A. Sampson against the Board's decision in respect of improvements on his settlement lease No. 96-21, Gunnedah.

## No. 24.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir, Land Appeal Court of New South Wales, Sydney, 16 April, 1898.

I have the honor to forward herewith a copy of the special case in the matter as per margin, as settled by this Court and proposed to be forwarded to the Prothonotary for the decision of the Supreme Court.

A copy has also been forwarded to the Crown Solicitor this day.

I have, &c.,  
J. T. KEATING,  
Registrar.

A. A. Sampson. appeal re settlement lease, No. 96-21, Gunnedah.

[Enclosure.]

In the Supreme Court of }  
New South Wales. }

In the matter of the Appeal of Mr. A. A. Sampson from the decision of the Land Appeal Court.

1. On 29th October, 1896, Alfred Austin Sampson made an application for settlement lease No. 96-21 of 3,534 acres, portion 54, part of Wondoba occupation license.

2. The said application was confirmed by the Tamworth Local Land Board at Gunnedah on the 16th day of February, 1897.

3. At the date of the said application for the said settlement lease, certain improvements, including ringbarking, were alleged to have been made upon the land so applied to be leased as aforesaid, and it became a matter for investigation before the said Local Land Board to determine the ownership at date of application, and to appraise the values as on the date of application of the said alleged improvements.

4. On the 18th day of February, 1897, the said Local Land Board among other things determined the ownership, and appraised the value of the said ringbarking as follows:—

Crown improvements.—1,770 acres ringbarking at 1s. 4d. ....	£118 0 0
Station property.—1,100 acres ringbarking at 1s. 4d. ....	73 6 8

5. The said Alfred Austin Sampson appealed from the said decision of the said Local Land Board to the Land Appeal Court on the grounds following:—

- (i) That the Board was in error in deciding that the ringbarking, the tank, and the intersecting fence were improvements of value to the incoming tenant.
- (ii) That even if the ringbarking, the tank, and the intersecting fence were improvements at all, then the Board's decision as to their value was far in excess of their true value.

6. William Frederick Robey and Robert Alfred Orville Gill (trustees for Alice Hungerford), the holders of Wondoba occupation license, also appealed from the said decision of the said Local Land Board to the Land Appeal Court on the grounds, among others—(1) that the decision of the Board was against evidence and the weight of evidence; (2) that the Board was in error in not appraising the value of the improvements to the incoming tenant; (3) and that the basis of the Board's valuation was not in accordance with the provisions of sections 24 and 25 of the Crown Lands Act of 1895.

7. The said appeals came on for hearing before the said Land Appeal Court on the 25th day of June last, and were by consent heard together, and the appeal of the said Alfred Austin Sampson was dismissed, and the appeal of the said William Frederick Robey and Robert Alfred Orville Gill was sustained, and an order was made by the Land Appeal Court determining the value of the said ringbarking at 5s. per acre.

8. The said sum of 5s. per acre is far more than the cost of the said improvements; but the Court were of opinion that, in estimating the value of improvements to an incoming tenant under sections 24 and 25 of the Crown Lands Act of 1895, the Court might take into consideration the increased value given to the holding by reason of such improvements, and based their decision upon this principle. The appellant contended that the additional value given to the land reverted to the Crown and was presumably charged to the incoming tenant in his rent, and was not payable by the incoming to the outgoing tenant.

The question for determination of the Supreme Court is whether the Land Appeal Court was right in determining the value of improvements under sections 24 and 25 of the Crown Lands Act of 1895 upon the principle above stated.

## No. 25.

Mr. A. H. Sampson to The Registrar, Land Appeal Court.

Sir, Peel-street, Tamworth, 18 April, 1898.

I have the honor to acknowledge the receipt of your letter of 16th instant, No. 4,757A, covering draft case *in re* Austin Sampson's appeal *re* settlement lease No. 96-21, Gunnedah.

My contention before the Local Land Board at Gunnedah (which I have no doubt the Board would admit) was in these words:—"The value of improvements, as of anything else, cannot be more than the price at which the incoming tenant could produce them for himself." I used exactly the same words before the Land Appeal Court at Tamworth; and Mr. Kemp, in replying to them, said:—"Mr. Sampson's contention will not do; he did not produce the axe—he did not make the axe," and I repeated the words in the columns of the *Daily Telegraph* in a letter dated 20th July, 1897.

Rightly or wrongly, these words of mine appear to me to convey a very different meaning to the words "actual cost" as used in the draft case; in fact, my counsel, Mr. Wise, was instructed that "actual cost" was not a criterion of value.

Desiring



Desiring to treat the Court with the greatest respect, I am at a loss to know how far I may go without (apparently, though certainly without intent) infringing that respect; but if I am at liberty to make a request through you, I would ask that my contention be stated in my own words as given above as nearly as possible; and that paragraph 7 (draft case) should be altered by putting in the words—"that at which the incoming tenant could effect such improvements for himself" in place of "the actual cost thereof," and that the necessary consequential amendments should be made in the wording of paragraphs 9 and 10.

I have, &c.,

A. H. SAMPSON.

No. 26.

The Crown Solicitor to The Under Secretary for Lands.

Sir,

Crown Solicitor's Office, Sydney, 18 April, 1898.

I have the honor to forward herewith a copy of the special case stated by the Land Appeal Court in the matter of valuation of the improvements upon A. A. Sampson's settlement lease No. 96-21, Gunnedah.

I shall be glad to receive instructions if it is desired to brief counsel upon the argument of the case before the Supreme Court.

I have, &c.,

GEO. COLQUHOUN,

Crown Solicitor.

Sampson's case stated to the Supreme Court. Should the Crown brief counsel? The Crown Solicitor forwards a copy of the special case stated by the Land Appeal Court *re* the matter of the valuation of improvements on A. A. Sampson's settlement lease No. 96-21, Gunnedah, and asks to be instructed whether he is to brief counsel upon the argument of the case before the Supreme Court. The question for the Supreme Court to decide is whether, in determining the value of improvements under sections 24 and 25 of the Crown Lands Act of 1895, the Land Appeal Court were right in taking into consideration any other element of value than the actual cost of effecting and maintaining such improvements. Upon application being made to the Land Appeal Court to state a case to the Supreme Court, Mr. Hanbury Davies was instructed to appear, and, upon behalf of the Crown, to urge the reference. The case is fully stated on 98-2,909, Miscellaneous Leases, herewith.—J. R. YORKE, 20/4/98.

It is submitted that counsel should be briefed. As Mr. Hanbury Davies has been in the case in its recent stage, he may appear. It is presumed Mr. Wise will appear for Mr. Sampson.—H. CURRY, Acting Under Secretary, 20/4/98.

Mr. Davies may appear, but must be careful how he argues, as my views are that Sampson deserves to win. The value of the ringbarking is caused largely by natural improvement of the soil, and is not a matter of private property. Mr. Davies should argue on the basis of the stand the Crown took in Hargrave's case, of which fully inform him.—J.H.C., 21/4/98.

[Enclosure.]

In the Supreme Court of New South Wales, on }  
appeal from the Land Appeal Court. }

In the matter of the Crown Lands Acts of 1884, 1889, and 1895.—*Re* Alfred Austin Sampson's Settlement Lease No. 96-21, Gunnedah.

Alfred Austin Sampson, appellant; the Minister for Lands, W. F. Robey, and R. A. O. Gill, respondents.

CASE stated by the Land Appeal Court for decision by the Supreme Court in pursuance of the sixth sub-section of section eight of the Crown Lands Act of 1859.

1. On 29th October, 1896, Alfred Austin Sampson made an application for settlement lease No. 96-21, Gunnedah, of 3,534 acres, being portion 54, and then forming part of Wondoba occupation license.

2. The said application was confirmed by the Tamworth Local Land Board at Gunnedah on the 16th day of February, 1897.

3. Certain improvements, consisting of a tank, fencing, and ringbarking, were, at the date of the said application, upon the land so applied for, and of these improvements some were claimed to be the property of William Frederick Robey and Robert Alfred Orville Gill, as trustees for Mrs. Alice Hungerford, and holders of the said occupation license, and others were claimed to be the property of the Crown; and it became a matter for investigation before the said Local Land Board to determine the ownership, and to appraise the value of the said improvements as at the date of such application.

4. On the 18th day of February, 1897, the said Local Land Board, among other things, determined the ownership, and appraised the value of the said improvements as follows, viz. :—

Crown Improvements.

	£	s.	d.
Tank, 2,367 cubic yards, at 9d.....	88	15	3
Mixed fence around tank .....	4	0	0
27 chains of 6-wire boundary fence, 5-6, at 3s. 9d. ....	5	1	3
83 chains of 6-wire intersecting fence, 1-2 and 3-4, at 2s. 6d. ....	10	7	6
1,770 acres ringbarking, at 1s. 4d. ....	118	0	0
	£226	4	0

Station Property.

87 chains of 6-wire boundary fence, B5, at 3s. 9d. ....	16	6	3
Half value of 155 chains of boundary fence, W.X.Y., at 3s. 9d. per chain, 6-wire fence .....	14	10	8
137 chains of 6-wire intersecting fence, 2-3 and 4-5, at 2s. 6d.....	17	2	6
1,100 acres of ringbarking, at 1s. 4d. ....	73	6	8
	£121	6	1
Total value of both sets of improvements .....	£347	10	1

5. The said Alfred Austin Sampson appealed from the said decision of the said Local Land Board to the Land Appeal Court, on the grounds following:—

- (1) That the Board was in error in deciding that the ringbarking, the tank, and the intersecting fence were improvements of value to the incoming tenant.
- (2.) That even if the ringbarking, the tank, and the intersecting fence were improvements at all, then the Board's decision as to their value was far in excess of their real value.

6. The said William Frederick Robey and Robert Alfred Orville Gill also appealed from the said decision of the said Local Land Board to the Land Appeal Court on the grounds, among others,—

- (1.) That the decision of the Board is against the evidence and the weight of evidence.
- (2.) That the Board was in error in not appraising the value of the improvements to the incoming tenant.
- (3.) That the basis of the Board's valuation was not in accordance with the provisions of section 24 and 25 of the Crown Lands Act of 1895.

7. The said appeals came on for hearing before the said Land Appeal Court on the 25th day of June last, and were by consent heard together. At the said hearing the Crown appeared by counsel, and contended that the value of the subject ringbarking, the property of the Crown, was 15s. per acre to an incoming tenant. Counsel for the holders of the occupation license contended that the value of the said ringbarking should be fixed at between 15s. and 25s. per acre, and on behalf of the said Alfred Austin Sampson it was contended that the additional value given to the land reverted to the Crown, and was presumably charged to the incoming tenant in his rent, and was not payable by the incoming to the outgoing tenant, but that in any case the value of the said ringbarking could not be fixed at a higher sum than the actual cost thereof.

8. The Land Appeal Court dismissed the appeal of the said Alfred Austin Sampson, and sustained that of the said William Frederick Robey and Robert Alfred Orville Gill, and, upon full consideration of the evidence, determined the value of the said ringbarking, both of that which was claimed by the Crown and of that which was claimed by the said William Frederick Robey and Robert Alfred Orville Gill, at 5s. per acre, and the value of the other improvements at the respective amounts fixed by the said Local Land Board.

9. It is admitted, for the purposes of this case, that the value of the said ringbarking, as appraised by the said Local Land Board, and also as determined by the Land Appeal Court, exceeds the actual cost thereof; and further, it is admitted, for the like purpose, that the said Court, in so determining such value, took into consideration elements of value other than the actual cost of effecting and maintaining the said improvements of ringbarking.

10. The question for the decision of the Supreme Court is whether, in determining the value of improvements under sections 24 and 25 of the Crown Lands Act of 1895, the Land Appeal Court was right in taking into consideration any other element of value than the actual cost of effecting and maintaining such improvements.

## No. 27.

### Office Memorandum.

Sampson's Case.

21 April, 1898.

MR. MOORE, M.P., called to-day on behalf of Mr. Sampson. Mr. Sampson desires that the question submitted to the Supreme Court should be not whether the Land Appeal Court was right in taking into consideration any other element of value than the actual cost of effecting and maintaining the improvements, but whether anything should be taken into account other than what it would cost the incoming tenant to effect the improvements himself.

The draft, as drawn up by the Land Appeal Court, is open to revision, and Mr. Hanbury Davies may be asked to assist in having Mr. Sampson's question introduced, if possible, as it certainly represents a truer criterion of value than the original cost of making the improvements.

It is presumed Mr. Wise will appear for Mr. Sampson, and Mr. Sampson should send whatever suggestions he desires to make to that gentleman.

It may be that the Land Appeal Court in the draft case intend to raise Mr. Sampson's question, and there may not be any great difficulty in having a slight verbal amendment made.

H. CURRY,  
Acting Under Secretary.

Approved.—J.H.C., 22/4/98. S. W. Moore, Esq., M.P., and the Crown Solicitor informed,  
28/4/98.

## No. 28.

### The Under Secretary for Lands to The Crown Solicitor.

Sir,

Department of Lands, Sydney, 28 April, 1898.

Referring to your letter of 18th instant (No. 98-303) forwarding copy of the special case stated by the Land Appeal Court in the matter of the valuation of improvements on A. A. Sampson's settlement lease 96-21, Gunnedah, I have the honor to forward herewith papers,\* Ms. Lease 98-5,339, relating to the case, and to inform you that the Secretary for Lands has approved of Mr. Hanbury Davies being briefed upon the argument of the case before the Supreme Court, and in doing so would invite your special attention to the Minister's minute on Ms. Leases 98-5,091 of 21st instant approving of the proposal.

I would also invite attention to the Minister's approval of 22nd instant on Ms. Leases 98-5,339 with regard to a proposed amendment of the draft case drawn by the Appeal Court.

Mr. Sampson, it may be mentioned, has been advised in accordance with Mr. Secretary Carruthers' approval of 22nd instant.

I have, &c.,  
WM. HOUSTON,  
Under Secretary  
(per R.H.D.)

\*NOTE.—It is understood that the briefs in connection with the case *Greene v. Hargraves* are in the office of the Crown Solicitor.

## No. 29.

The Under Secretary for Lands to S. W. Moore, Esq., M.P.

Sir,

Department of Lands, Sydney, 28 April, 1898.

Referring to your personal inquiry of 21st instant, and to your representations on behalf of Mr. A. A. Sampson, with regard to the special case stated by the Land Appeal Court in the matter of the valuation of improvements on settlement lease 96-21, Gunnedah, I am directed by the Secretary for Lands to inform you that the draft case as drawn by the Appeal Court is apparently open to revision, and counsel for the Crown has been asked to assist in having Mr. Sampson's question, as to whether anything should be taken into account other than what it would cost the incoming tenant to effect the improvements himself, introduced, if possible.

It is presumed, however, Mr. Wise will appear for Mr. Sampson, and whatever suggestions it is desired to make should be sent to that gentleman.

I have, &amp;c.,

WM. HOUSTON,

Under Secretary

(per R.H.D.)

## No. 30.

The Registrar, Land Appeal Court, to Mr. A. H. Sampson.

Sir,

Land Appeal Court, New South Wales, Sydney, 1 June, 1898.

Reverting to your letter of the 18th April last, wherein, after acknowledging receipt of the draft case in the matter, as per margin, forwarded to you with my letter of the 16th of the same month, you proceed to contend that certain words used by you before the Land Appeal Court at Tamworth would convey, or appear to convey, a very different meaning to those used in the draft case, I am directed by the President to inform you that the question of law submitted by the case as forwarded to you is the question raised by the appeal to this Court; but that on the 21st instant you will be at liberty to show the Court, at the sitting fixed for that date in Sydney, if you can, that the question of law raised on your appeal is that stated in your letter above referred to.

I might add that you have already had an opportunity of mentioning this matter to the Court, according to promise, but you have not availed yourself of it.

I have, &amp;c.,

J. T. KEATING,

Registrar.

## No. 31.

The Registrar, Land Appeal Court, to Mr. A. H. Sampson.

Sir,

Land Appeal Court of New South Wales, Sydney, 7 July, 1898.

I have the honor to inform you that the matter of the final settlement of the terms of the special case for the decision of the Supreme Court in the appeal, as per margin, was brought before the Court on the 5th instant, when the Court declined to insert in the case as settled the amendments suggested by Mr. Wise, counsel for Mr. Sampson.

The case will shortly be forwarded to the Prothonotary in the form of a copy of which was supplied to you with my letter of 16th April last.

I have, &amp;c.,

J. T. KEATING,

Registrar.

## No. 32.

Mr. A. H. Sampson to The Registrar, Land Appeal Court.

Sir,

521, George-street, Sydney, 11 July, 1898.

I have the honor to acknowledge the receipt of your letter of 7th instant, No. 4,757A.

As my contention from first to last was, as stated in my letter to you of 18th April last, and as similarly stated in the notes of Mr. Commissioner Freeman, taken at the hearing at Tamworth, I must decline to recede from my position or accept a contention which is not mine, and which I never made.

In view of the President's remarks that the evidence points to "actual cost" being the criterion of value, I have carefully re-read the whole of the evidence, and with the exception that Mr. Robey mentioned that the books showed that Mr. Hill had paid 1s. a yard for the tank, the whole of the evidence seems to me to point the other way—that is, in the words of Mr. Turner, a witness for the other side, to "cost at present rates."

Under these circumstances, as intimated to the Court by my counsel, Mr. Wise, I will not trouble to send the case on to the Prothonotary.

I have, &amp;c.,

A. H. SAMPSON.

## No. 33.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir,

The Land Appeal Court of New South Wales, Sydney, 12 July, 1898.

I have the honor to inform you that I am in receipt of a letter from Mr. A. H. Sampson, agent for A. Sampson, withdrawing his notice requiring the Land Appeal Court to state a case for the decision of the Supreme Court in the matter as per margin.

I have, &amp;c.,

J. T. KEATING,

Registrar.

No. 34.

Alfred A. Sampson. Appeal re value of improvement on settlement lease No. 96-21, Gunnedah.

A. A. Sampson. Appeal re value of improvements on his settlement lease No. 96-21, Gunnedah.

Appeal by A. Sampson re improvements on settlement lease No. 96-21, Gunnedah.

No. 34.  
Office Memorandum.  
Mr. Sampson's Case.

12 July, 1898.

MR. SAMPSON called to-day, and stated that he had written to the Registrar of the Land Appeal Court to the effect that he would not proceed with the case. The Land Appeal Court consented to state a case for the Supreme Court, but Mr. Sampson is not satisfied with the way the case has been put, and, in fact, holds that the question proposed for the Supreme Court does not involve the point of law which he raised. The question, as drawn up by the Land Appeal Court, is whether that Court was right in taking into consideration any other element of value other than the actual cost of effecting and maintaining the improvements. Mr. Sampson, I understand, would himself answer this question in the affirmative, and anticipates the Supreme Court would answer it in the same way. His point is that the Land Appeal Court should have determined the cost at which the incoming tenant could effect the improvements. Mr. Sampson was represented by Mr. Wise, and I learn from him is advised that he cannot hope for any success by reason of the way in which the Land Appeal Court has drawn up the case. I asked him whether it was not worth while to venture in the hope that the Supreme Court might throw some light on the question, and perhaps settle the principle which should govern appraisements. He, however, does not appear in the least degree sanguine, and of course has to consider the question of expense.

It is to be regretted that the matter has concluded in this unfortunate way.

H. CURRY.

I think the case should go to the Supreme Court, whatever may be the result; and the Crown might, in the circumstances, instruct counsel (Mr. Davies) to represent Mr. Sampson, if he is willing to proceed, and if the Land Appeal Court will consent to his notice of withdrawal being revoked. Special.—WM. HOUSTON, Under Secretary, 14/7/98.

Approved.—J.H.C., 15/7/98. Mr. Sampson informed, 15/7/98.

It has been ascertained from the Land Appeal Court that Mr. Sampson has not asked for a revocation of his notice of withdrawal, and that if he had it could not be allowed, as the other parties in the case have been notified of such withdrawal.—J. P. MCGUANE, Miscellaneous Leases Branch, 3/8/98.

Please see also Mr. Sampson's letter of 3rd instant, Ms. Leases 98-10,785, herewith.—J.P.M., 5/8/98.

No. 35.

The Crown Solicitor to The Under Secretary for Lands.

Sir,

Crown Solicitor's Office, Sydney, 13 July, 1898.

In compliance with the request contained in your letter of to-day's date, I have the honor to forward herewith the papers relating to the case noted in the margin.

I have, &c.,

GEO. COLQUHOUN,  
Crown Solicitor.

Land Appeal Court case, No. 4,757A, A. A. Sampson.

No. 36.

The Under Secretary for Lands to Mr. A. A. Sampson.

Sir,

Department of Lands, Sydney, 15 July, 1898.

With reference to your appeal against the Local Land Board's appraisalment of the value of the improvements upon your settlement lease quoted in the margin, I am directed to inform you that it is understood you are unwilling to allow the case to go to the Supreme Court owing to your objection to the question which the Land Appeal Court has proposed for solution by the higher Court, and to ask whether you would be willing to proceed with the case, as, if so, the Crown, having regard to the importance of the matter as a public and general one, would instruct Mr. Hanbury Davies to appear on your behalf.

I may mention that, as it appears you have already notified the Land Appeal Court that you have withdrawn your notice requiring the Land Appeal Court to state a case for the Supreme Court, it is not apparent that anything can be done without your obtaining permission of the Land Appeal Court to revoke your notice of withdrawal referred to.

I have, &c.,

WM. HOUSTON,  
Under Secretary  
(per W.H.C.)

Land Appeal Court case, No. 4,757A, re settlement lease 96-21, Gunnedah, A. Sampson.

No. 37.

Mr. A. H. Sampson to The Under Secretary for Lands.

Sir,

521, George-street, Sydney, 3 August, 1898.

I have the honor to acknowledge the receipt of your letter, 15th ultimo, No. 98-9,706.

I should have replied earlier, but that I wished to consult Mr. Wise, my counsel, and also Mr. Newman, my solicitor.

Since hearing from them an attack of influenza has still further delayed my reply.

Mr. Wise held out no hope that anything further could be done through the Law Courts, and Mr. Newman writes as follows:—"Knowing your line of argument before the Land Court at Tamworth, I am surprised at the Court refusing to state the case in such a way as to embrace the question which you so clearly put before it. I note that the President said that, though you must have mentioned the point, you did not argue it. If you did not argue it, what did the Court consider was your object in mentioning it? I think it most unlikely that the other side would allow your notice of intention not to proceed to be revoked; 'public grounds' would be nothing to them. You have no doubt raised a question of law of

of supreme importance to the Crown and the people; but the question which the Land Court pinned you down to is a very different one indeed, wanting altogether the element which made yours of such importance."

That Mr. Newman is right in saying that the other side would not allow notice not to proceed to be revoked is now proved; for the other day, in conversing with Mr. Pike, their counsel, I offered to pay over the whole amount of the Land Appeal Court's award to them if they would allow the case to go to the Supreme Court. He replied, "Litigants do not fight on public grounds."

Under these circumstances it appears that nothing can be done in the way suggested in your letter, even though the Land Appeal Court should offer no objection.

Apart from my own interest in this case, I am exceedingly sorry that there should be in it such manifest injustice. I am sure the Land Act is right, and the Land Appeal Court wrong; that the Crown settlers are being ruined and Crown revenues lost by a misinterpretation of the Act; and, so satisfied am I of this, that, if I can get hold of another case like this one, I will effectually guard against it being said, "the point raised was not argued," for I shall object before the Land Board to every particle of evidence of land value being taken on an inquiry to determine the value of improvements—and have my objection noted—and so, too, before the Land Appeal Court.

My legal advisers tell me that the question has never been raised as I have raised it, and that there is absolutely no Supreme Court decision as a precedent. Mr. Wise at first thought otherwise, but he does not think so now, he having been referred to certain phases of the question by my solicitor, Mr. T. M. Newman.

It is noteworthy that a section of the country Press says, with reference to this case, and similar ones: "Finality has been reached, and a clear ruling laid down as to the position of settlement lessees in regard to station improvements." It seems a pity such an impression should get abroad, for not only is the letter of the Act misinterpreted, but, in consequence of this misinterpretation, the very spirit and intention of the Act are being outraged, as in the case of the Australian Mutual Provident Society, No. 5,139, vol. 8, Land Appeal Court Cases.

I have, &c.,

A. H. SAMPSON,  
Agent for A. A. Sampson.

Mr. Sampson's Case.—According to Mr. Sampson's letter of the 3rd instant there now appears to be no prospect of the case going to the Supreme Court. Mr. Sampson himself withdrew the case, and he now finds it impossible to persuade the other side to allow him to proceed.—H. CURRY, 6/8/98.

Submitted for the Minister's information.—WM. HOUSRON, Under Secretary, 6/8/98. Seen.—J.H.C., 8/8/98.

### No. 38.

Mr. A. H. Sampson to The Chairman, Local Land Board, Tamworth.

Dear Sir,

Town Hall Coffee Palace, 521, George-street, Sydney, 6 August, 1898.

Would you kindly let me know whether your office precludes you saying whether I argued before you at Gunnedah, and also before the Land Appeal Court at Tamworth, that the value of improvements to an incoming tenant could not be more than the cost at which he could effect such improvements for himself.

Of course I do not wish an answer unless you are perfectly free to give it; but if you can answer I shall be greatly obliged to you, as I think it would materially assist me.

I am, &c.,

A. H. SAMPSON.

Receipt acknowledged.—W.F., 9/8/98.

A. A. Sampson's settlement lease 96-21, Gunnedah, Land Appeal Court Case, No. 4,757A; as to line of argument by his representative, A. H. Sampson, before the Local Land Board at Gunnedah, and before the Land Appeal Court at Tamworth. From personal knowledge, I am able to testify that Mr. A. H. Sampson did argue before the Local Land Board at Gunnedah, and before the Land Appeal Court at Tamworth, "that the value of improvements to an incoming tenant could not be more than the cost at which he could effect such improvements for himself." I leave it to you whether Mr. Sampson is to have the information. If he is, kindly advise him. I am, under date 5th instant (L.B. 98-5,405, Tamworth), advised by the Registrar, Land Appeal Court, that the decision of that Court of 14th July, 1897, fixing the value of the 2,870 acres ringbarking (1,770 acres Crown property, 1,100 acres station property) at 5s. per acre, stands as final. I have simply, so far as Mr. A. H. Sampson is concerned, acknowledged receipt of his letter, and advised him that I have referred it to you with information, the nature of which I have not stated.—WILLIAM FREEMAN, Chairman, Tamworth, 9th August, 1898.

Mr. A. H. Sampson desires to be supplied with a copy of the above communication by Mr. Chairman Freeman. Of course, there is something behind the request. The Chairman is asked by Mr. Sampson if he (Mr. Sampson) pursued a certain line of argument. The Chairman says he did; but the question ought to be one about which Mr. Sampson should not require any information now that the case has closed.—J. P. MCGUINNE, Miscellaneous Leases Branch, 23/8/98.

Special. Send to Mr. Curry in connection with other papers of Sampson's case.—R.H.D., 24/8/98.

Settlement lease and farm No. 637—Mr. Sampson's Case.—Attention is invited to Mr. Sampson's letter of the 13th instant, 98-11,236. Mr. Sampson wrote to the Chairman of the Land Board, asking him whether he (Sampson) argued in a certain way before the Land Board and the Land Appeal Court. The Chairman has stated his recollection of the case, and forwarded the letter here. Mr. Sampson wishes to be informed what the Chairman has said. It is submitted that this Department should not accede to Mr. Sampson's request. The matter has ended so far as its judicial phase is concerned, and, as the Land Appeal Court is outside this Department, it would not be proper for this Department to be the vehicle for communicating anything said to have taken place in the Court, especially as the impressions on the Chairman's mind may not coincide with what the Court itself might hold. In his letter of the 22nd instant, Mr. Sampson is evidently looking for something beyond what has already been conceded to him by the Crown. The Crown has, so far, acted generously in face of, though at the same time recognising, the possibility that its action may not be without considerable inconvenience to itself. The question really

really now is, whether the Crown will pay to Mr. Sampson the difference between the Land Appeal Court's valuation of the outgoing tenant's improvements and what Mr. Sampson would say was a fair valuation of these improvements. The facts of this particular case are, no doubt, special, but involved in it is the very large question whether the Department should act as a Court of Review of the Appeal Court's valuations between parties, and be responsible for any sums which might be in excess of, or below, a certain standard. In the present instance, the Crown admits the valuation to have been excessive, but it may have to admit that in many other cases. The machinery of the Land Law has been exhausted, and it is not apparent that the Crown should take any further steps in this matter at present. Mr. Sampson seems disposed to place some of the responsibility of the Land Appeal Court's valuations on the shoulders of counsel who appeared for the Crown; but this is obviously not fair. The Land Appeal Court is not necessarily swayed by counsel on one side or the other, and it ought not to be overlooked that the outgoing tenants appealed against the Board's valuations as being too low, and were represented in the Court by Mr. Pike, who, of course, argued in the interests of his clients. A perusal of the Land Court's reports will at once show that the Appeal Court decides cases according to its own apprehension of their merits, and the Court having given its decision, the case has reached, at least, judicial finality.—H. CURRY, 26/8/98.

(No. 1.) Clearly this Department cannot with decency grant Mr. Sampson's request in regard to Mr. Freeman's views as to what occurred in the Land Appeal Court. (No. 2.) With regard to Mr. Sampson's letter of the 22nd, which, presumably, is an application for compensation, the Crown has, apparently, done what it could already. Whether any further provision can or ought to be made is a matter for the Minister's consideration.—WM. HOUSTON, Under Secretary, 26/8/98.

(No. 1.) I concur in. (No. 2.) The request for compensation cannot be entertained.—J.H.C., 29 August, 1898. Mr. A. H. Sampson, care of S. W. Moore, Esq., M.P., informed, 31/8/98.

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### No. 39.

The Under Secretary for Lands to The Chairman, Local Land Board, Tamworth.

12 August, 1898.

A. A. SAMPSON'S Settlement Lease 96-21, Gunnedah; lease for execution apparently not as yet prepared; Chairman desires completion, so that he may issue notices of demand for payment for improvements, the property of the Crown.

It is now eighteen months since the settlement lease was confirmed, and since the extensive improvements were appraised by the Local Land Board, at Gunnedah (value of the 2,870 acres of ringbarking since appraised by the Land Appeal Court at 5s. per acre, the Local Land Board's appraisal of the ringbarking was at the rate of 1s. 4d. per acre).

The enclosed papers, Mis. Dep., 98-10,912, have been obtained from Sydney to obtain reference to a ringbarking permit for the purposes of another case, and in order that notice of demand for payment for the Crown improvements may issue in the within case.

But as a preliminary to the latter there must be execution of the lease, which kindly have attended to. L.B. 98-5,432, Tamworth, relates to this case, and was forwarded to you per Mr. Chief Inspector Curry on 9th instant, but it is not herewith.

WILLIAM FREEMAN, Chairman,  
Tamworth.

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### No. 40.

Mr. A. H. Sampson to The Under Secretary for Lands.

Sir, Town Hall Coffee Palace, 521, George-street, Sydney, 13 August, 1898.

I have the honor to ask that you will kindly let me know the answer given by Mr. Freeman (Chairman of the Local Land Board, Tamworth) to my question to him as to whether I had argued before the Local Land Board at Gunnedah, and before the Land Appeal Court at Tamworth, "that the value of improvements to an incoming tenant could not be more than the cost at which he could effect such improvements for himself."

Under date 9th instant, Mr. Freeman writes me saying: "I am, by to-night's mail, forwarding your letter to the Under Secretary for Lands (*per* H. A. G. Curry, Chief Inspector) with information."

Mr. Freeman's fearless truthfulness enables me to feel assured as to what his answer is; but in fairness to myself, and as I believe there is no reason for secrecy, I should be glad to know the terms in which his answer is conveyed.

I have, &c.,  
A. H. SAMPSON.

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### No. 41.

Office Memorandum.

Sampson's Case.

15 August, 1898.

It is submitted for consideration in this case whether, having regard to the attitude the Crown has taken in it, some concession might not be made so far as the Crown improvements are concerned.

The District Surveyor reported that portion 54 contained—fencing, £92; ringbarking, £108; tank, £75; and that the whole of these belonged to the lessee of Wondobar holding.

These valuations appeared in the *Gazette* notice when the land was set apart for settlement lease.

The Land Board appraised the improvements at £347 10s. 1d., and held that a part only belonged to the lessee, the Crown being entitled to be regarded as the owner of £226 4s. worth.



The Crown's improvements were described by the Board as follows:—

	£	s.	d.
Tank, 2,367 yards, at 9d. ... ..	88	15	3
Mixed fence round tank ... ..	4	0	0
27 chains of 6-wire boundary fence, 5-6, at 3s. 9d. ... ..	5	1	3
83 chains of 6-wire intersecting fence, 1-2 and 3-4, at 2s. 6d. ... ..	10	7	6
1,770 acres ringbarking, at 1s. 4d. ... ..	118	0	0

The Land Appeal Court on appeal sustained the Board's value, except with regard to ringbarking, and upon this they placed a value of 5s. per acre.

The Crown never intended to claim so high a value. The ringbarked trees have suckered. The surveyor estimated that ringbarking could be done now for about 9d. per acre, and that it would cost about 4d. per acre to remove the suckers.

It is submitted that the Crown might waive its claim to anything above 1s. (one shilling) per acre for the ringbarking on the 1,770 acres. With regard to the ringbarking on the other area, the Crown has nothing to do.

H. CURRY.

This course is submitted for favourable consideration, having regard to the exceptional circumstances of the case.—WM. HOUSTON, Under Secretary, 15/8/98. Approved.—J.H.C., 17 August, 1898. S. W. Moore, Esq., and Mr. Sampson informed, 18/8/98.

#### No. 42.

#### The Under Secretary for Lands to Mr. A. A. Sampson.

Sir, Department of Lands, Sydney, 18 August, 1898.

I am directed to inform you that, in view of the very special circumstances of the case, the Secretary for Lands has approved of the Crown waiving its claim to any amount above 1s. per acre for such of the ringbarking as is the property of the Crown on the land included in your settlement lease, quoted in the margin.

I have, &c.,

WM. HOUSTON,  
Under Secretary  
(per W.H.C.)

Gunnedah.  
Settlement  
lease 96-21,  
29 October, 1896,  
3,534 acres, por-  
tion 54, parish  
of Wondoba,  
county of Pot-  
tinger.  
A. A. Sampson.

#### No. 43.

#### The Under Secretary for Lands to S. W. Moore, Esq., M.P.

Sir, Department of Lands, Sydney, 18 August, 1898.

I am directed to inform you that, in view of the very special circumstances of the case, the Secretary for Lands has approved of the Crown waiving its claim to any amount above 1s. per acre for such of the ringbarking as is the property of the Crown on the land included in the settlement lease quoted in the margin, and Mr. Sampson has this day been so advised.

I have, &c.,

WM. HOUSTON,  
Under Secretary  
(per W.H.C.)

Gunnedah.  
Settlement  
lease 96-21,  
29 October, 1896,  
3,534 acres, por-  
tion 54, parish  
Wondoba,  
county Pot-  
tinger.  
A. A. Sampson.

#### No. 44.

#### Mr. A. H. Sampson to The Under Secretary for Lands.

Sir, Town Hall Coffee Palace, 521, George-street, Sydney, 22 August, 1898.

I have the honor to acknowledge the receipt of your letter of 18th instant, No. 98-11,436, in which you state, in view of the very special circumstances of the case, the Crown waives its claim to any amount above 1s. per acre for ringbarking on A. A. Sampson's settlement lease at Gunnedah.

This I view as a generous recognition on the part of the Crown that, owing to its own very serious error, a great wrong has been done, which it desires to rectify, and I desire to accord the fullest measure of respect for such honorable action. At the same time it becomes my duty to point out that the wrong is only partially, not wholly, righted; and to briefly review the special circumstances to which your letter refers, I do so, feeling assured that the fuller consideration of those circumstances must impress upon the Crown the conviction that it cannot act otherwise than as any honorable man in private life would be impelled to do under like conditions, viz., to shoulder his own mistake in its entirety, and not let one who was fighting largely in his interest be the sufferer in consequence.

Leaving out of consideration for the present the refusal of the Land Appeal Court to state our contention, the special circumstances of the case are briefly these:—

The Crown, by notice in the *Gazette*, invited us to take up some ringbarked country, which ringbarking it had, by its agent, valued at (approximately) £108. The Local Land Board, acting, not upon its own judgment, but upon the Act, "as interpreted by the Land Appeal Court," fixed the value at £191 6s. 8d.

On appeal to the Land Appeal Court, the Crown appeared by counsel and contended that the value was considerably over £2,000; that the increased value of the land belonged to the outgoing tenant—an aspect of the matter which the Land Appeal Court never fails to emphasise. In effect, he argued that a portion of the capital value of the land belonged to the outgoing tenant.

We strenuously opposed this view, and contended that ringbarking was in the same category of improvements as fencing: each increased the carrying capacity of the land; each was subject to deterioration; each permitted the inherent capabilities of the soil to manifest themselves; but was no more the thing in which the wealth inhered than were the auger-hole and sixpenny tap which allowed the wealth to flow from one of Mr. Fallon's great wine-butts.

We

We contended that the value arising was a land value, and belonged to the Crown as to any other land-owner, and that the value of improvements, as of anything else, could not be more than the cost at which the incoming tenant could produce them for himself.

The Court compromised the matter, and fixed the amount at £717.

Our contention is now everywhere admitted to be unassailable in its justice, and is generally admitted to be impregnable in law.

The result of this action of ours must necessarily be that, either by obtaining a true interpretation of the Act, or by immediate legislation, the Crown will enormously benefit, for it will retain its own revenues instead of having them passed away to outgoing tenants. Necessarily, too, the future settlers upon Crown lands will be saved from that ruin which has overtaken so many of them in the past.

But, in our great struggle over this question, lasting now upwards of two years, we have had to fight for the Crown against the Crown—or rather, I should say, that we had at first to do so, for I am happy to admit that latterly we have received all the assistance the Crown could render us, though, unfortunately, this was, of necessity, but little. The greatest of all our troubles was the position of strength conferred upon the outgoing tenants by the assistance given to them by the Crown in the first instance—a position which the Land Appeal Court is very careful to particularise. This has protracted the struggle at great expense to us. Besides which, instead of having to pay 3d. per acre, the present value of the ringbarking, *i.e.*, 9d. for doing it in its original state, less 6d., deterioration by suckers (see evidence), we have now to pay them 5s. per acre.

I understand that the whole question, including the action of the Land Appeal Court, is to be brought fully before the House, when, I trust, the result will be to ensure the warrant and sympathy of Parliament to any action the Crown may take to accord the full measure of justice to us.

As I am starting for Tamworth to-morrow, will you kindly address me there.

I have, &c.,  
A. H. SAMPSON.

No. 45.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir,

Office of Land Appeal Court, Darlinghurst, 25 August, 1898.

I have the honor to forward herewith certificate of the final order of the Land Appeal Court in the matter of the appeal, as per margin, and to request that you will be good enough to acknowledge receipt of same.

I have, &c.,  
J. T. KEATING,  
Registrar.

Appeal by A. A. Sampson *re* settlement lease No. 96-21, Gunnedah

[Enclosure.]

FORM I.

*Certificate of the Order of the Land Appeal Court.*

In the Land Appeal Court }  
of New South Wales. }

WHEREAS, on the 24th June and 14th day of July, 1898, a certain matter, wherein Alfred A. Sampson, Messrs. Robey and Gill, and the Minister for Lands were concerned in connection with settlement lease No. 96-21, Gunnedah, was brought under the cognisance of the Land Appeal Court of New South Wales upon the appeal by Alfred A. Sampson against the Board's decision in respect of improvements on his said settlement lease.

And whereas the Land Appeal Court duly heard and determined the said matter, and on the 14th day of July, 1898, made a final order in respect thereof: These are therefore to certify that the final order of the Land Appeal Court in the premises was as follows:—Appeal dismissed. Value of ringbarking determined at five (5) shillings per acre. The value of the remaining improvements determined at the amounts fixed by the Board. Deposit to be refunded.

The seal of the Land Appeal Court was hereunto affixed by me, this 23rd day of August, 1898.

J. T. KEATING,  
Registrar.

No. 46.

The Registrar, Land Appeal Court, to The Under Secretary for Lands.

Sir,

Office of Land Appeal Court, Darlinghurst, 25 August, 1898.

I have the honor to forward herewith certificate of the final order of the Land Appeal Court in the matter of the appeal, as per margin, and to request that you will be good enough to acknowledge receipt of same.

I have, &c.,  
J. T. KEATING,  
Registrar.

Appeal by Robey and Gill *re* settlement lease No. 96-21, Gunnedah, A. A. Sampson.

[Enclosure.]

FORM I.

*Certificate of the Order of the Land Appeal Court.*

In the Land Appeal Court }  
of New South Wales. }

WHEREAS, on the 24th June and 14th day of July, 1898, a certain matter, wherein W. F. Robey and R. A. O. Gill, A. A. Sampson, and the Minister for Lands were concerned in connection with settlement lease No. 96-21, Gunnedah, was brought under the cognisance of the Land Appeal Court of New South Wales upon the appeal by W. F. Robey and R. A. O. Gill against the decision of the Board in respect of improvements on said settlement lease.

And whereas the Land Appeal Court duly heard and determined the said matter, and on the 14th day of July, 1898, made a final order in respect thereof: These are therefore to certify that the final order of the Land Appeal Court in the premises was as follows:—Appeal sustained in so far that the value of the ringbarking is determined at five (5) shillings per acre. Value of remaining improvements determined at the amounts fixed by the Board. Deposit to be refunded.

The seal of the Land Appeal Court was hereunto affixed by me, this 23rd day of August, 1898.

J. T. KEATING,  
Registrar.

No. 47.

The Under Secretary for Lands to Mr. A. H. Sampson.

Sir,

Department of Lands, Sydney, 31 August, 1898.

Referring to your letter of the 13th instant, requesting particulars of Mr. Chairman Freeman's reply to your inquiry as to the arguments advanced by you before the Land Appeal Court as regards the improvements situated upon the settlement lease farm applied for by Mr. A. A. Sampson, and also to your letter of the 22nd instant, presented by Mr. Moore, M.L.A., urging some further concession in regard to the improvements in question, I have the honor, by direction of the Secretary for Lands, to inform you that the request with regard to Mr. Freeman's views as to what occurred in the Land Appeal Court cannot be acceded to, and that your request for compensation beyond what has already been conceded in the case cannot be entertained.

I have, &c.,  
WM. HOUSTON,  
Under Secretary (per F.H.W.).

No. 48.

Gazette Notice.

NOTIFICATION OF EXECUTION OF SETTLEMENT LEASES.

Department of Lands, Sydney, 12 October, 1898.

NOTICE is hereby given that the undermentioned settlement leases were, on the 3rd October, 1898, executed by His Excellency the Governor, and have been forwarded, for delivery to the lessees, to the Crown Land Agents of the respective Districts in which the lands are situated.

Each lessee is required to take delivery of the lease, and give a receipt in writing for the same in Form 52, within three months from the date of this notice, failing which the Minister may declare the lease to be null and void, and any moneys lodged with the application forfeited to the Crown.

The balance of rent for the first year should be paid to the Crown Land Agent or Colonial Treasurer within six months from date of commencement of the lease, and the rent for each succeeding year should be paid in advance to the Crown Land Agent or Colonial Treasurer.

The lessee must pay to the Crown Land Agent, at time of delivery of lease, a lease fee of 10s., together with amount of stamp duty as set out in appended Schedule.

J. H. CARRUTHERS.

No. of Lease.	Reg. No. of Papers.	No. of Application and Land District.	Name of Lessee.	No. of Portion.	Parish.	County.	No. of Settlement Lease Area, and Date of Notification thereof.	Area.	Annual Rental.	Date of commencement of Lease.	Date by which second half of first year's rent should be paid.	Amount of Stamp Duty Payable.
617	Ms.Ls. 98-10330	98-2, Tamworth	McKechnie John William.	59, 35, & 36	Fitzroy ....	Darling ....	No. 6, 10 Aug., 1895, 30 Oct., 1895, 15 Jan., 1896, & 26 Aug., 1896.	acres. 652	£ s. d. 8 3 0	1898. 9 June ..	9 Dec., 1898	£ s. d. 0 2 6
626	11747	5, Barmenman, Forbes ..	McNamara Louis ....	31	Boonabah ..	Bland .....	No. 296, 11 May, 1898.	1,397	19 13 0	23 .. ..	23 .. ..	0 2 6
627	1520	"	West William Perry ..	21	Currowong	Forbes ....	No. 251, 1 Dec., 1897.	2,248	14 1 0	17 Feb. ..	17 Aug., ..	0 2 6
628	11748	4, " ..	Congdon James Francis.	24	do ..	do ..	No. 251, 1 Dec., 1897.	2,182	18 3 8	16 June ..	16 Dec., ..	0 2 6
629	11749	5, " ..	Taylor James .....	18, 73, 81, 82, & 83, 23, 24, 25, & 23.	Tirranra } Warrangla }	Gipps .....	No. 291, 4 May, 1898.	1,816	26 9 8	16 .. ..	16 .. ..	0 2 6
630	11750	6, " ..	Mylecharane Philip Congdon.	14, 16, 17, 74, 75, & 76.	Tirranra ..	do ..	No. 291, 4 May, 1898.	1,979½	28 17 4	16 .. ..	16 .. ..	0 2 6
632	11976	24, Moree....	Fenwick Arthur Clayton.	7	Noora ....	Benarba ....	No. 196, 28 April and 2 June, 1897.	5,269	49 8 0	5 May ..	5 Nov., ..	0 2 6
633	11977	25, " ..	Glennie Frederick Alexander.	2, 3, & 4	do ..	do ..	No. 196, 28 April, and 2 June, 1897.	8,092	67 8 8	5 .. ..	5 .. ..	0 5 0
634	11978	27, " ..	Mitchell Walter Robert.	11	Cooloobong	do ..	No. 226, 11 Sept., 1897.	2,701	33 15 3	19 .. ..	19 .. ..	0 2 6
635	11979	34, " ..	Riley William .....	27	Careunga ..	Stapylton ..	No. 293, 18 May, 1898.	2,559	47 19 8	9 June ..	9 Dec., ..	0 2 6
636	11980	49, " ..	Hitchins William John.	2	Cooloobong	Benarba ....	No. 226, 11 Sept., 1897.	3,060	38 5 0	16 .. ..	16 .. ..	0 2 6
637	97- 8461	98-21, Gunnedah	Sampson Alfred Austin.	54	Wondoba ..	Pottinger ..	No. 50, 30 Nov., 1895.	3,534	44 3	29 Oct....	29 April, 1897	0 2 6
638	98-12201	98- 3, Coonabarabran.	Sevil John, jun....	3 20	Cox .... } Borah .. }	White .....	No. 58, 18 Dec., 1895, 26 Aug., 1896, & 19 Mar., 1898.	6,220	71 5 5	24 Mar. ..	24 Sept., 1898	0 5 0

One plan.]

Enclosure  
958850  
Mrs Dep. Lands

Papers L B. 95/8590

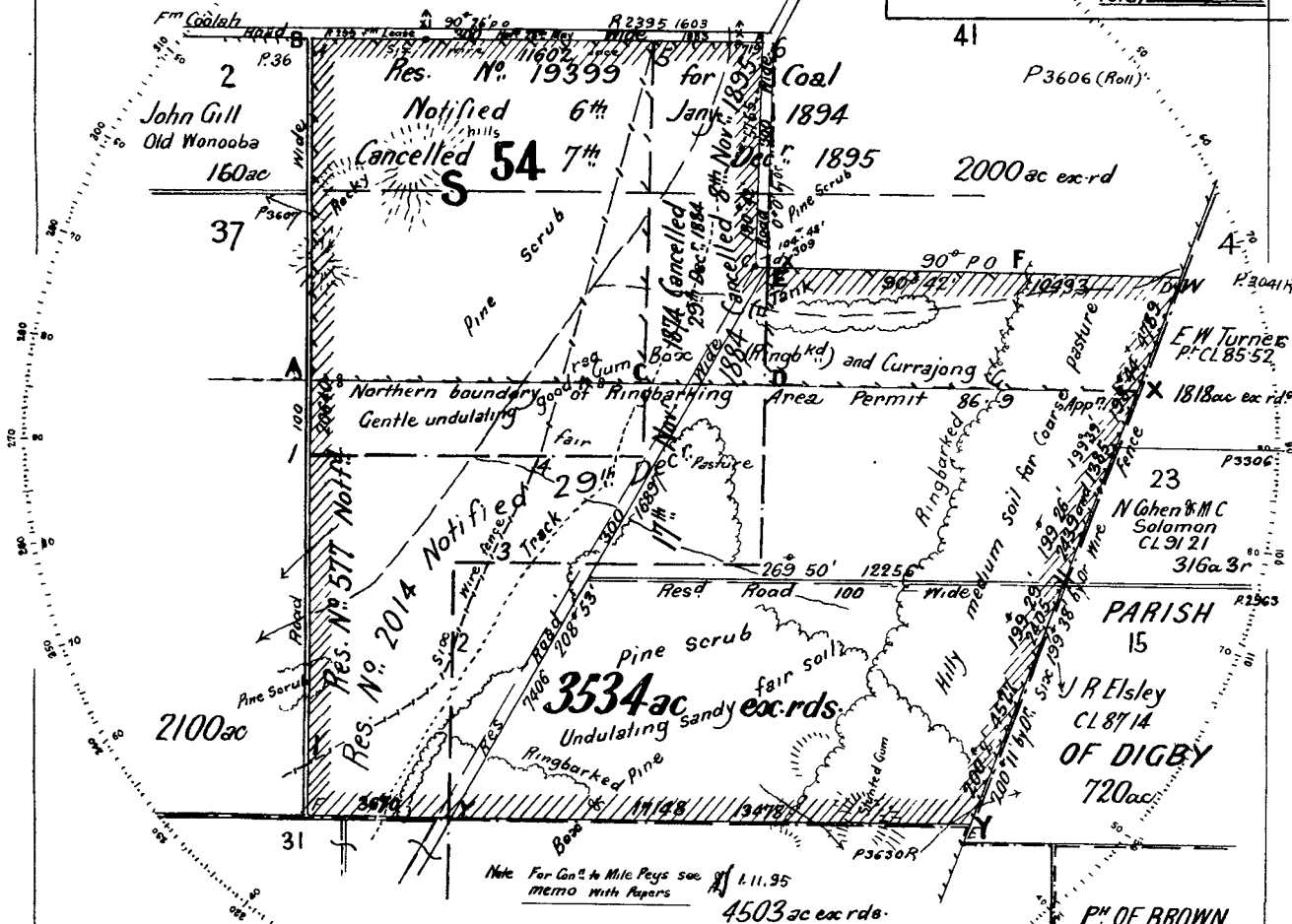
**PLAN OF PORTION 54**  
**County of Pottinger Parish of Wondoba**  
Land District of Gunnedah Land Board District Tamworth Division  
Leasehold Area N<sup>o</sup> 81  
*Wondobar Pastoral Holding - Central Division*

Partly within R. 19399 for Coal Mining Not<sup>d</sup> 6<sup>th</sup> Jan'y 94  
Partly within R. 2014. Notified 29<sup>th</sup> Dec. 84.

**NOTE**  
Red edging on Original shown  
hereon thus

**EXHIBIT A**  
Evidence of  
Chairman  
Papers L B D  
F Poate  
William Freeman  
96-8915 Th  
Fence - 1 to 2, 3 to 4 83 Chains = £ 17  
Fence 5 to 6, 27 Chains = £ 6. 14  
Total = £ 23. 14

T R 3947 Not<sup>d</sup> 3<sup>rd</sup> Sep. 1887  
T. S. R. 1887 Not<sup>d</sup> 28<sup>th</sup> May 1883



Azimuth taken from A B  
Field Book Vol. 5219 Folio 26

**Reference to Corners**

Corner	Bearing	From	Links	N <sup>o</sup> on Tree
A	287° 5'	Box	71 1/2	54
B	30° 0'	D <sup>o</sup> Box	122 1/4	54
C	213° 40'	Apple	122	54
D	70° 0'	Box	32 1/2	41 54
E	226° 10'	Box	39 3/4	54-31
F	156° 55'	Box	19	54

**Reference to Traverse**

Line	Bearing	Distance
<b>Permanent Marks (Bottles)</b>		
from A	South	5 1/2
" B	180° 42'	5 "
" X	90° 42'	5 "
" Y	90° 0'	5 "
" F	90° 0'	5 "
" D	270° 42'	5 "

I hereby certify that I in person made and on the 28<sup>th</sup> Sep 1895 completed the survey represented on this plan on which are written the bearings and lengths of the lines measured by me and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors and the practice of the Department of Lands

(sd) **E W. Turner** Licensed Surveyor  
Transmitted to the District Surveyor with my letter of 4<sup>th</sup> Oct. 95/21

Voucher N<sup>o</sup> 9520 Passed £ 29. 10. 0 R S 23. 10. 95  
Calculation Book N<sup>o</sup> 1817 Folio 26  
Checked and Charted R. P. Smith 12. 10. 95  
Exam<sup>d</sup> T. H. 28. 10. 95  
E W. Turner  
Plan approved R. Shelton D.C. 23<sup>rd</sup> Oct. 1895  
Draftman in Charge

Improvements Ringing £ 108  
Fencing £ 92 Tank £ 75

Scale 40 Chains to an Inch

1899.

(THIRD SESSION.)

---

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

---

REPORT FROM THE SELECT COMMITTEE

ON

CLAIM OF JAMES AND PATRICK GUIHEN,  
OF KANGAROO VALLEY;

TOGETHER WITH THE

PROCEEDINGS OF THE COMMITTEE.

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*Printed under No. 13 Report from Printing Committee, 12 December, 1899.*

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SYDNEY: WILLIAM APPLIGATE GULLICK, GOVERNMENT PRINTER.

1899.

301—

[3d.]

1899.

(THIRD SESSION.)

---

EXTRACTS FROM THE VOTES AND PROCEEDINGS OF THE  
LEGISLATIVE ASSEMBLY.

---

VOTES NO. 42. TUESDAY, 21 NOVEMBER, 1899.

8. CLAIM OF JAMES AND PATRICK GUIHEN, OF KANGAROO VALLEY:—Mr. Alexander Campbell moved, pursuant to *amended* Notice,—
- (1.) That a Select Committee be appointed to inquire into and report upon the claim of James and Patrick Guihen, of Kangaroo Valley, against the Government for loss sustained through the action of the Government in disputing their title to certain land at Brogher's Creek, Kangaroo Valley.
- (2.) That such Committee consist of Mr. O'Sullivan, Mr. Thomas Clarke, Mr. Millard, Mr. E. M. Clark, Mr. Austin Chapman, Mr. Pyers, Mr. Law, Mr. Rose, Mr. Hurley, and the Mover.
- (3.) That the Report from the Select Committee of the Session 1897 be referred to such Committee.
- Debate ensued.  
Question put and passed.
- 

VOTES NO. 47. THURSDAY, 30 NOVEMBER, 1899.

6. CLAIM OF JAMES AND PATRICK GUIHEN, OF KANGAROO VALLEY:—Mr. Alexander Campbell, as Chairman, brought up the Report from, and laid upon the Table the Minutes of Proceedings of the Select Committee for whose consideration and report this subject was referred on 21st November, 1899.  
Referred by Sessional Order to the Printing Committee.
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Report .....	3
Proceedings of the Committee .....	4



1899.  
(THIRD SESSION.)

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CLAIM OF JAMES AND PATRICK GUIHEN, OF KANGAROO VALLEY.

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REPORT.

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THE SELECT COMMITTEE of the Legislative Assembly, appointed on 21st November, 1899, "*to inquire into and report upon the claim of James and Patrick Guihen, of Kangaroo Valley, against the Government, for loss sustained through the action of the Government in disputing their title to certain land at Lower Brogher's Creek, Kangaroo Valley,*" and to whom was referred on the same date "*the Report of the Select Committee of Session 1897,*"—have agreed to the following Report :—

Your Committee, having considered the Report referred, find :—

1. That the land in question is and was the property of James and Patrick Guihen, which conclusion is borne out by the sworn evidence given before the Local Land Board.
2. That the Crown did dispute the title of the Guihens, by informing them that unless they applied to purchase the land under section 66 of the Crown Lands Act it would be brought to auction, and, subsequently, by stating that the Guihens should pay rent for the land.
3. That, by the Crown so disputing the ownership of the land, the Guihens were put to much trouble and loss through want of peaceful possession, and through having to incur legal and other expenses in maintaining their right to the land.

Your Committee consider that the recommendation of the Land Board should be given effect to, and recommend James and Patrick Guihen's case to the favourable consideration of the Government.

ALEX. CAMPBELL,  
Chairman.

No. 1 Committee Room,  
Legislative Assembly,  
30th November, 1899.

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PROCEEDINGS OF THE COMMITTEE.

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*TUESDAY, 28 NOVEMBER, 1899.*

MEMBERS PRESENT:—

Mr. Alexander Campbell, | Mr. E. M. Clark,  
Mr. Thomas Clarke.

Mr. Alexander Campbell called to the Chair.  
Entry from Votes and Proceedings appointing the Committee, and referring the Report from the Select Committee of Session 1897, read by the Clerk.  
Printed copies of the papers referred, before the Committee.  
Committee deliberated.

[Adjourned till Thursday next, at 3 o'clock.]

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*THURSDAY, 30 NOVEMBER, 1899.*

MEMBERS PRESENT:—

Mr. Alexander Campbell in the Chair.  
Mr. Thomas Clarke, | Mr. Hurley,  
Mr. Millard.

Chairman submitted Draft Report.  
Same read and agreed to.  
Chairman to report to the House.

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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## CONDITIONAL PURCHASES AND CONDITIONAL LEASES, EASTERN DIVISION.

(PETITION FROM CERTAIN CONDITIONAL PURCHASERS AND LESSEES IN THE ELECTORATE OF ARGYLE, IN FAVOUR OF A REAPPRAISEMENT OF.)

---

*Received by the Legislative Assembly, 19 July, 1899.*

---

To the Honorable the Speaker and the Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned, representing Conditional Purchasers and Lessees in the Electorate of Argyle,—

HUMBLY SHOWETH:—

That in various parts of the Eastern Division land taken up by conditional purchasers and lessees is of a very inferior quality.

That in all cases the conditional purchasers of such inferior lands have been charged £1 per acre, while the best land in the Colony has been conditionally sold at the said price of £1 per acre.

That many holders of conditional leases of a very poor quality are now paying a rent equal to the price charged for much better land.

That the uniform rate of £1 per acre and the rentals imposed on aforesaid have subjected a large number of settlers to great hardships.

That a reappraisal of conditional purchases and leases where the land is of a poor quality would give great relief.

And your Petitioners, therefore, pray that you will be pleased to take the foregoing resolutions into your favourable consideration at the earliest opportunity.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow 367 signatures.*]

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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

---

## LEASES IN THE CENTRAL DIVISION.

(PETITION FROM CERTAIN SETTLERS, SETTLEMENT LESSEES, AND OTHERS, RESIDENT IN THE LAND DISTRICT OF WALGETT, PRAYING THE HOUSE TO CAUSE SUCH STEPS TO BE TAKEN AS WILL RENDER THESE PASTORAL HOLDINGS AVAILABLE FOR CLOSE SETTLEMENT.)

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*Received by the Legislative Assembly, 14 November, 1899.*

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To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in Parliament assembled.

The humble Petition of the undersigned, Settlers, Settlement Lessees, and others, resident in the Land District of Walgett, in the Central Division,—

SHOWETH:—

1. That the leases of the pastoral holdings in the Central Division having terminated, it is expedient, and but an act of common justice, that the land held under and included in such leases should be immediately thrown open for settlement, in order to meet the great demand now being made for small occupation areas.

2. That the pastoral holdings of Mercadool, Yarraldool, Kercargo, Goangra, and others having been surveyed into blocks or areas suitable for settlement leases, it only requires the sanction of Parliament to ensure the speedy taking up and occupation of such blocks or areas.

3. That the lessees of the above holdings having already received an extension of five years, in addition to the original terms of their leases, all obligations of the Crown have been fulfilled, and the land should be at once offered for selection, so as to meet the requirements of the many in search of land and homes.

4. That the practical experience of a large number of persons who have taken up land as settlement leases and conditional purchases either upon or in the vicinity of these large holdings has proved that, taking the good with the bad seasons, small holdings can be made to pay; therefore the withholding of these lands from settlement will be injurious to and a sad deprivation to a large number of intending settlers.

5. That under settlement lease and compulsory residence during the whole term it is impossible for the Crown tenant, without the sanction of the Minister for Lands, to sell or otherwise dispose of his interest; thus the land remains, and will remain, an asset of the Crown, and be a source of increased revenue to the State.

6. That nearly the whole of the land, with the exception of portions in the Cobar, Hay, and Bogan districts, is most suitable for closer settlement.

7. That many of those now on the land as settlers have sons, brothers, or other relatives who, with a great number of other persons, have been waiting and watching for several years the making of this land available for settlement.

8. That it is thus evident every acre of these areas will be taken up as soon as same becomes available.

Your Petitioners therefore humbly pray you would take the prayers of your Petitioners into the favourable consideration of your Honorable House, and cause such steps to be taken, and such acts to be done, as will satisfy a great number of people, and have the surveyed portions of these pastoral holdings to be speedily made available for close settlement, and meet the wants of a large number of intending settlers.

And your Petitioners will, as in duty bound, ever pray.

[Here follow 149 signatures.]

---





1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**CROWN LANDS ACT.**

(PETITION FROM CERTAIN RESIDENTS OF NARRABRI RESPECTING THE MODE OF TAKING UP CROWN LANDS.)

*Received by the Legislative Assembly, 20 July, 1899.*

The Honorable the Speaker and Honorable Members of the Legislative Assembly, in Parliament assembled.

The humble Petition of the undersigned, your Petitioners,—

RESPECTFULLY SHOWETH:—

The desirability of the law applying to the occupation of vacant Crown lands being administered in strict conformity with the provisions of the Crown Lands Act as embodied in the Principal Act, section 5, for the reasons set forth hereunder:—

- (a) Private contracts with individuals without competition frequently results in loss of revenue to the State.
- (b) Such contracts, while being contrary to law, deprive others of their equal right of becoming applicants for the occupation of such lands.

And your Petitioners respectfully pray that your Honorable House will take such a course as in your wisdom may be deemed necessary to ensure the strict observance of the law in this respect.

And your Petitioners will, as in duty bound, ever pray.

[*Here follow 137 signatures.*]



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

---

**INCLOSED LANDS PROTECTION ACT AMENDMENT BILL.**

(PETITION FROM CERTAIN LAND-OWNERS AND RESIDENTS OF THE ELECTORAL DISTRICT OF SINGLETON, PRAYING THE HOUSE TO PROCEED WITH.)

---

*Received by the Legislative Assembly, 20 July, 1899.*

---

To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales.

The Petition of the undersigned Land-owners and Residents of the Electoral District of Singleton,—

HUMBLY SHOWETH :—

1. That on the 4th day of October, 1898, a Bill to amend the Inclosed Lands Protection Act, 18 Vic. No. 27, by repealing section 6 and substituting other provisions in lieu thereof, was presented to your Honorable House by Mr. Dight, the Member representing the Singleton Electorate, and after being read a first time was ordered to be printed, and read a second time on the 18th October.

2. That the order for the second reading was afterwards postponed until the 29th of November, but owing to the pressure of Government business the second reading was never proceeded with.

We, your Petitioners, humbly pray that your Honorable House will allow the said Bill to be proceeded with during the present Session of Parliament from the stage at which it remained in 1898.

And your Petitioners, as in duty bound, will ever pray.

[*Here follow 28 signatures.*]

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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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# ANNUAL REPORT

OF THE

DEPARTMENT OF MINES AND AGRICULTURE,

NEW SOUTH WALES,

FOR THE YEAR

1898.

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*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

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# ANNUAL REPORT.

To The Honorable Joseph Cook, Esq., M.P., Minister for Mines and Agriculture,  
&c., &c.

Sir,

I do myself the honor to submit the following report upon the working of that division of the Department under your control which deals with mining interests, also the progress of mining and the results obtained during the year 1898.

It affords me great pleasure to bear testimony to the zeal and ability with which the officers as a whole perform their duties. They have at all times cheerfully worked after hours to meet any pressure of business, and I am much indebted for the valuable aid they have given me in carrying out the multifarious duties of my office.

## LEASE BRANCH.

### MINING ON PRIVATE LANDS.

The number of applications for special or owners' leases lodged in terms of section 25 of the Mining on Private Lands Act of 1894, during the year ending 31st December, 1898, was 71, covering an area of 24,224 acres 1 rood 24½ perches.

The number of general leases (other than by the owners of the land) applied for during the same period was 69, covering an area of 589 acres 1 rood 35 acres.

The total number of applications lodged during the year was 140.

The aggregate area applied for was 24,813 acres 3 roods 19½ perches, as under:—

	a.	r.	p.
Gold .....	24,575	1	32½
Silver .....	70	0	0
Gold and silver .....	70	0	0
	24,715	1	32½
Leases for machinery sites, dam sites, races, &c. ....	98	1	27
	24,813	3	19½

During the year 200 applications were finally dealt with, covering an area of 8,164 acres 2 roods 25½ perches.

Of this number, 133 were approved and 67 were refused.

Of the number approved, 55 were for special or owners' leases, and 78 were for ordinary or general leases.

The special lease applications approved covered an area of 2,888 acres 1 rood 22½ perches, as under:—

	a.	r.	p.
For gold .....	2,676	0	8½
„ gold and silver .....	20	0	0
„ silver .....	86	0	0
„ silver and lead .....	100	0	0
Machinery, areas, &c. ....	6	1	14
	2,888	1	22½

The remainder of the number approved, viz., 78, covered an area of 830 acres 3 roods 24½ perches:—

	a.	r.	p.
For gold .....	813	0	24½
Machinery sites, &c. ....	17	3	0
	830	3	24½

Of the balance of the applications dealt with, viz., 67, refused for various reasons, 23 were for special or owners' leases and 44 for general leases.

The 23 special lease applications covered an aggregate area of 726 acres 0 roods 12 perches, as under:—

	a.	r.	p.
Gold .....	234	0	12
Gold and silver .....	50	0	0
Silver.....	40	0	0
Silver and lead .....	360	0	0
Tin.....	40	0	0
Machinery areas, &c. ....	2	0	0
	<u>726</u>	<u>0</u>	<u>12</u>

The 44 applications for general leases refused covered an aggregate area of 478 acres 2 roods 6½ perches, as under:—

	a.	r.	p.
Gold .. ..	356	2	6½
Silver .....	10	0	0
Gold, silver, and lead .....	10	0	0
Tin.....	20	0	0
Machinery sites, &c. ....	82	0	0
	<u>478</u>	<u>2</u>	<u>6½</u>

	a.	r.	p.
In 1897—			
89 special leases were applied for, covering.....	1,863	3	13
109 general leases     "     " .....	1,213	0	9
<u>198</u>	<u>3,076</u>	<u>3</u>	<u>22</u>

	a.	r.	p.
In 1898—			
71 special leases were applied for, covering.....	24,224	1	2¼
69 general leases     "     " .....	589	1	35
<u>140</u>	<u>24,813</u>	<u>3</u>	<u>19¼</u>

During the year 35 agreements or leases made between the owners of private lands and holders of miners' rights were submitted for your concurrence, in terms of the 11th section of the Mining Laws Amendment Act of 1896. In regard to several of such cases your concurrence could not be given, as the land was alluvial, and consequently was exempt from the operation of the section, and in several cases the parties failed to so submit their agreements in form to admit of your concurrence being given; but in 20 of the cases your concurrence was endorsed on the agreements, and registration was subsequently effected in terms of the Act. In the cases where concurrence was not given the parties have, no doubt, taken advantage of one or other of the provisions of the Mining on Private Lands laws, and so secured their rights.

Besides the agreements above referred to, some 70 agreements to mine have been made by owners and holders of miners' rights and mineral licenses, and have been registered in terms of section 33 of the Mining on Private Lands Act of 1894.

The foregoing tables show that the number of applications for all leases lodged during last year was less than during the previous year; but, with respect to applications for leases other than "special" or "owners'" leases, this was expected. It was anticipated that advantage would be largely taken of the privileges conferred on the mining community by the Mining Laws Amendment Act, under which private lands open to the operation of the mining on private lands laws can be prospected at a comparatively small cost, so far as rent, &c., are concerned, and the delay in waiting for a lease, necessarily occupying considerable time, is obviated. Doubtless, in the majority of cases, it is only where the result of prospecting operations under the authorities to enter and prospect appear to warrant the necessary further expenditure that leases are applied for and taken out: consequently the lodging of so many applications for leases, in pursuance of authorities to enter and prospect, may be taken as a fair indication that considerable successful prospecting operations have been carried out on private property.

During the year no less than 491 authorities to enter have been granted by the several Wardens, embracing an aggregate area of 4,478 acres, the minerals to be prospected for being as under:—

Authorities.	Mineral.	Area.
462	Gold .....	3,536
17	Silver and lead .....	507
10	Silver .....	275
2	Silver and tin .....	160
<u>491</u>		<u>4,478</u>

## MINING ON CROWN LANDS.

With regard to the acquisition of Crown lands for mining purposes, the number of applications made during the year ending 31st December, 1898, was 1,022, for an aggregate area of 15,057 acres 3 roods 39 $\frac{3}{20}$  perches. The number of applications dealt with during the same period was 1,191, for an aggregate area of 19,153 acres 2 roods 20 $\frac{1}{2}$  perches.

The following shows the number of applications for leases of Crown Lands, for mining purposes, made and dealt with during the years 1897 and 1898, respectively, compared :—

In 1897—		a.	r.	p.
1,224 applications were made for gold-mining leases, covering .....		9,197	2	21
274       "       "       mineral       "       " .....		13,466	2	18
<u>1,498</u>		<u>22,664</u>	<u>0</u>	<u>39</u>
In 1898—		a.	r.	p.
811 applications were made for gold-mining leases, covering.....		4,737	1	1 $\frac{3}{20}$
211       "       "       mineral       "       " .....		10,320	2	37 $\frac{1}{2}$
<u>1,022</u>		<u>15,057</u>	<u>3</u>	<u>39<math>\frac{3}{20}</math></u>
In 1897—		a.	r.	p.
1,581 applications were dealt with for gold-mining leases, covering .....		12,707	0	3
290       "       "       mineral       "       " .....		12,412	0	0
<u>1,871</u>		<u>25,119</u>	<u>0</u>	<u>3</u>
In 1898—		a.	r.	p.
974 applications were dealt with for gold-mining leases, covering .....		5,849	3	0 $\frac{1}{2}$
217       "       "       mineral       "       " .....		13,303	3	20
<u>1,191</u>		<u>19,153</u>	<u>2</u>	<u>20<math>\frac{1}{2}</math></u>

The following table shows the areas applied for during the year ending 31st December, 1898, and the minerals and metals to be mined :—

Gold.....	a.	r.	p.	Silver, lead, tin, and copper .....	a.	r.	p.
Silver .....	4,737	1	1 $\frac{3}{20}$	Silver, lead, iron, and copper.....	500	0	0
Copper .....	730	0	7 $\frac{1}{2}$	Silver, copper, and manganese ...	100	0	0
Copper and silver .....	1,598	1	0	Limestone .....	80	0	0
Coal .....	755	0	0	Sulphur, iron, and alum .....	20	0	0
Silver, lead, and copper .....	3,390	3	10	Fireclay .....	40	0	0
Tin .....	605	0	0	Antimony .....	40	0	0
Diamonds .....	60	0	0	Infusorial earth.....	160	0	0
Tin and diamonds .....	160	0	0	Tin and wolfram .....	10	0	0
Manganese .....	767	0	26	Wolfram .....	93	2	10
Ironstone.....	80	0	0	Iron .....	40	0	0
Silver and bismuth .....	40	0	0	Chrome .....	20	0	0
Silver, bismuth, and cerium .....	32	1	0	Tin and grit .....	20	0	0
Bismuth .....	40	0	0	Uranium .....	20	0	0
Silver and lead .....	20	0	0				
Silver, lead, and zinc .....	648	0	22	Total.....	15,057	3	39 $\frac{3}{20}$
Silver, lead, lime, and iron .....	18	2	2				
	200	0	0				

The areas held under applications for leases which had not received the approval of the Governor-in-Council on the 31st December, 1898, were :—

Gold .....	a.	r.	p.	Bismuth.....	a.	r.	p.
Silver.....	1,068	3	24	Limestone.....	20	0	0
Copper .....	24	0	0	Antimony .....	40	0	0
Silver and copper .....	302	0	0	Manganese .....	40	0	0
Silver, copper, and lead.....	390	0	0	Tin and grit .....	80	0	0
Silver, copper, and manganese.....	205	0	0	Wolfram .....	20	0	0
Silver and lead.....	40	0	0	Tin and wolfram .....	40	0	0
Silver, copper, lead, and tin.....	168	0	22	Tin and diamonds .....	40	0	0
Silver, copper, lime, and iron .....	200	0	0				
Coal .....	200	0	0	Total.....	2,953	0	6
	35	0	0				

## SPECIAL GOLD LEASES FOR DREDGING, &amp;c.

During the year thirty-seven applications were lodged, covering a total area of 2,283 acres 3 roods 6 perches of river-beds, &c.

Seventeen of these applications have been dealt with, covering an area of 1,185 acres 0 roods 28 perches.

It has for some considerable time been apparent that this class of mining, viz., by dredging, would soon become a most important system for treating the auriferous deposits in the river-beds and alluvial flats of the Colony; but, on account of the large interests involved, both public and private, very considerable difficulty

difficulty has been experienced in deciding as to the advisability of favourably considering these applications. However, since you decided to deal with applications for special leases to dredge the beds of rivers abutted upon by Crown lands only, several applications have been approved by the Governor-in-Council, and promises of leases have issued, and it is understood that several dredges are now almost ready to commence operations. It is to be very much regretted that the law is not sufficiently clear to warrant the Department in so considering applications for such leases where the rivers in which it is desired to dredge run through or past lands alienated from the Crown. Numbers of these applications have been lodged, but are held over until it is made clear whether or not the leases can be properly granted. In the meantime the prospecting of leases of the river-beds passing through Crown lands will give a fair indication as to the payable nature of the auriferous deposits therein.

**MINING ON AND UNDER RESERVED LANDS, ROADS, &C., UNDER AUTHORITIES TO MINE ISSUED IN TERMS OF SECTION 28 OF THE MINING ACT OF 1874.**

The number of applications for permits or authorities to mine, in terms of the above section, during the year 1898, was 143, being 71 less than during 1897.

The number dealt with during the year was 197, of which 85 were granted and 112 were refused, being 27 less than the number of similar applications dealt with in 1897.

The following table shows the area of reserved lands comprised in permits or authorities granted during 1898, and the minerals to be mined:—

	a.	r.	p.		a.	r.	p.
Coal .....	14,152	1	21½	Gold, silver, and copper .....	3	0	0
Shale .....	3,236	0	17	Gold and silver .....	1	0	27
Coal and shale .....	22,302	2	34	Copper, silver, and lead .....	30	1	0
Gold .....	317	2	17	Ironstone.....	2	0	0
Copper.....	92	1	4				
Chrome and cobalt .....	22	0	22	Total.....	40,239	2	22½
Wolfram .....	80	0	0				

This table shows the area of reserved lands, roads, &c., held under authorities to mine, in force on 31st December, 1898, and minerals to be mined:—

	a.	r.	p.		a.	r.	p.
Gold .....	130	1	3½	Tin .. .....	122	2	28
Coal and shale .....	13,815	2	37	Shale .....	8	2	32
Coal .....	19,232	3	31	Wolfram .....	40	0	0
Copper .. .....	143	2	23	Gold and silver .....	1	0	27
Cobalt nickel .....	5	1	14				
Manganese .....				33,500	1	35½	

The areas granted under this section during last year exceed those granted during the previous year by some 11,584 acres 3 roods 13¼ perches, the increase being principally in coal and shale lands.

The area held under permits or authorities on 31st December, 1898, also exceeds that held on 31st December, 1897, the increased area amounting to some 4,640 acres 3 roods 27½ perches, the increased area being coal and shale lands.

**AUTHORITIES TO DIG AND SEARCH, IN TERMS OF THE MINING ACT OF 1889.**

During the year 195 applications were lodged in the different Wardens' offices for authorities to dig and search for gold and other minerals on conditional leases and conditional purchases. Of these, only 11 were granted, being made for authorities to dig and search for minerals other than gold, silver, lead, tin, and antimony. The balance being for authorities to dig and search for one or more of the above minerals were refused, and applicants were advised to make a title to mine, in terms of the Mining on Private Lands laws. The major part of the applications were for authorities to operate on lands held as conditional leases, but before applicants could legally get on these lands the leaseholds had to be brought under the operation of the Mining on Private Lands Acts, by proclamation in the *Government Gazette*. Some 48 of these conditional leaseholds, comprising an aggregate area of 32,625 acres 2 roods, were so proclaimed, and the lands opened to the operations of the prospector. Since the passing of the Mining Laws Amendment Act, in December, 1896, under which power is given to bring these lands under the provisions of the Mining on Private Lands Acts, about 115,000 acres have been made available for prospecting and mining.

The work of investigation of titles to land applied for under the Mining on Private Lands Act and the Mining Laws Amendment Act, although necessarily less than when the Act first came into force, is still heavy, and the officers in charge of this work report a large number of titles investigated and searches made in order that the ownership of the lands applied for may be correctly defined.

TABLE



TABLE of Conditional Leases proclaimed to be subject to the provisions of the Mining on Private Lands Laws.

Conditional Lease Application Number.	C.L. No.	Portion No.	Locality.		Area.	Date of Proclamation in Gazette.
			County.	Parish.		
Tamworth—93-59 .....	25,203	38	Darling .....	Eamur .....	a. r. p. 375 0 0	18 Jan., 1898.
Grenfell—C.P.L. ....	839	.....	Monteagle .....	Bumbaldry .....	414 0 0	18 " "
" " .....	847	.....	Forbes .....	Wallah Wallah..	(ex. road.) 634 0 0	18 " "
Carcoar—C.P.L. ....	4,872	.....	Georgiana.....	Groveland .....	(ex. road.) 521 0 0	21 " "
Yass—88-22 .....	10,847	186	King .....	Bango .....	591 1 0	1 Feb., "
Picton—91-9 .....	19,277	78	Westmoreland ..	The Peaks .....	960 0 0	8 " "
Grenfell—90-23 .....	14,413	36	Forbes .....	Currowong .....	(ex. roads.) 680 0 0	22 " "
Burrowa—90-176 .....	18,750	15,16,17, 19,41,63, 6, & 21.	Monteagle .....	Yundoo.....	890 0 0	25 " "
Yass—91-7 .....	18,782	161	Murray .....	Toual .....	300 0 0	15 Mar., "
" 89-42 .....	14,545	5	" .....	" .....	420 0 0	25 " "
" 88-17 .....	10,846	282	" .....	Bedulluck.....	605 1 0	25 " "
Mudgee—93-8 .....	24,209	95	Wellington .....	Piambong .....	240 0 0	1 April, "
Forbes—89-8 .....	11,081	23	Forbes .....	Currowong .....	690 0 0	5 " "
Barmedman—90—147 .....	15,614	12	Gipps .....	Hiawatha.....	1,920 0 0	3 May, "
Wagga Wagga—88-2 .....	10,879	7	Bourke .....	Clermiston .....	640 0 0	6 " "
Eden—88-14 .....	10,573	215	Auckland.....	Wyndham .....	100 0 0	6 " "
Armidale—91-106 .....	19,819	75	Clarke .....	Rockvale .....	(ex. road.) 300 0 0	6 " "
Barmedman—90-81 .....	15,629	10	Gipps .....	Hiawatha.....	1,920 0 0	7 June, "
" 91-46 .....	16,607	8	" .....	" .....	1,920 0 0	7 " "
Molong—95-12 .....	26,951	163	Ashburnham .....	Manildra .....	589 2 0	14 " "
Queanbeyan—89-35 .....	12,105	56	Murray .....	Ginninderra.....	569 0 0	14 " "
Barmedman—97-7 .....	.....	16 & 17	Gipps .....	Hiawatha.....	(ex. road.) 591 3 0	14 " "
" 90-142 .....	15,611	6	" .....	" .....	1,050 0 0	14 " "
Condobolin—90-53 .....	14,661	12	" .....	Younga Plain ..	639 2 0	14 " "
" 81-89 .....	18,955	17	" .....	Corringle .....	(ex. road.) 984 0 0	21 " "
Cowra—86-28 .....	8,379	137	Bathurst .....	Tintern .....	86 2 0	21 " "
Cooma—90-256 .....	16,524	67	Wallace .....	Numbla .....	420 0 0	28 " "
Queanbeyan—90-88 .....	20,388	105 & 106	Cowley .....	Cuppacumbalong	(ex. road.) 939 0 0	28 " "
Cooma—90-274 .....	16,529	71	Wallace .....	Numbla .....	300 0 0	28 " "
" C.P.L. ....	260	.....	" .....	The Peak .....	120 0 0	28 " "
Condobolin—90-23 .....	20,373	10	Gipps .....	Younga Plain ..	(ex. road.) 1,920 0 0	28 " "
Braidwood—85-5 .....	2,658	73	Murray .....	Mulloon .....	752 0 0	28 " "
Gunning—89-9 .....	12,410	227	King .....	Bunton .....	(ex. roads.) 120 0 0	1 July, "
" 89-78 .....	13,413	244	" .....	" .....	(ex. road.) 128 0 0	1 " "
" 90-22 .....	16,801	93 & 201	" .....	Blakney .....	(ex. road.) 327 0 0	5 " "
Tumbarumba .....	1,770	1,770	Wynyard and Selwyn.	Courabyra and Mate.	(ex. road.) 1,000 0 0	8 " "
Armidale—91-38 .....	18,347	50, 51, & 53.	Clarke .....	Rockvale .....	708 0 0	8 " "
Yass—C.P.L. ....	3,695	.....	Murray.....	Bedulluck .....	1,138 0 0	5 Aug., "
Braidwood—97-15 .....	28,018	184	St. Vincent .....	Bettowynd .....	(ex. road.) 300 0 0	26 " "
Queanbeyan—89-54 .....	12,111	55	Murray.....	Ginninderra.....	240 0 0	26 " "
Hillston—91-12 .....	24,310	16	Dowling .....	Blairgowrie .....	(ex. road.) 1,916 3 0	16 Sept., "
Moruya—92-11 .....	23,647	28	Dampier .....	Wadbilliga .....	300 0 0	7 Oct., "
Queanbeyan—96-8 .....	26,897	113	Murray .....	Bullongong .....	(ex. road.) 300 0 0	7 " "
" 97-2 .....	27,768	22	" .....	Jingera .....	300 0 0	7 " "
" 93-30 .....	24,471	11	" .....	Molonglo .....	254 0 0	7 " "
Cooma—C.P.L. ....	4,295	4,295	Wallace .....	The Peak .....	162 0 0	15 Nov., "
Picton—89-35 .....	14,526	56 & 64	Westmoreland..	The Peaks .....	700 0 0	6 Dec., "
" 89-20 .....	14,422	48	" .....	" .....	720 0 0	16 " "

Village Lands, Town of Forbes.

Allotment.	Section.	Locality.	Area.	Date of proclamation in Gazette.
3	81	Town of Forbes .....	r. p. 1 27	} 1 April, 1898.
1	82	" .....	1 27	
5	82	" .....	1 27	
6	79	" .....	2 0	

During the year 1898 seventeen applications were made by owners of alienated lands for permits to mine for and remove the minerals in the land which under the terms of alienation were reserved to the Crown. This small number may be accounted for by the operation of the Mining on Private Lands Acts, which provide for mining on these lands for gold, silver, lead, tin, and antimony. Of

Of these applications six were granted and permits issued, being to mine for minerals other than those enumerated above.

Under section 23 of the Crown Lands Act of 1895 provision is made for the granting of settlement leases over somewhat extensive areas of Crown lands. The lands embraced by these holdings are exempt from the operation of the Mining Act of 1874, and also from the provisions of the Mining on Private Lands laws, but the Secretary for Lands has made provision in the form of lease to be issued for authorised search for gold and minerals, and on discovery for the resumption of so much of the leasehold as is required for mining purposes. Under this provision any person duly authorised by the Secretary for Mines may enter and search for gold or other mineral on such portion of the settlement lease as may be suitable, but so as not to interfere with any improvements on the land; and in the event of discovery so much of the settlement lease as may be required for mining purposes may be resumed or withdrawn therefrom if the importance of the discovery warrants such a course, when the discoverer will be held to be the first applicant for a claim or lease of the land or part thereof occupied by him for the purpose of searching.

During the year twenty-four such applications have been lodged, and of these fifteen have been approved and nine refused; but it is anticipated that in the future, when it is generally known that these leaseholds can be operated upon in the above manner, a considerable number of these authorities will be applied for. It is not expected that this system of searching will prove more satisfactory than the very similar method employed in connection with conditional leases under the Mining Act of 1889, being somewhat cumbersome and, on account of delay to the prospector, by reason of the necessary action to be taken before he can make a good title to the land likely to cause serious dissatisfaction and trouble, but the method of procedure is the best that can at present be arranged. Endeavours are being made to have the system improved.

Another matter I would invite attention to is the Church and School Lands Act of 1897, which came into force on the 6th December last. Under this Act all Church and School lands become Crown lands under the Mining Act of 1874, and can be so dealt with. This has thrown a considerable area of auriferous and mineral lands open to occupation under the Mining Act of 1874, which previously could only be occupied under the Church and School Lands Mining Acts, and will probably result beneficially so far as mining occupation is concerned. Considerable areas of these lands have been applied for to lease under the Mining Act of 1874.

It is also provided that the lessee under any lease of Church and School lands for mining purposes now in force may apply within a period of six months from the date of this Act to convert his lease into a lease under the provisions of the Mining Act of 1874. In only eleven cases has advantage been taken of this provision, and all the applications have been dealt with.

During the year fourteen applications were made to lease sites for dams, reservoirs, &c, in connection with mining, the area applied for being 183 acres 1 rood 17 perches. Of these, twelve have been dealt with for an area of 166 acres 1 rood 32 perches.

Until recently these sites were applied for as *special leases* under the Crown Lands Act, but advantage is now being taken of the provisions of the Mining Act and the Regulations in terms of which such leases may be granted, and these provisions appear to give general satisfaction.

#### REGISTRAR AND ENQUIRY BRANCH.

The annexed table, giving the area of Crown and private lands held under lease on the 31st December, 1898, and the minerals to be mined for, shows a decrease on the total area under lease at the end of the previous year, the most noticeable difference being in the area held for gold under the Mining Act of 1874. On the 31st December, 1897, over 16,000 acres were under lease, whereas at the end of last year only 11,000 acres were so held. This decrease is accounted for by the fact that a considerable number of leases have been cancelled for non-compliance with the labour conditions and non-payment of rent.

The season has been a particularly dry one, water being badly needed on all the fields, and the tendency during the last twelve months has been in the direction of taking up alluvial leases for dredging purposes. In this way attention has, to some extent, been diverted from quartz-mining.

The area held for coal and shale shows an increase of about 2,000 acres.

It was hoped that during the year considerable improvement would have been made in the diamond industry, but it is to be regretted that up to the present time these hopes have not been realised. The Bingara field is still languishing for want of capital to properly develop the various properties.

During

During the year 1,201 gold leases, representing 8,782 acres 0 rood  $6\frac{2}{5}$  perches, 221 mineral leases, representing 7,834 acres 1 rood  $4\frac{3}{5}$  perches, and 50 mining on private land leases, representing 2,573 acres 1 rood 13 perches, were cancelled, throwing open a total area of 19,189 acres 2 roods  $25\frac{7}{10}$  perches. Total number of leases cancelled, 1,472, as against 567 in 1897.

A considerable amount of business has been transacted during the year in the way of transfers, mortgages, &c., and 1,002 new leases were delivered.

The rents and royalties on existing leases have been promptly paid, and there is every reason to be well satisfied with the manner in which the revenue is coming in.

Within the last few months of the year numerous inquiries were made as to copper lands, and it is highly probable that numbers of properties which have been idle for years will be reworked.

RETURN showing the area of Crown and Private Lands held under Lease at 31st December, 1898, and the Minerals, &c., to be mined for.

Minerals, &c.	Crown Lands Occupation Act, 1861.			Mining Act, 1874.			Mining Act Further Amendment Act, 1884.			Mining on Private Lands Act, 1894.			Total.		
	a.	r.	p.	a.	r.	p.	a.	r.	p.	a.	r.	p.	a.	r.	p.
Alum and alumstone .....				160	0	0							160	0	0
Alum, iron, and sulphur .....				40	0	0							40	0	0
Alunite .....				2	0	0							2	0	0
Antimony .....				146	0	9							146	0	9
Antimony, bismuth, copper, and tin .....				120	0	0							120	0	0
Cinnabar .....				200	0	0							200	0	0
Coal .....	2,324	0	0	2,009	3	36	32,630	2	$6\frac{2}{5}$				36,964	2	$2\frac{2}{5}$
Coal and shale .....				368	2	29	14,372	1	$4\frac{3}{5}$				14,740	3	$33\frac{3}{5}$
Copper .....				2,155	1	4							2,155	1	4
Copper, lead, and tin .....				80	0	0							80	0	0
Diamonds .....				1,799	2	7							1,799	2	7
Diamonds and tin .....				1,303	2	2							1,303	2	2
Emeralds .....				40	0	0							40	0	0
Graphite .....				80	0	0							80	0	0
Infusorial earth .....				10	0	0							10	0	0
Ironstone .....				100	0	0							100	0	0
Lead and limestone .....				20	0	0							20	0	0
Limestone .....				98	2	18							98	2	18
Manganese .....				40	0	0							40	0	0
Marble .....				40	0	0							40	0	0
Opal .....				661	1	$12\frac{1}{2}$							661	1	$12\frac{1}{2}$
Oxide of iron .....				10	0	0							10	0	0
Platinum .....				20	0	0							20	0	0
Silver .....				1,960	1	0				242	2	25	2,202	3	25
Silver and bismuth .....				112	1	0							112	1	0
Silver, bismuth, and cerium .....				80	0	0							80	0	0
Silver and copper .....				405	0	0							405	0	0
Silver, copper, and tin .....				55	0	0							55	0	0
Silver and lead .....				2,528	1	37	40	0	0	80	0	0	2,648	1	37
Silver, lead, antimony, copper, tin, & zinc .....				120	0	0							120	0	0
Silver, lead, and copper .....				4,086	0	$9\frac{1}{2}$							4,086	0	$9\frac{1}{2}$
Silver, lead, copper, and ironstone .....				318	1	7							318	1	7
Silver, lead, copper, and zinc .....				57	3	29							57	3	29
Silver, lead, and ironstone .....				321	2	2							321	2	2
Silver, lead, ironstone, and marble .....				160	0	0							160	0	0
Silver, lead, and limestone .....				531	3	12							531	3	12
Silver, lead, and tin .....				220	0	0							220	0	0
Silver, lead, tin, and diamonds .....				70	0	0							70	0	0
Silver, lead, and zinc .....				213	3	0							213	3	0
Sulphate of alumina and potash .....				10	0	0							10	0	0
Tin .....				505	3	22				700	0	0	1,205	3	22
Tin and precious stones .....				80	0	0							80	0	0
Tin and wolfram .....				13	2	10							13	2	10
Turquoise .....				10	0	0							10	0	0
Gold .....				11,304	1	$29\frac{1}{20}$	79	1	$17\frac{1}{4}$	13,284	1	$39\frac{3}{20}$	24,668	1	$61\frac{1}{4}$
Gold and all minerals .....										8	1	0	8	1	0
Gold and silver .....										1,506	3	34	1,506	3	34
Gold, silver, and lead .....				51	3	8				44	0	34	96	0	2
Gold, silver, lead, tin, and antimony .....										51	0	8	51	0	8
Land leased for purposes of water conservation, machine sites, &c. ....				85	0	15				118	0	1	203	0	16
Total .....	2,324	0	0	32,806	0	$18\frac{1}{20}$	47,122	0	$28\frac{3}{4}$	16,035	2	$21\frac{3}{20}$	98,287	3	$28\frac{3}{4}$

Gold and Mineral Leases delivered from 1st January, 1898, to 31st December, 1898 :—  
1,002.

No. and Area of Mining Leases cancelled during 1898 :—

	No.	Area.		
		a.	r.	p.
Gold leases .....	1,201	8,782	0	$6\frac{2}{5}$
Mineral leases .....	221	7,834	1	$4\frac{3}{5}$
M.P.L. Act leases .....	50	2,573	1	13
Grand Total .....	1,472	19,189	2	$25\frac{7}{10}$

COAL

## COAL MINES REGULATION ACT, 1896.

With the exception of some slight differences with a few of the colliery owners regarding the weighing clauses of this Act, it has been found to work very well. A complete report by the Chief Inspector of Coal Mines on the working of the mines will be found as an appendix.

## THE PROSPECTING BOARD.

The amount voted by Parliament for prospecting purposes during 1898 was £25,000.

The time of the inspecting members of the Board has been fully taken up reporting on the applications received for assistance, which increase in number each year. These applications come to hand from every mining district in the Colony, and the limited number of inspectors at the disposal of the Department for the work of reporting on the sites keeps these officers travelling continually to meet demands.

Following is a list of the principal places visited by the Board during the year:—

## List of localities visited by the Board during the year.

Adaminaby	Bowning	Coolac	Gilgai	King's Plain	Nimitybelle	Tenterfield
Adelong	Bowraville	Coolalie	Gilgunnia	Lewis Ponds	Nine-mile	Tia
Albury	Box Ridge	Coolongolook	Girilambone	Limekilns	Nundle	Tilba Tilba
Alectown	Braidwood	Cooperook	Glanmire	Lismore	Oberon	Tichborne
Apple-tree Flat	Bredbo	Cooma	Glen Elgin	Long Creek	O'Connell	Tingha
Araluen	Brimbramalla	Copeland	Glen Innes	Lucknow	Ophir	Trundle
Armidale	Broken Hill	Corowa	Grenfell	Lyndhurst	Orange	Trunkey Creek
Arable	Brown's Creek	Coramba	Gulgong	Major's Creek	Palmer's Oakey	Tuena
Ballina	Bucca Bucca	Cowra	Gundagai	Marulan	Pambula	Tumut
Barmedman	Bundarra	Cowra Creek	Gundaroo	Michelago	Parkes	Uralla
Barraba	Bungendore	Crookwell	Gunning	Mogo	Peak Hill	Upper Turon
Bateman's Bay	Bungonia	Crudine	Guyong	Molong	Peel	Wagga Wagga
Batlow	Burnt Yards	Cudal	Hanging Rock	Moonan Brook	Rawdon Vale	Wagonga
Bear Hill	Burruga	Cudgegong	Harden	Moruya	Rockley	Walbundrie
Bell's Creek	Burrowa	Dalmorton	Hargraves	Mount Hope	Rylstone	Walcha
Ben Bullen	Byng	Davisville	Hazelgrove	Mount M'Donald	Sebastopol	Wangat
Bermagui	Byrock	Deepwater	Hill End	Mudgee	Scone	Warne
Billy's Look-out	Cadia	Delegate	Hillgrove	Murrumbateman	Sofala	Wattle Flat
Binda	Caloola	Drake	Hillston	Muttama	Stannifer	Wee Jasper
Bingara	Canowindra	Dungog	Home Rule	Narooma	Stockinbingal	Windeyer
Black Range	Capertee	Dungowan	Ilford	Nana Creek	Stuart Town	Wombat
Blayney	Captain's Flat	Eden	Inverell	Narromine	Sunny Corner	Woods Reef
Bobadah	Carcoar	Elsmore	Jembaicumbene	Narrandera	Swamp Oak	Woodstock
Bombala	Cargo	Emmaville	Jindabyne	Nelligen	Tamworth	Wyalong
Bookham	Clear Creek	Essington	Junction Point	Nerriga	Tarago	Wyndham
Boonoo Boonoo	Cobar	Forbes	June	Nerrigundah	Tarana	Yass
Boro	Cobargo	Forest Reef	Kempsey	Newbridge	Tarcutta	Yalgogrin
Bowling-alley	Colinton	Flyer's Creek	Kerr's Creek	Niangala	Temora	Young
Point	Condobolin	Galley Swamp	Kiandra			

It has sometimes been found that miners, after applying for aid, decide to await the result of their application in preference to proceeding with their work, which, upon inspection, proves to be very insignificant.

The Board has determined to strongly discourage this practice, and when such cases are brought under their notice will not hesitate in recommending the refusal of applications from such persons.

The *bona fide* prospector, however, who shows his faith in himself and the ground he is testing, by vigorous work on it, will receive every justifiable assistance.

It is to be regretted that none of our mine-owners have yet made any effort to earn the reward offered by the Department for deep sinking. This Colony is far behind Victoria and Queensland in the matter of deep sinking. Our deepest auriferous workings are but a little over 1,000 feet, while in the other Colonies payable stone is being raised from several shafts over 3,300 feet in depth, and numerous shafts over 2,500 feet.

The reward notice is again published as a reminder.

## AMENDED NOTICE OF REWARD FOR DISCOVERY OF PAYABLE GOLD AT A DEPTH.

NOTICE is hereby given that the following rewards are offered for the discovery of payable gold at deep levels, viz. :—

£2,000 to the person or persons who shall first discover and make known to the Minister for Mines and Agriculture a payable gold deposit at or below 1,500 feet, and £3,000 to the same or other person or persons first discovering and making known to the aforesaid Minister payable gold at or below 2,000 feet.

The depths in each case being measured from the top of the shaft, which may be vertical or inclined.

The deposit in each case shall be deemed payable when 250 tons from it have been broken down, raised, and treated (at approved works) from or below the depths named, under the supervision of officers of this Department, and when the claimant or claimants prove to the satisfaction of the Minister for Mines and Agriculture that such operations have been attended with profitable results.

The right is reserved by the aforesaid Minister to make check-tests of stone to be treated.

The reward to lapse if not claimed within five years after date of this notice.

Among

Among the principal works taken in hand during the year by the Board is the preparatory prospecting operations in the Araluen Valley. A large area of ground has been tested, I regret to say, with very poor results. This work was given up by two different contractors, and had ultimately to be carried out by day-labour under the supervision of an officer of the Department.

Then come the two deep shafts at Corowa, started with a view to work the deep leads which cross the Murray from Victoria. These leads proved very rich in Victorian territory and are extensively worked there.

It is a large undertaking sinking to these leads owing to the heavy water and beds of running sand to be contended against.

The importance of opening up the deep leads of the Colony has received the Board's very careful consideration—with the result that liberal assistance has been recommended to several mining districts.

At Gulgong the Star Lead Co. are being helped in their search for the lost lead which was so successfully worked in the earlier days of the field.

Work is also vigorously proceeding at the Forest Reefs, where a large sum of money has been allotted from the Vote to give the lead there a thorough test.

In the Log Paddock, Mudgee, Higgins and party are also making a plucky attempt to strike the lead supposed to exist in the vicinity.

Substantial offers of assistance have also been made to the miners of Nine-mile, near Deepwater, and to the Kangaroo Flat Tin Mining Company, near Emmaville, to encourage them to proceed with the work of prospecting the deep leads known to exist in these districts, and said to be rich in stream tin.

The Board recognise that undertakings of the nature mentioned are beyond the reach of local syndicates of poor miners, and this is proved by the many abortive attempts already made in this direction. When it is clearly shown that these leads are payable, then their development might safely be left in the hands of private enterprise.

Tenders have been accepted for testing by a series of bores the deep alluvial ground at the Black Range, Albury, and the River Flats at Gundagai. Important results are expected to follow these operations.

The Board has also had a diamond drill in the Sunny Corner District, thoroughly testing it for new deposits, but so far no important discoveries have been made.

The question of testing the important gold-field of Hill End to a greater depth than hitherto attained has been receiving the attention of the Board, but the method of doing so has not been finally decided upon. The Board recommended that the diamond drill be employed, but the miners favour a low-level tunnel. The matter will, however, be further considered.

It is also proposed to put down some bores at Hargraves, to test Mr. Geological-Surveyor Watt's theory as to the occurrence of a saddle-reef formation there somewhat similar to that worked so successfully at Bendigo, Victoria.

No results have so far followed the liberal reward offered by the Government for the discovery of new mineral fields, although it no doubt has had the effect of stimulating the efforts of the prospectors.

The notice is again published in full for general information. : —

#### REWARD FOR THE DISCOVERY OF NEW MINERAL FIELDS.

NOTICE is hereby given that the sums mentioned will be paid as rewards for discovering, on and after this date, new Reefing or Alluvial Gold or Tin Fields, or new Deposits of Silver, Copper, Diamonds, or Precious Opal.

The sum of £500 will be paid to any person or persons who shall first discover a new Reefing or Alluvial Gold or Tin Field, or a new deposit of Silver, Copper, Diamonds, or Precious Opal, provided—

- (1) That the site of the discovery be distant not less than 10 miles from the nearest mine in which similar payable mineral has been or is being obtained.
- (2) That such discovery be made known to the Minister for Mines and Agriculture within what he shall deem to be a reasonable time after such discovery.
- (3) That it be proved to the satisfaction of the Minister that within six (6) months after he has been notified of such discovery not fewer than three hundred (300) miners have been profitably employed in mining upon such field or deposit.

In the event of the Minister being satisfied that at the expiration of twelve (12) months after he has been notified of such discovery not less than five hundred (500) miners have been profitably employed in mining upon such new field or deposit, the discoverer or discoverers shall be entitled to claim a further sum of £500.

The Minister shall be the sole judge as to any matter in dispute in regard to an application for reward.

The Board held 38 meetings as compared with 36 during the previous year. Of that number—

Mr. McLachlan, Chairman, attended	37	Mr. Watt, Geological Surveyor ... ..	15
Mr. Pittman, Government Geologist	20	Mr. Milne, Inspector of Mines ... ..	9
Mr. Slee, Chief Inspector of Mines	24	Mr. Godfrey, „ ... ..	5
Mr. Sullivan, Chief Clerk ... ..	6	Mr. Hooke, „ ... ..	12
Mr. Carne, Geological Surveyor ... ..	8	Mr. D. McCulloch, Secretary to the Board	36
Mr. Jaquet, „ ... ..	9		

The absence of the Geological Surveyors and Inspectors of Mines in the country prevents their regular attendance.

Mr. E. C. Whittell, an officer of the Geological Branch, rendered the Board good service, as in addition to supervising the important prospecting operations in the Araluen Valley, he reported on a large number of applications for aid along the Southern Coast.

The total number of applications for aid received during the year was 1,907, an increase of 90 as compared with 1897.

These were dealt with as under:—

	1897.	1898.
Aid granted in .....	533 cases.	541 cases.
Aid refused in .....	889 „	919 „
Applications abandoned.....	68 „	70 „
Application for public batteries .....	13 „	5 „
For reward for the discovery of new gold-fields .....	9 „	10 „
For free treatment of ore .....	15 „	15 „
Miscellaneous cases.....	249 „	300 „
	<u>1,774</u>	<u>1,860</u>
Applications awaiting inspection at the end of the year ..	43	47
	<u>1,817</u>	<u>1,907</u>

The foregoing figures only give the number of the papers brought before the Board for discussion, the total number of communications received in connection with the administration of the Vote during the year being 5,595, as compared with 5,223 the previous year.

It might be mentioned here in connection with the cases of free treatment of ore, that the Board only recommend that such be done after strict inquiry into the circumstances of the applicant, and when it is clearly shown that he is not in a position to pay the usual charges; the cost of railway freight and treatment a first charge on any product from the ore.

The following are some of the discoveries made with assistance from the Vote:—

Reuben Spicer was granted aid early in the year to sink some alluvial shafts on Goobang Creek, about 7 miles north-east of Parkes. In No. 4 shaft, 38 feet deep, wash 15 inches thick was struck, which carried coarse gold in payable quantities. The discovery caused a rush, and the locality will be well tested.

M. J. Brown and party prospecting on Meryula Run, 3 miles from Mount Boppy, in the Cobar District, received aid to continue their shaft to 150 feet. Before the grant was exhausted the mine promised so well that the party disposed of the property to the Anglo-Australian Exploration Company at a satisfactory figure. The Company propose to fully develop the mine.

Wyburn and Tellefson were granted aid to prospect for cobalt ore at a point 250 yards south of the Anglican Church at Port Macquarie. During the progress of the work rich cobalt ore was struck. The prospects of this mine are considered very encouraging.

Peter Marterstick was granted aid to sink on the Fiery Cross Spur, Nerrigundah. During the operations Mr. Marterstick won over £200 worth of gold from the shaft. The prospector promptly returned to the Department the amount paid as aid.

J. V. Bartlett received aid to test some silver-bearing deposits on his property at The Peaks, Burragorang. He was successful in striking some very rich ore, and indications point to the probability of a silver-field of considerable importance being opened up.

T. Holten and party of Grenfell received aid to test the Eureka Flat for alluvial gold. At 230 feet they struck wash 2 feet thick, which prospected 6 dwt. of gold to the dish. The locality had not hitherto been tried. Work is now proceeding vigorously.



One of the conditions attached to grants made to prospectors is that should payable minerals be discovered by means of the aid granted the amount paid "is to be refunded to the Department."

It is, however, a fact that for the purpose of evading a refund the men endeavour to conceal and fail to report discoveries, consequently the Vote is not credited with all the finds made through its agency.

Fortunately, exceptions are to be found in their ranks, as will be seen in the case of Mr. Marterstick noted above. Another case worthy of special mention is that of Messrs. McLaughlin and West, of Galleymont, near Mandurama; the party were granted aid to the extent of £91 5s. to continue their 50 feet shaft another 100 feet deep. The grant induced them to carry out some work in the shaft, prior to beginning operations under the aid, when they struck payable stone. They immediately notified the Department of the fact, and at the same time withdrew all claim to the aid granted, also stating that the encouragement given them by the grant, was undoubtedly the direct means of the discovery.

#### GEOLOGICAL SURVEY.

The Geological Survey Branch of this Department, under Mr. E. F. Pittman (Government Geologist), has carried out valuable work during this year.

In addition to his other duties, Mr. Pittman was engaged examining and reporting on the following:—

- Coal seams at Hexham.
- Occurrence of tellurium in the Prince of Wales Mine, Gundagai.
- Proposal to prospect by boring for deep auriferous leads at Albury.
- Site for a bore at Hill End, proposed by Mr. Geological-Surveyor Watt.
- Auriferous nature of the Sunny Corner Mine.
- Prospects of obtaining artesian water in the Hay district.
- Water supply for Lockhart.

Mr. Geological-Surveyor Carne contributed reports on:—

- The Bushy Hill gold deposits.
- Auriferous beaches near Seal Rocks.
- Gold leases, Sunny Corner.

Mr. Carne dealt with a large number of applications for aid from the Prospecting Vote, and also a number of papers in connection with the mining reserves. The remainder of his time was taken up examining copper lodes and collecting data for a work he has in hand, dealing with the copper-mining industry and the distribution of copper ores in New South Wales.

Mr. Geological-Surveyor Jaquet, during the early part of the year, prepared his pamphlet on gold-dredging, since issued as No. 3 of the Mineral Resources. Assisted by Mr. L. F. Harper, he has also been engaged in geologically examining and mapping the iron-ore deposits of the Colony, and his memoir on this subject is now in course of preparation. Mr. Jaquet also dealt with a large number of prospecting applications and papers in connection with mining reserves, &c.

Mr. Geological-Surveyor Watt contributed the Mineral Resources No. 4, on the occurrence of bismuth ores in New South Wales, as well as a report on a deposit of specular iron ore at Gobondry, also a report on the Saddle Reefs at Hargraves and Hill End.

During the latter part of the year Mr. Watt was engaged on a geological examination of the Wyalong Gold-field, his report on which has been recently issued as No. 5 of the Mineral Resources.

The Department has lost a zealous and efficient officer through Mr. Watt's resignation early in 1899.

Mr. Card, Curator and Mineralogist, has, in addition to his current work of examining minerals, made good progress in the arrangement of the Museum, and has spared no effort to increase its usefulness. He has also contributed to the Mineral Resources a paper on the "Auriferous and Associated Rocks of the Gold and Tellurium Ores of Kalgoorlie, W.A."

Mr. W. S. Dun, Assistant Palaeontologist and Librarian, has been engaged in identification of fossils, collected by the Geological Staff, and classifying and arranging such in the Museum.

## LIMESTONE CAVES.

Mr. Harry Smith, the successful tenderer for the lease of the New Accommodation House at the Jenolan Caves, entered into possession on the 1st July last. His catering has, up to the present time, given unqualified satisfaction to visitors.

The building is surrounded by tastefully laid out paths and plantations, and presents a very attractive appearance, reflecting much credit on the Government Architect, W. L. Vernon, Esq., under whose supervision the improvements have been effected.

New entrances have been provided to the Lucas and Imperial Caves, which are greatly appreciated by visitors.

A guide-book to the Jenolan Caves, the manuscript and plans for which were prepared by Mr. O. Trickett, Inspector of Caves, is now in the hands of the Government Printer for publication, and it is thought will be highly valued by visitors.

## MINING SURVEYS.

The number of mining surveys made during the year was 844. Of these, 657 were made by surveyors on salary, and 187 by surveyors remunerated principally by fees paid by mining applicants.

At the beginning of the year, four surveyors were employed on the permanent and one on the temporary staff. In May, 1898, it was found that the permanent staff, with casual assistance from licensed surveyors, was sufficient to carry on all surveying operations required. The services of the temporary surveyor were accordingly dispensed with, but more recently he has been re-employed on surveys under the Artesian Wells Act.

At the close of the year only 68 instructions for survey of leases, &c., remained unacted on, in the hands of the surveyors. All of these also related to recent mining applications.

The 844 surveys made comprised the following:—

Gold leases ... ..	524
Mineral leases ... ..	79
Mining tenements ... ..	80
Mining permits ... ..	124
Private lands leases ... ..	112
Special gold-dredging leases ... ..	25

The dredging leases referred to were taken up in the auriferous beds of rivers, and their survey involved an expenditure of time and labour far in excess of any other class of surface measurement hitherto devolving upon the Department.

Four underground surveys of parts of the Hetton, Gunnedah, Wickham and Bullock Island, and Duckenfield Collieries were also made, mainly with the view of determining whether encroachment of coal-workings had occurred upon the land adjoining the colliery properties.

Eight surveys of artesian well schemes were made with a view to action under the Artesian Wells Act of 1897.

## CHARTING, &amp;c.

Mining Leases on Crown Land.—The number of gold and mineral lease applications, relating to Crown land, dealt with in the Charting Branch during the year was 1,144.

Mining Permits.—The number of 27th and 28th section applications dealt with was 217.

Mining Leases on Private Land.—164 applications to lease land under the provisions of the Mining on Private Lands Act were dealt with.

Mining Tenements.—133 plans of measurement under the Mining Board Regulations were examined, charted, &c.

Mining Lease cases undealt with at the close of the year.—At the close of the year there remained under action in the Branch 21 gold and mineral lease applications, no applications under 28th section, and 5 applications for lease of private lands.

Authorities and Agreements, M.P.L. Acts.—During the year 730 applications for authority to enter private land for mining purposes, and 101 agreements relating to mining on alienated land, were investigated and dealt with.

Reserves

Reserves under 26th section, Act of 1874.—167 reserves under 26th section of the Mining Act of 1874 were described, gazetted, and charted.

Mining Districts and Divisions.—In 40 cases alterations were made in the boundaries of mining districts and divisions, the results in all cases being shown upon illustrative maps for the use of local officers.

Notation of Plans.—1,754 notations of transactions relating to leases, &c., were made upon plans during the year.

Plan Drawing.—874 plans of mining surveys were drawn.

Map Records, Private Lands Work.—121 maps of parishes, &c., were prepared, charted up to date, and placed in use for charting leases and authorities under the Mining on Private Lands Acts.

Revisal of Proofs and Draft References of Lands Department Maps.—110 proofs of Lands Department maps, and 49 draft references, were revised with regard to mining surveys before publication by the Department of Lands.

Compilations.—Sixty-four maps of mining localities have been prepared with a view to heliographic reproduction. A few of these are compilations upon tracing linen, the remainder being transparencies for which published lithographs charted to date are used. The latter system has greatly cheapened the production of standard maps for the purposes of this Department.

Standard Maps.—380 standard maps were charted up during the year. The Department now possesses 1,146 of these maps.

Plans of the Delta Collieries, &c.—To facilitate the work of the Chief Inspector of Collieries a plan of the underground workings of the collieries at the Delta in Newcastle was prepared in the Branch. Plans to illustrate the Dudley Colliery accident were also drawn.

Heliography.—5,177 heliographs and ferrotypes of mining maps and plans and illustrations for the Public Watèring Places Branch were printed.

Plan-mounting and Bookbinding.—4,377 plans, maps, &c., were mounted, and 41 books bound by the plan-mounter.

Maps supplied to Wardens and others.—970 charted-up copies of maps were forwarded to Mining Wardens and Registrars, and 113 to Surveyors and others.

The work of keeping local map records up to date for the benefit of the public and officers of the Department has been vigorously carried on during the year, and as the matter is being dealt with under greatly improved methods, it is expected that in a short time the maps of the Mining Registrars throughout the Colony will be brought and kept charted closely up to date. Already the principal mining localities have been dealt with.

Resumptions.—Three cases relating to resumption of parts of the surface of leases required for public purposes were dealt with.

Illustrations for Stock Branch.—271 illustrations, comprising charted-up maps, tracings, &c., were prepared for the use of the officers of the Stock Branch. This work was previously carried out under contract by draftsmen not attached to the Department.

Digest of Mining Laws.—In order to assist the Minister in preparation of new mining laws, one of the officers of the Branch compiled a digest of the Mining Acts and Regulations of the several Australian Colonies.

Miscellaneous Papers.—In addition to lease applications, surveyors' reports, and other unregistered documents, 5,850 papers were received and dealt with during 1898.

Tracings for Surveyors.—787 tracings were made to assist surveyors in the performance of their duty.

Duplicate Diagrams.—407 duplicate diagrams were drawn in cases where leases were renewed after expiration, &c.

Artesian Well Surveys.—Plans of levels of 8 artesian well schemes, surveyed with a view to action under the Artesian Wells Act of 1897, have been examined.

Present State of Work in the Branch.—Owing to the diligence of the officers of the Branch there are absolutely no arrears of current work. The machinery and records may be claimed to be thoroughly efficient.

## THE MINING SCHOOL.

The Mining School at the University of Sydney has been open to the public since 1892, and at present it numbers about sixty students, all of whom are working for their degrees in mining engineering, or for certificates in some branch of that profession. Nearly all the students who have already passed through the school have found suitable employment on mines. Of these, thirteen have taken the Degree of Bachelor of Engineering, in mining, and are in receipt of salaries averaging over £300 a year. One of these, Mr. E. S. Simpson, B.E., holds the position of Assayer and Analyst and Mineralogist to the Geological Survey of West Australia; Mr. A. R. Weigall, B.E., has lately been appointed manager of a mine at the Celebes, at a salary of £1,000 year; Mr. E. W. Nardin, B.E., holds the position of mining manager near Solok, Sumatra, at a salary of £750; and Mr. J. T. Dixon, B.E., is mining manager at a salary of £1,000 a year, also near Solok, Sumatra. Mr. H. Twynam, B.E., was offered a similar position at one of the Netherlands, East Indies, but preferred to retain his position, which is one of considerable responsibility, at the Mount Morgan Mine, Queensland. Mr. N. Reid, B.E., is employed at present as assistant to Mr. T. J. Greenway, at Block 14, Broken Hill. Mr. F. L. Piddington, B.E., is assistant metallurgist to the Smelting Company of Australia, Dapto Works. Mr. T. H. Palmer, B.E., has lately been appointed manager of the Overflow Mine, New South Wales. Amongst others, who have been through a portion only of the course of instruction at the School, Mr. J. A. Watt, M.A., B.Sc., has held the position of Geological Surveyor to the Government of New South Wales; and Mr. T. Blatchford, B.A., is Assistant Geologist on the Geological Survey of West Australia; while Mr. H. B. Gritton has recently been appointed Assistant Assayer to the Royal Mint in Sydney.

Students in the Mining School have the use of the finely equipped laboratories belonging respectively to the Chemistry, Engineering, Physics, and Geological Departments, and attend the instruction given by the following:—Professor Liversidge, F.R.S., M.A., LL.D., Chemistry; and Mr. J. A. Schofield, Assoc. R.S.M., Demonstrator in Chemistry, Metallurgy, and Assaying; Professor Warren, Wh.Sc., M. Inst. C.E., and Mr. H. S. Barraclough, B.E. (Sydney), M.M.E. (Cornell), Assoc. M. Inst. C.E., Engineering; Mr. E. F. Pittman, Assoc. R.S.M., Government Geologist, New South Wales, Mining; G. H. Knibbs, L.S., F.R.A.S., Underground Surveying, &c.; Professor Gurney, M.A., and Mr. E. M. Moors, M.A., F.I.A., Mathematics; Professor Pollock, B.Sc., and Mr. J. H. D. Brearley, B.E., Physics; Professor David, B.A., and Mr. W. G. Woolnough, B.Sc., Geology and Mineralogy.

Mr. James Taylor, B.Sc., Wh.Sc., A.R.S.M., the Government Metallurgist, has lately resigned his lectureship in metallurgy; but the position has been satisfactorily filled by the appointment of Mr. Basil W. Turner, Assoc. R.S. Mines, London, F.C.S.

Arrangements are being made for giving students practical experience in the separation and concentration of ores and the separation of metals by amalgamation and other processes, the necessary plant having been provided at the Mining School, but the building for it not yet having been erected. The number of students in the Mining School has increased to such an extent that the accommodation in the metallurgical laboratory is quite inadequate. The question of enlarging the metallurgical laboratory, and of providing more assay furnaces, is now engaging attention. The need for increased accommodation has become so pressing that if there be a corresponding increase of students next year some will have to be refused admission to the School.

The Government Experimental Metallurgical Works at Clyde are also available for giving the students practical experience in metallurgy.

During part of the vacation the Lecturer in Metallurgy arranges to take students for excursions to works in the Colony where metallurgical operations are being carried on.

The fact should be emphasised that the University of Sydney Mining School is open to the public without any restriction, and it is not necessary for a student desirous of going through a part only of the mining engineering course to pass any kind of entrance examination, or to matriculate. Several students have, for example, studied assaying and chemistry only at the Mining School, and to those who have passed their examinations satisfactorily the University has granted certificates of proficiency in those subjects.

In order, however, to qualify themselves for the full degree of Bachelor of Engineering in Mining, the University requires students to pass an entrance examination and to attend all the prescribed courses of instruction (except in the case of students who can adduce proof of having already passed elsewhere an equivalent or partly equivalent examination, as, for example, students from the Technical College, who have passed in mineralogy, geology, &c. Such students may be excused attendance at such portions of the courses of instruction at the University as those in which they have already passed at the Technical College

College and elsewhere). Although it is possible for students to obtain certificates of having passed in special subjects at the Mining School, there can be no doubt whatever that it is a decided advantage for them to complete the whole course of study necessary for obtaining the Bachelor of Engineering degree.

Any one desirous of joining the Mining School can obtain full particulars on application to the Registrar of the University, Glebe, Sydney. A Summary, however, may be given here of the present curriculum of studies at the Mining School, together with list of fees and nature of entrance examinations, for those who wish to obtain the full degree of B.E. in mining.

Students wishing to qualify for the mining engineering degree can enter the School if they have passed—(1) The Entrance Science Examination; (2) the Senior Public Examination; or (3) if they have attended the lectures in the First Year Arts Course and passed the First Year Examination in Arts; or (4) if they produce evidence of having graduated in Arts or in Science.

As regards (1), See Calendar of University of Sydney for 1898, pp. 56–58, and appendix, pp. CLXXXVII–CXCIV. The subjects are Latin, one of the three languages—Greek, French, or German—and Arithmetic, Algebra, Geometry, and Trigonometry; that is, two languages and four mathematical subjects. It is provided, however (v. Calendar, 1898, p. 32), that “Students of the Technical Branch of the Department of Public Instruction whose certificates of attendance and examination in that branch are accepted by the Senate as an equivalent to a portion of the curriculum prescribed for candidates for the degree of Bachelor of Mining Engineering shall be considered to have passed the Entrance Examination if they satisfy the Examiners in the following subjects, viz.:—In two of the four languages—Latin, Greek, French, German—and in four of the following subjects, viz., Arithmetic, Algebra, Geometry, Trigonometry, Elementary Surveying, and Astronomy, Mechanics, Applied Mechanics.” The Technical College Students can, therefore, under the above conditions, study as subjects for examination two modern languages, such as French or German, instead of either or both the classical languages, Latin and Greek, as well as any four of the other subjects. As regards (2), the languages in any two of which the Students must pass are similar to those specified under (1); and in the mathematical subjects Students may take any four of the following:—Arithmetic, Algebra, Geometry, Trigonometry, Elementary Surveying, and Astronomy, Mechanics, Applied Mechanics. (For further particulars, see *Manual of Public Examinations for 1899*, published by Angus and Robertson, price 1s. 6d.; and *Calendar of the University of Sydney for 1899*, Angus and Robertson, price 1s.)

Any Students who are not graduates (the latter being entitled to enter the School without any preliminary examination) are strongly advised to enter the Mining School by passing either the Entrance Science Examination or the Senior Public Examination in the prescribed subjects.

The next Entrance Science Examination will be held at the University next year on 5th March 1900; and the Senior Public Examination is also held at the University, as well as at numerous local centres in New South Wales and Queensland, and commences on 13th November, 1899.

Three bursaries, each tenable for three years, are offered by the Department of Mines and Agriculture for award after competition at the Senior Examination in the following subjects:—Arithmetic, Algebra, Geometry, and Trigonometry, Latin, and one of the languages, Greek, French, or German. They are of the value of £100 a year for country students, and £50 a year for students residing in Sydney or suburbs.

At last Senior Examinations two candidates, having satisfied all the requirements, and shown a good standard of proficiency, were awarded mining bursaries. They are entering on their course of studies this term.

The fee for the Entrance Science Examination is £2, and that for the Senior Public Examination £1 10s.

By passing either of the above examinations in the prescribed subjects, students shall be able to obtain their B.E. degrees in three years, instead of in four years, as if they simply matriculate they are required to attend the lectures and pass the examinations in the First Year Arts Course before they can be admitted to the Mining School.

The courses of instruction given to Mining Engineering students during the first, second, and third years, are specified on page 33 of the 1898 calendar.

The first year is devoted chiefly to Science, Mathematics, and Drawing; the second year chiefly to Civil Engineering and Surveying, Chemistry, Geology and Mineralogy, and Mechanical Drawing; and the third year to Metallurgy and Assaying, Mining, Civil Engineering, Materials and Structures.

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The aim throughout has been to make the curriculum thoroughly sound as regards both theory and practice, and the fees compare favourably with those charged at similar schools of mining engineering in Great Britain and America, as is shown by the comparative tables appended.

The School has been liberally subsidised by the Department, and the fact may be repeated here that any member of the community may attend any of the classes at the Mining School, on payment of the prescribed fee to the Registrar, and may be admitted to examination in any particular subject, and if successful may be granted a certificate of proficiency in that subject.

The various laboratories in connection with the Mining School are open to the public for inspection all the year round between the hours of 9 a.m. and 5 p.m., except for about a fortnight during January.

The recent great increase in the number of students is the best proof that the public appreciates the importance and usefulness of this Mining School.

APPENDIX (1) showing Details of Fees at Mining School, University of Sydney.

1st Year.	£ s. d.	2nd Year.	£ s. d.	3rd Year.	£ s. d.
Mathematics .....	6 6 0	Chemistry, practical.	15 0 0	Assaying .....	24 0 0
Chemistry, inorganic	6 6 0	Geology .....	6 6 0	Mining .....	4 4 0
Chemistry, practical	8 5 0	Mineralogy, lectures.	2 2 0	Metallurgy .....	4 4 0
Physics, lectures.....	6 6 0	Mineralogy, practical	2 2 0	Drawing .....	1 1 0
Physics, practical ...	3 3 0	Applied mechanics...	4 4 0		
Physiography .....	2 2 0	Surveying .....	3 3 0		
Applied mechanics...	4 4 0	Physics, electrical ...	4 4 0		
Descriptive geometry	3 3 0	Materials & structures	2 2 0		
Mechanical drawing..	2 2 0	Mechanical drawing..	1 1 0		
	£41 17 0		£40 4 0		£33 9 0

The total amount of fees for lectures and practical work for the whole course is thus about £115 10s. There is also a fee of £10 for B.E. degree, and experience has shown that sundry expenses, such as cost of travelling to and from mines, purchase of apparatus, may amount to about £20. This apparatus remains the property of the student, and most of it is saleable at but a slight reduction upon the original cost. Much of the travelling to mines is optional on the part of the students, rather than compulsory.

APPENDIX (2). Comparative Table showing Cost of Mining Engineering Degrees at Typical Teaching Institutions.

At the Royal School of Mines, London, which is supported by the State, the fees amount to about £88 for the subjects corresponding to those of the first two years of the Sydney University School of Mines course, and to £46 for the tuition of the third year—a total of £134. The student, however, at the Royal School of Mines can take up either mining or metallurgy, instead of both; for mining alone the third year fees are £29, and for metallurgy alone £30, or £46 if both are taken. There are also expenses for apparatus, travelling to visit mining districts, &c.

The tuition fees for the degree in Mining at the Massachusetts Institute of Technology is £41 13s. 4d. a year, or £166 13s. 4d. for the four-year course. The cost of chemicals and apparatus, however, is extra, and there are probably examination and tuition fees in addition. The cost of tuition is only partly covered by the fees—the institution loses about 150 dollars, or £31 5s. per annum, by each student.

At the School of Mines, Columbia College, New York, the fees are £41 13s. 4d. per annum, or £166 13s. 4d. for the four-year course. In addition there are graduation fees, the cost of apparatus, materials, summer excursions, &c., making apparently a total of about £240.

SUMMARISED Comparative Table of Cost of Tuition for Mining Engineering Degree.

	£ s. d.	
Sydney University School of Mines .....	*125 0 0	for Mining and Metallurgy.
London Royal School of Mines .....	*134 0 0	" "
Massachusetts Institute, Boston .....	*166 13 4	for either Mining or Metallurgy.
School of Mines, Columbia College, New York ...	240 0 0	" "

\* This does not include cost of apparatus, &c.

THE GOVERNMENT METALLURGICAL WORKS, CLYDE.

During the year one or other portion of the plant has been steadily employed. No additions have been made to the machinery, but it has been found desirable to modify the chlorination process, and with this object in view experiments are now being made with the Black-Skeet permanganate process, and with other processes.

The number of parcels received for treatment in 1898 is 72, an increase of 9 on the previous year; weight received, 236½ tons, an increase of 26½ tons; fees paid for treatment, £338 0s. 10d., less amounts refunded, £3 16s. 6d., leaving net £334 4s. 4d.; weight of gold extracted, 631·85 oz., of the value of £2,405 0s. 11d. The 72 parcels of gold were made up of 56 gold ores, 3 silver ores, 1 platinum concentrates,



concentrates, 9 gold concentrates, and 3 gold precipitate from the cyanide process. Some of the parcels were treated by more than one process, hence the total submitted to the various processes amounts to more than 72;—thus 44 were amalgamated with or without concentration, 2 were concentrated, 1 was sampled only, 28 were chlorinated, 9 cyanided, and 5 were assayed only; whilst the 3 gold precipitates were run into ingots. The gold ores yielded varying amounts from nil up to 206 oz. from a total weight of 60½ lb. of stone, or about 7,626 oz. per ton. Parcels have been forwarded from almost all parts of the Colony, but chiefly from within a radius of 60 miles around Bathurst.

Owing to the impossibility of cleaning up the zinc-boxes after each parcel treated by the cyanide process, the following addition has been made to the regulations:—“Of the gold extracted by cyanidation, as shown by assays, 90 per cent. is paid for at the rate of £4 per oz.”

The charges for the treatment of gold precipitate obtained from zinc-boxes, and forwarded for smelting, have been fixed at 15s. per cwt., with 10s. per parcel in addition.

The charges for the further treatment of tailings produced in the works, by either cyanidation or chlorination, have been considerably reduced. Particulars can be obtained on application to the Department.

Much attention has been given by the Government Metallurgist to the cyanide case, which was submitted to a ten days' hearing before the Examiner of Patents in December, the result of which has not yet been made known.

During the year 60 specifications on metallurgical subjects in connection with the Patents Office have been investigated and reported on.

During September a visit was paid by the Government Metallurgist to Broken Hill, and a report on the zinc question was made, which appears in the Appendix hereto.

The Government Metallurgist also delivered between 50 and 60 lectures on Metallurgy to the students of the Mining School at the University.

#### THE ZINC PROBLEM IN BROKEN HILL.

Sir,

I have the honor to report as follows on this subject:—The sulphide ores of Broken Hill now being raised have the composition represented by the following assays:—

Zinc.	Lead.	Silver.
15 per cent.	29 per cent.	6 oz. per ton.
14 ”	20 ”	5 ”
20 ”	20 ”	20 ”
18 ”	18 ”	13 ”
12 ”	17 ”	9 ”
15 ”	18 ”	12 ”

Four or five years ago it was first shown practically how these ores could be treated with profit by a process of concentration, which is now in general application. The direct smelting of such ores for lead and silver was rendered difficult or impossible by the presence of the zinc. By experiment it was shown that by jigging usually three classes of material could be produced, one class containing more silver, more lead, and less zinc, a second class containing more zinc, less lead, and less silver, and tailings containing less of each of the metals. At the same time experiments were conducted with the smelting in order to ascertain the maximum amount of zinc permissible in the furnace charge; this was found to be about 16 per cent. of the ore. The possibilities of concentration and smelting as applied to these sulphides being thus ascertained, the continued existence of the mines became assured. It is thus evident that most important progress has been made. Up to the present time continuous effort has been made to improve the concentrating appliances both in regard to quantity and quality of output, and 2,000 tons of ore per week is handled in more than one mill without difficulty.

As examples of the concentrates produced, the following assays may be quoted:—

Zinc.	Lead.	Silver.
9 per cent.	66 per cent.	12 oz. per ton.
8 ”	67 ”	10 ”
10 ”	63 ”	32 ”
7 ”	64 ”	32 ”
8 ”	56 ”	25 ”
10 ”	49 ”	28 ”

In the smelting of these concentrates, the zinc is entirely lost. The second class of concentrates, in which the zinc is enriched in comparison with the lead and silver, may be represented by the following assays:—

Zinc.	Lead.	Silver.
22 per cent.	12 per cent.	3 oz. per ton.
20 ”	8 ”	12 ”
20 ”	1 ”	2 ”
17 ”	11 ”	9 ”
20 ”	5 ”	7 ”
25 ”	12 ”	9 ”
24 ”	11 ”	12 ”

This material has been stacked about the various mines with a view to future treatment, so that the quantity now accumulated in the dumps is probably something like 600,000 or 700,000 tons, with a weekly production of probably over 5,000 tons. This product, spoken of as “zincs,” is not rich enough in zinc to pay for export to the zinc smelting centres of Europe, especially as no allowance is made for the other metals present; the lead, in fact, is objectionable in the ordinary process of zinc-distilling.

The tailings produced by concentration have something like the following composition :—

Zinc.	Lead.	Silver.
19	3	6
14	5	5

These are used as "filling" in the mines, and some of the zincs have been so disposed of.

The question of the profitable extraction of the zinc is now attracting much attention, not only in Broken Hill, but in Europe and America. The reduction of zinc to the metallic state is attended by a loss of from 10 to 20 per cent., or even more, of the metal. It is also costly in the matter of fuel, the production of 1 ton of zinc from 20 per cent. ore, requiring as much as 10 tons of coal in Upper Silesia according to Schnabel. The cost of fireclay is a serious item, as the clay must be of the highest quality; I do not know of any colonial clay suitable for the purpose, and as the clay required amounts to about one-fifth in weight of the metal produced, the cost of extraction would be materially affected by the employment of imported clays. The cost of labour is high in comparison with that employed in the production of the common metals, thus for 1 ton zinc per twenty-four hours four to seven or eight men are required.

From these considerations it is evident that the production of metallic zinc at Broken Hill by the ordinary zinc roasting and distillation process is altogether out of the question. Its production on the coast, or in the neighbourhood of cheap fuel, as at Newcastle, is not much more likely from the low grade "zincs."

Electrolytic processes for the production of zinc from its ores or compounds are being evolved almost daily, and notwithstanding the temporary or permanent failure of the Ashcroft process from which so much was expected, real progress has been made elsewhere, and a certain amount of electrolytically produced zinc is being put on the market. Thus, according to Mineral Industries, Vol. vi, p. 668, 800 metric tons was the output of works at Wimmington, near Chester, last year by Hoepfner's process, in which zinc chloride is electrolysed, the chlorine simultaneously produced being utilised for the production of bleaching powder. Also Diffenbach's process, as run at Duisburg, is said to produce 90 tons of zinc per month. Other electrolytic processes have passed the patent stage and may eventually reach the practical stage.

Cheap power is essential to all these electrolytic processes, and this will militate against their extensive application in Broken Hill.

Certain special processes have been devised for the treatment of mixed sulphides and one known as Fry's can be profitably run in districts where in addition to cheap coal and fireclay, the special flux "salt-cake" is also at hand. This process, in operation in Swansea, has successfully treated Broken Hill concentrates in South Wales, but not in New South Wales, as we lack the chemical industry producing the flux required.

Decidedly the most hopeful processes are those in which it is sought to partially treat the zinc-ore for the production of a compound of zinc much richer in that metal than the ore, usually the oxide of zinc being the substance obtained, which can be sold for export, the residue being smelted for argentiferous lead; or the lead may be converted into a volatile compound and be expelled by heat and collected in cooling chambers, whilst the zinciferous residue may be treated for the production of oxide by the Bartlett process. The Carmichel process, now in the experimental stage at the Proprietary Mine, is a type of the former class of processes, whilst the method proposed by Greenway, but not yet applied in its entirety, is a type of the latter class.

These operations would probably entail the transport of the "zincs" to the seaboard. But the further concentration of the "zincs" by a process of magnetic separation is under consideration, and is about to be put into operation near the mines. The outcome of this idea will be awaited with great interest, and if successful will add considerably to prosperity of the Broken Hill District.

Finally, it appears to me that the solution of the zinc problem is being gradually but certainly worked out, and will be reached ere long.

I have much pleasure in acknowledging my obligations to Mr. Greenway, Manager of Block 14; Mr. Edwards, Surface Manager, South Mine; Mr. Eustace, of the British; and Messrs. Carmichel and Pitcairn, of the Proprietary Mine, for much courtesy and information.

I have, &c.,

JAMES TAYLOR,

Government Metallurgist, 21/10/98.

The Under Secretary.

Mr. John C. H. Mingaye, F.C.C., Analyst and Assayer to the Department, reports as follows :—

*Geological Survey Branch.*

The larger portion of work performed in the Chemical Laboratory is in connection with the assays and analyses required by the Geological Survey Branch. The whole of the analytical work for the the Public Watering Places Branch has been performed in the laboratory, and consisted mainly in the analyses of artesian and well waters, with a view of ascertaining their value for human consumption, stock, and irrigation purposes. 4,428 numbered samples were received for analyses and assay; 95 complete, proximate, and qualitative analyses were furnished.

The following assays have been made for various metals :—

Antimony .....	16	Nickel .....	6
Arsenic .....	3	Iron .....	87
Bismuth .....	11	Platinum .....	3
Chrome .....	13	Tin .....	25
Cobalt .....	13	Tellurium .....	11
Copper .....	466	Tungstic acid .....	6
Lead .....	55	Titanic acid .....	39
Manganese .....	33	Zinc .....	12
Magnesia .....	1	Various determinations .....	145
Mercury .....	5		

Gold and silver, 4,394 assays.

Or a total of 5,344 assays.

The following analyses were made of water :—

- (1.) Water from well at Orange Grove, Jerilderie. For stock purposes. Total solid matter (dried at 220° F.) 2,891.0 grains per gallon. Reported as a strong saline purgative water and dangerous for watering stock with.
- (2.) No. 1 sample from Morton Plains' bore, from first supply struck at a depth of about 750 feet.
- (3.) No. 2 Morton Plains' bore, from 2 and 3 supplies of water, struck at a depth of between 1,658 and 1,668 feet. Temp. 120° F.
- (4.) Morton Plains' bore, from drain as the water flows away from bore with Nos. 1, 2, and 3 flows mixed. Temp. 118° F.
- (5.) Artesian water from No. 1 bore, Belalie Station.
- (6.) Artesian water from No. 2 bore, Belalie Station.
- (7.) Well water from Lockhart.
- (8.) Water from white tank at Wyalong.
- (9.) Artesian water from Woromina bore.
- (10.) Water from well at Roschill, near Hillston.
- (11.) Water from Government tank at White Cliffs.
- (12.) Water from Kilifera.
- (13.) Artesian water from Butterbone bore.
- (14.) Artesian water from near Tenandra bore, Warren District.
- (15.) Artesian water from Kenmare bore.
- (16.) Artesian water from Wallen bore.

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The following are a few of the analyses made, which I give, as they are interesting:—

No. 61. Marly Limestone.—Analysis made with a view of ascertaining its hydraulic properties.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.56
Combined Water .....	1.35
Silica (SiO <sub>2</sub> ) .....	22.71
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	5.45
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	.70
Calcium Carbonate (CaCO <sub>3</sub> ) .....	38.41
Magnesium Carbonate (MgCO <sub>3</sub> ) .....	29.43
Magnesia (MgO) .....	.63
Potash (K <sub>2</sub> O) .....	.92
Soda (Na <sub>2</sub> O) .....	.01
Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> ) } .....	traces
Chlorine (Cl) .....	
Organic matter .....	
	100.17

Most authorities consider that for hydraulic purposes the magnesia should not exceed over 2 per cent. If the material is used for harbours and submarine work, should not exceed 1 per cent. of magnesia.

(No. 3395.) Clay shale, parish Towrang.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.67
Combined water .....	2.97
Silica (SiO <sub>2</sub> ) .....	79.54
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	12.53
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1.26
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	.34
Magnesia (MgO) .....	.61
Potash (K <sub>2</sub> O) .....	1.82
Soda (Na <sub>2</sub> O) .....	.50
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	.02
Sulphur trioxide (SO <sub>3</sub> ) .....	.04
	100.30

(No. 3397.) Clay shale, parish Towrang.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.39
Combined water .....	2.49
Silica (SiO <sub>2</sub> ) .....	78.82
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	13.27
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1.53
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	.26
Magnesia (MgO) .....	.50
Potash (K <sub>2</sub> O) .....	2.93
Soda (Na <sub>2</sub> O) .....	.03
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	.06
Sulphur trioxide (SO <sub>3</sub> ) .....	trace
	100.28

(No. 3388.) Earthy calcareous material,  
Kielman's Tank, Bobadah.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.45
Organic matter .....	.73
Calcium carbonate (CaCO <sub>3</sub> ) .....	92.67
Magnesium carbonate (MgCO <sub>3</sub> ) .....	1.05
Silica (SiO <sub>2</sub> ) .....	3.34
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	1.50
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	
Sulphur trioxide (SO <sub>3</sub> ) .....	absent
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	trace
	99.74

(No. 3396.) Kaolin, parish Towrang.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.60
Combined water .....	4.10
Silica (SiO <sub>2</sub> ) .....	75.08
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	15.17
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1.61
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	.35
Magnesia (MgO) .....	.10
Potash (K <sub>2</sub> O) .....	1.32
Soda (Na <sub>2</sub> O) .....	1.20
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	.03
Sulphur trioxide (SO <sub>3</sub> ) .....	.06
	99.62

(No. 2314.) Tachylite, Mather's Paddock, Inverell. (No. 2809.) Igneous conglomerate or agglomerate,  
from 1 mile north-east Tamworth.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.11
Combined water .....	.59
Silica (SiO <sub>2</sub> ) .....	54.76
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	16.49
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	.80
Ferrous oxide (FeO) .....	10.71
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	7.89
Magnesia (MgO) .....	3.57
Potash (K <sub>2</sub> O) .....	2.03
Soda (Na <sub>2</sub> O) .....	2.67
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	.32
	99.94

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	.25
Combined water .....	2.53
Silica (SiO <sub>2</sub> ) .....	52.88
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	21.21
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	2.73
Ferrous oxide (FeO) .....	3.02
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	7.40
Magnesia (MgO) .....	4.93
Potash (K <sub>2</sub> O) .....	1.15
Soda (Na <sub>2</sub> O) .....	3.95
Carbonic acid (CO <sub>2</sub> ) .....	.20
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	.29
	100.54

(No. 3057.) White clay, from Waratah.

<i>Chemical Composition.</i>	
Moisture at 100° C. ....	2.88
Combined water .....	6.86
Silica (SiO <sub>2</sub> ) .....	65.40
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	19.01
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	5.36
Ferrous oxide (FeO) .....	absent
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	.05
Magnesia (MgO) .....	.07
Soda (Na <sub>2</sub> O) .....	.29
Potash (K <sub>2</sub> O) .....	.35
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	absent
Sulphur trioxide (SO <sub>3</sub> ) .....	.13
	100.40

(No. 3061.) White clay, from Cobar.

<i>Chemical Composition.</i>	
Moisture of 100° C. ....	1.75
Combined water .....	4.54
Silica (SiO <sub>2</sub> ) .....	65.82
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	20.74
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1.45
Ferrous oxide (FeO) .....	absent
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	.10
Magnesia (MgO) .....	.97
Potash (K <sub>2</sub> O) .....	4.53
Soda (Na <sub>2</sub> O) .....	.07
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....	trace
Sulphur trioxide (SO <sub>3</sub> ) .....	.19
	100.21

(No. 3097.)

(No. 3097.) White kaolin, Dumbible Creek, Tweed River.

*Chemical Composition.*

Moisture at 100° C. . . . .	·90
Combined water . . . . .	4 64
Silica (SiO <sub>2</sub> ) . . . . .	70 64
Alumina (Al <sub>2</sub> O <sub>3</sub> ) . . . . .	20·14
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) . . . . .	·80
Manganese oxide (MnO) . . . . .	trace
Lime (CaO) . . . . .	·24
Magnesia (MgO) . . . . .	·10
Potash (K <sub>2</sub> O) . . . . .	1 22
Soda (Na <sub>2</sub> O) . . . . .	1 13
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) . . . . .	absent
	99 81

(No. 3062.) Magnesian limestone, from Cobar.

*Chemical Composition.*

Moisture at 100° C. . . . .	·31	
Combined water . . . . .	1 10	
Silica (SiO <sub>2</sub> ) . . . . .	19 08	} Insoluble in acids.
Alumina (Al <sub>2</sub> O <sub>3</sub> ) . . . . .	6·61	
Magnesia (MgO) . . . . .	·62	} Soluble in acids.
Potash (K <sub>2</sub> O) . . . . .	1·02	
Soda (Na <sub>2</sub> O) . . . . .	trace	
Calcium carbonate (CaCO <sub>3</sub> ) . . . . .	39·42	
Magnesium carbonate (MgCO <sub>3</sub> ) . . . . .	30 17	
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) . . . . .	1·49	
Alumina (Al <sub>2</sub> O <sub>3</sub> ) . . . . .	trace	
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) . . . . .	"	
Sulphur trioxide (SO <sub>3</sub> ) . . . . .	absent	
	99 82	

(No. 1027.) Telluride mineral from Western Australia.

*Chemical Composition.*

	I.	II.
Metallic silver . . . . .	40 47	40 55
" gold . . . . .	24 64	24 62
" mercury . . . . .	·29	
Tellurium [by diff.] . . . . .	34 60	
	100 00	

Sp. gr., 9,000.  
This mineral answers to the description of Petzite (Ag,Au)<sub>2</sub>Te.

(No. 2223) Telluride mineral, from Western Australia.

Weight of material, 1,890 grammes.

Mercury (Hg) . . . . .	42 96
Gold (Au) . . . . .	6 72
Silver (Ag) . . . . .	1 04
Iron (Fe) . . . . .	1 29
Tellurium (Te) . . . . .	46 48
Selenium (Se) . . . . .	minute trace
Sulphur (S) . . . . .	·99
Gangue . . . . .	·36
	99 84

(No. 676.) Arsenical cobalt from Broken Hill.

*Chemical Composition.*

	I.	II.
Moisture at 100° C. . . . .	·06	
Metallic iron (Fe) . . . . .	17·44	17 52
" cobalt (Co) . . . . .	7·12	7·30
" nickel (Ni) . . . . .	1 90	1·95
" copper (Cu) . . . . .	·31	
" antimony (Sb) . . . . .	·03	
" arsenic (As) . . . . .	68 94	68 76
Manganese oxide (MnO) . . . . .	trace	
Alumina (Al <sub>2</sub> O <sub>3</sub> ) . . . . .	·50	
Lime (CaO) . . . . .	·53	
Magnesia (MgO) . . . . .	·22	
Sulphur (SO <sub>3</sub> ) . . . . .	2·14	2·18
Carbonic acid (CO <sub>2</sub> ) . . . . .	·22	
Gangue (quartz, &c) . . . . .	·73	·76
	100 14	

Fine silver at the rate of 21 oz. 14 dwt. 10 gr., per ton.  
" " Nil.

(No. 3623.) Drift material, with quartz pebbles, Rockley.

Fine clay washed from drift material dried, and analysis conducted on the air dried clay—Quartz and sand, 68·8 per cent.

*Chemical Composition.*

Moisture at 100° C. . . . .	·66
Combined water . . . . .	7 33
Silica (SiO <sub>2</sub> ) . . . . .	63 00
Alumina (Al <sub>2</sub> O <sub>3</sub> ) . . . . .	25 75
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) . . . . .	1·24
Manganese oxide (MnO) . . . . .	trace
Lime (CaO) . . . . .	·40
Magnesia (MgO) . . . . .	trace
Potash (K <sub>2</sub> O) . . . . .	1 69
Soda (Na <sub>2</sub> O) . . . . .	·14
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) . . . . .	trace
Sulphur trioxide (SO <sub>3</sub> ) . . . . .	·10
	100 26

(No. 2808) Typical sill (?) rock from about 5 chains below where dyke crosses land to the south-west of Cleary's selection, Tamworth.

*Chemical Composition.*

Moisture at 100° C. . . . .	·28
Combined water . . . . .	2 50
Silica (SiO <sub>2</sub> ) . . . . .	56 06
Alumina (Al <sub>2</sub> O <sub>3</sub> ) . . . . .	18·36
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) . . . . .	4 40
Ferrous oxide (FeO) . . . . .	2·68
Manganese oxide (MnO) . . . . .	trace
Lime (CaO) . . . . .	6 06
Magnesia (MgO) . . . . .	4·58
Potash (K <sub>2</sub> O) . . . . .	·66
Soda (Na <sub>2</sub> O) . . . . .	3 71
Carbonic acid (CO <sub>2</sub> ) . . . . .	·24
Sulphur trioxide (SO <sub>3</sub> ) . . . . .	absent
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) . . . . .	·19
	99 72

(No. 532.) Stereo-type metal for the Government Printing Office.

*Chemical Composition.*

Metallic lead . . . . .	62 50
" tin . . . . .	26·78
" antimony . . . . .	10·61
" copper . . . . .	·15
	100 04

Traces of iron and arsenic detected.

## Artesian Waters.

Locality.	Grains per Imperial Gallon.							
	Silica and Silicates.	Calcium Carbonate.	Magnesium Carbonate.	Sodium Carbonate.	Potassium Carbonate.	Sodium Chloride.	Ferric Oxide and Alumina.	Total Solid Matter.
(85.) No. 2 sample, Morton Plains Artesian Bore.	1·764	·650	trace.	34·198	trace.	6·962	trace.	43·574
(86.) No. 3, Morton Plains Bore .....	·700	·299	trace.	35·818	trace.	7·640	·336	44·793
(62.) No. 1 Bore, Belalie Station.....	1·792	·642	trace.	33·992	trace.	6·916	·112	43·454
(62A.) No. 2 Bore, Belalie Station ....	1·932	1·000	·317	29·040	trace.	6·698	·280	39·267
(1,061.) Woromina Bore.....	1·680	1·000	·380	45·560	trace.	7·250	·280	56·150
(3,221.) Butterbone Bore.....	1·428	·899	·210	36·913	trace.	3·468	trace.	42·918
(3,613.) Tenandra Bore .....	1·456	·599	·338	34·861	trace.	3·857	trace.	41·111
(4,091.) Kenmore Bore .....	1·372	1·050	trace.	25·966	trace.	7·235	.....	35·623
(4,092.) Wallon's Bore.....	2·912	·749	·275	58·722	trace.	15·796	·224	78·678

(No. 87.) Water from well, Orange Grove, Jerilderie. If suitable for stock ?

Total solid matter (dried at 220° F.)..... 2,891·0 grains per gallon.  
Total chlorine (combined) ..... 1,173·12 „ „

The total solid matter consists mainly of soda and magnesia, combined with chlorine and sulphuric acid. The sample is a strong saline purgative water, and totally unfit for watering stock with.

(No. 615.) Well water from bore at Lockhart. If suitable for human consumption ?

Total solid matter (dried at 220° F.) ..... 946·456 grains per gallon.  
Free ammonia..... ·021 per 100,000 parts.  
Albuminoid ..... ·106 „ „

The total solid matter consists largely of soda and magnesia, with some lime, &c., combined with chlorine, sulphuric and carbonic acids. The water contained a quantity of fine suspended matter—clay and organic matter—and may be described as totally unfit for human consumption or stock.

(No. 887.) Water from White Tank at Wyalong. If suitable for human consumption ?

Total solid matter (dried at 220° F.)..... 50·064 grains per gallon.  
Insoluble mineral matter..... 39·928 „ „  
Soluble saline matter ..... 10·136 „ „  
..... 50·064 „ „  
Chlorine (equal to sodium chloride) ..... 4·99 „ „  
Free ammonia..... 0·040 parts per 100,000 parts.  
Albuminoid ammonia ..... ·188 „ „ „

The major portion of the insoluble mineral matter consists of fine clay held in suspension in the water. The large amount of free and albuminoid ammonia found shows the water to be seriously contaminated with probably both vegetable and animal organic matter, and it is a dangerous water to use for human consumption, either filtered or unfiltered.

(No. 2577.) Metallic iron, much oxydised ; also a number of small yellow brittle grains or stones. Said to have been found near the Victorian Border (?).

The occurrence of this material being exceedingly interesting, a chemical examination was made of the metallic and non-metallic portions, with a view of ascertaining if the sample was of meteoric origin.

Metallic portion.—This consisted mainly of metallic iron and iron oxide, containing a small percentage of nickel, cobalt, carbon, &c. Platinum was found to be present. The occurrence of this metal being so peculiar in this substance, a second examination of a large quantity of the material was made, which confirmed the previous result. The amount present is estimated as under 2 dwt. per ton. The metallic portion had undergone considerable oxidation, and is thickly coated with rust.

Non-metallic portion.—The non-metallic portion consisted largely of iron oxide (rust) and a number of small yellow brittle stones or grains. A number of these grains were carefully picked out and submitted to a qualitative analysis. The fine powder readily decomposed by boiling hydrochloric acid, with separation of gelatinous silica. The substance is composed of silica, magnesia, and ferrous oxide, and I think there is little doubt belongs to the chrysolite group.

From the composition of the metallic and non-metallic portions of this sample it is evidently of meteoric origin.

The occurrence of platinum is exceedingly interesting, especially so, as I can find no previous record of its having been noted in meteoric iron.

(No. 2058.) Zircon sand from Emmaville.

This sand consisted largely of zircons, titanite iron ore, cassiterite, &c. ; there is also present a very small quantity of the rare earths—cerium, lanthanum, and thorium oxides, being detected ; also a small percentage of phosphoric acid. The sample on assay for tin gave 19·46 per cent. The

The presence of tellurium was detected in two samples of stone furnished by the Government Geologist from the Prince of Wales Mine, Gundagai. Free gold was visible in both pieces of stone, sample No. 3801 containing very fine point and coarse gold. A small amount of bismuth was found present in both these samples. No. 4211. Pieces of mineral picked out of the stone from the same mine was found to be tetradyomite. This mineral has hitherto been found to occur with auriferous stone at Texas Station, near Uralla, and at Oberon; also associated with silver-lead ore at Norongo, Captain's Flat.

A large amount of work was performed in connection with the examination of iron ores and granular magnetites, containing titanium, for Mr. Geological Surveyor Jaquet's report on the Iron Ores of New South Wales.

A number of fireclays were tested as to their refractory properties for the manufacture of fire-bricks, complete analysis in most cases being furnished.

#### *Metallurgical Branch.*

Seven hundred and ninety numbered samples were received for assay, examination, &c. These consisted of average samples of crushed ore, concentrates, tailings, slimes, amalgam, zinc, chlorination residues, &c.

A number of experiments were conducted with a view of ascertaining if certain ores and tailings were amenable to the cyanide method of extraction. The following assays have been made during the year:—

Gold and silver .....	558	Lead .....	2
Platinum .....	6	Tin .....	5
Osmiridium .....	5	Manganese .....	3
Copper .....	3	Sulphur .....	1
Iron .....	1	Sulphuric acid .....	1
Lime .....	4	Moisture .....	5
KCN determinations .....	114	Consumption of KCN .....	18

or 736 various determinations.

Sixty lots of amalgam were retorted and the gold refined, and 45 samples of residues treated and the gold extracted.

Experiments were conducted for the Government Metallurgist on a substance called "Rodda's Salt," a compound which it is proposed by the sender to use in the place of potassium cyanide for the cyanide process of extraction of gold.

On two different occasions I received a subpoena to attend and give evidence before a Commission, *re* Sydney Harbour Collieries (Limited) *v.* Louthier, in connection with the Cremorne bore.

A series of experiments were made with a view of ascertaining the action of an aqueous solution of cyanogen on gold, and a sworn declaration, giving the result of experiments, furnished to the Examiner of Patents.

Acting on your instructions, the works were placed under my supervision during the Government Metallurgist's visit to Broken Hill.

#### INSPECTION OF MINES OTHER THAN COAL AND SHALE MINES.

Mr. Slee, F.G.S., Chief Inspector of Mines, reports 35 fatal and 112 non-fatal accidents in connection with the metalliferous mines of New South Wales during the year.

The number of fatal accidents during 1898 correspond with the numbers for 1896 and 1897, but an increase of 71 non-fatal as compared with 1897.

Of the 35 fatal accidents, 19 occurred in silver, 10 in auriferous quartz, 5 in copper, and 1 in diamond mining.

The percentage of fatal accidents in 1898 is 1.154, as compared with 1.120 in 1897, and non-fatal 3.695, as against 2.465 for the same period.

The number of men employed in and about the metalliferous mines of the Colony during the year was 30,311, as compared with 31,229 in 1897.

Among others, the undermentioned localities were visited and inspected:—

#### *By the Chief Inspector.*

Cooma, Adaminaby, Lob's Hole, Kiandra, Queanbeyan, Gunderoo, Bungendore, Stuart Town, Macquarie River, Cobar, Orange, Sunny Corner, Bull's Creek (near Jenolan Caves), Gundagai, Adelong, and Cootamundra.

The Chief Inspector, while visiting these districts, also dealt with applications for aid from the Prospecting Vote, and numerous other duties in connection with the Department. *By*



*By Inspector Milne.*

In the South.—Braidwood, Bateman's Bay, Bermagui, Captain's Flat, Markdale, Moruya, Nerrigundah, Pambula, Tilba Tilba, Wagonga, and Wolumla.

In the West.—Burruga, Blayney, Bobadah, Carcoar, Cowra, Clear Creek, Cargo, Canowindra, Grenfell, Gilgunnia, Girilambone, Hill End, Hermidale, Honeybugle, Lucknow, Mumbil, Mandurama, Melrose, Mount Hope, Mount McDonald, Newbridge, Nyngan, Ophir, Oberon, Pyramul, Restdown, Sunny Corner, Sofala, Tarana, Tuena, Trunkey, Wattle Flat, and Wellington.

Some of these places were inspected two or three times during the year. The regulations in connection with metalliferous mines were found to be generally complied with.

*By Inspector Hebbard.*

In conjunction with the regular inspection of the mines on the Broken Hill line of lode and the immediate vicinity, Inspector Hebbard also visited, inspected, and dealt with applications for aid, &c., at the following places, viz.:—Thackaringa, Silvertown, Purnamoota, Mount Robe, Yuba, Pinnacles, Nine-mile, Acacia, and Rockwell.

The regulations are generally complied with in the Broken Hill District.

*By Inspector Godfrey.*

In the Northern District.—Armidale Gully, Bolivia, Boonoo Boonoo, Bowling Alley, Boggy Camp, Bundarra, Upper and Lower Bucca, Coramba, Copeland, Crow Mountain, Dalmorton, Drake, Dungog, Eumore, Emmaville, Grafton, Glen Elgin, Hillgrove, Inverell, Kookabookra, Lionsville, Moonanbrook, Melrose, Nundle, Niangala, Rivertree (twice), Rawdon Vale, Swamp Oak, Stewart's Brook, Tingha, Tia, Uralla, Upper Gloucester, Wangat, Whispering Gully, Wingen, Wollomombi.

Southern and South-western Districts.—Adelong, Batlow, Blairgowrie, Billy's Lookout, Coolac, Gundagai, Hiawatha, Micalong, Mount Adrah, Temora, Reefton, Yalgogrin, and Wyalong,—in all of which places the regulations are generally complied with. While inspecting at the localities mentioned Inspector Godfrey also dealt with a large number of applications for aid from the Prospecting Vote.

*By Inspector Hooke.*

Adelong, Albury, Binalong, Bodangora, Burrowa, Byng, Coolac, Cootamundra, Forbes, Gundagai, Girilambone, Grong Grong, Gulgong, Hargraves, Hill End, Hiawatha, Junee, Lucknow, Mudgee, McPhail, Mutnama, Murruinburrah, Nanima, Oberon, Parkes, Peak Hill, Sofala, Tomingly, Temora, Tumberumba, Taralga, Wyalong, Windeyer, Wellington, Wattle Flat, Yalgogrin, and other places. In addition to visiting and inspecting the mines at the various places, Inspector Hooke also inspected and reported on a large number of applications for aid from the Prospecting Vote.

*By Inspector Polkinghorne.*

Cowra, Canowindra, Cargo, Cooma, Blayney, Burruga, Delegate, Frogmoor, Forest Reefs, Grenfell, Galleymont, Lucknow, Mt. McDonald, Peak Hill, Parkes, Pambula, Rockley, Stuart Town, Sunny Corner, Tomingly, Trunkey, Tuena, Wattle Flat, and Yass. While visiting the various places Inspector Polkinghorne also dealt with a considerable number of applications for aid from the Prospecting Vote, and found the regulations generally complied with.

*By Inspector Carthew.*

Armidale, Boonoo Boonoo, Bundarra, Bingara, Barraba, Boggy Camp, Ballala, Copeland, Coramba, Drake, Dungog, Emmaville, Glen Elgin, Hillgrove, Inverell, Kookabookra, Lionsville, Limbri, Moonbi, Melrose, Moonan Brook, Niangala, Nundle, Rockvale, Solferino, Stewart's Brook, Swamp Oak, Tia, Tenterfield, Uralla, Walcha, Wollomombi, and Wilson's Downfall. Inspector Carthew also dealt with a considerable number of applications for aid from the Prospecting Vote, and found the regulations generally complied with.

## DIAMOND DRILLS.

The total depth bored in 1898 was 1,742 feet 4 inches, or 635 feet 8 inches less than during the year 1897.

Diamonds used in 1898 cost 4s. 11½d. per foot, as compared with 4s. 11½d. in 1897.

The average cost per foot for boring during 1898 was 21s. 3½d., as compared with 20s. 2½d. in 1897.

Owing to hard and broken strata the rates per foot for diamonds and boring were higher than they otherwise would have been.

The

The earnings of the diamond drills during the year, exclusive of Funafuti, were £837 13s. 11d., but inclusive, £2,290 5s. 10d.; and the amount paid into the Treasury as revenue from the diamond drills was £376 17s., in addition to the sum of £488 12s. 2d. transferred from the Prospecting Vote to the credit of Revenue Account—Drills, in all, £865 9s. 2d.

### MINERAL PRODUCTS.

The aggregate value of the mineral products of the Colony to the end of 1893 is estimated to be £127,895,852 8s. 10d. The value of such mineral products for the year was £4,866,997 16s. 7d., a net increase of £138,723 2s. 6d. upon the value of the minerals won in 1897, as shown in the comparative table below.

As will be seen from that table, the largest increases are in gold, silver, and coal; and the decreases in silver-lead, limestone flux, copper, tin, and opal. The decreases in these minerals are in no way due to the depletion of our deposits.

The severe drought which affected all parts of the Colony during the year under review very seriously hampered all classes of mining, and it is very satisfactory in view of the difficulties our mining population had to contend against from this cause that our operations compare so favourably with the previous year. With the break up of the drought we may be justified in looking forward to a still further increase in our annual mineral production, and a renewal of prospecting work in country formerly inaccessible owing to a scarcity of water and feed.

A substantial increase to our gold yield is confidently looked forward to from the dredging operations recently started in this Colony. This is quite a new form of mining in New South Wales, which is receiving much attention from investors, and large reaches of our rivers have been taken up for dredging purposes. Operations have been started on the Macquarie River by Mr. C. L. Garland, to whose enterprise in first practically initiating this class of mining in this Colony great credit is due. Several companies have also been formed to work the Turon and other rivers; and the industry here, as in New Zealand, is likely to become of much importance.

The following table shows the aggregate value of minerals, the product of New South Wales, for the years 1897 and 1898 respectively compared:—

Minerals.	1897.		1898.		Increase in Value.	Decrease in Value.
	Quantity.	Value.	Quantity.	Value.		
Alunite.....	724·10 tons	£ 2,172 0 0	2,941·00 tons	£ 8,823 0 0	£ 6,651 0 0	.....
Antimony (metal and ore) .....	169·10 „	3,612 0 0	82·35 „	916 0 0	.....	2,696 0 0
Bismuth .....	3·10 „	800 0 0	29·35 „	4,615 0 0	3,815 0 0	.....
Building Stones (unwrought).....	.....	.....	1,459 No.	842 0 0	842 0 0	.....
Chrome.....	3,379·55 tons	10,269 0 0	2,110·90 tons	6,301 0 0	.....	3,968 0 0
Coal .....	4,383,591·78 „	1,230,041 1 1	4,706,251·00 „	1,271,832 11 0	41,791 9 11	.....
Cobalt .....	.....	.....	116·55 „	560 0 0	560 0 0	.....
Coke .....	64,202·00 tons	45,391 18 0	82,222·00 „	64,134 17 0	18,742 19 0	.....
Copper (ingots, matte, and ore) .....	6,922·40 „	300,680 0 0	5,832·40 „	280,887 0 0	.....	19,793 0 0
Diamonds† .....	9,189 cts.	3,250 0 0	16,493 cts.	6,059 13 6	2,809 13 6	.....
Gold .....	302,817·00 oz. ‡	1,128,164 0 0 †	340,493·00 oz.	1,244,329 15 1	116,165 15 1	.....
Fireclay .....	.....	.....	14·35 tons	32 0 0	32 0 0	.....
Iron* .....	3,239·00 tons	21,862 0 0	5,200 00 „	42,250 0 0	20,388 0 0	.....
Lead (Pig) .....	31·85 „	398 0 0	1,718·00 „	19,282 0 0	18,884 0 0	.....
Limestone Flux .....	67,590·00 „	41,798 0 0	9,253·00 „	5,783 0 0	.....	36,015 0 0
Manganese .....	.....	.....	1 00 „	5 0 0	5 0 0	.....
Noble Opal .....	.....	95,000 0 0 §	.....	80,000 0 0	.....	15,000 0 0
Oxide of Iron ...	230·05 tons	536 0 0	391·95 tons	832 0 0	296 0 0	.....
Platinum .....	1,966·00 oz.	2,949 0 0	1,250·00 oz.	2,062 0 0	.....	887 0 0
Silver† (ingots and matte) ...	150,005·00 „	16,711 0 0	533,059·00 „	59,278 0 0	42,567 0 0	.....
Silver-lead and Ore .....	289,018·50 tons	1,681,528 0 0	398,568·85 tons	1,644,777 0 0	.....	36,751 0 0
Shale.....	34,090·27 „	40,611 15 0	29,689·00 „	31,834 0 0	.....	8,777 15 0
Tin (ingots and ore) .....	1,154·75 „	70,688 0 0	895·05 „	60,600 0 0	.....	10,088 0 0
Zinc Spelter.....	23,841·80 „	23,688 0 0	38,941·30 „	28,941 0 0	5,253 0 0	.....
Sundry Minerals .....	.....	8,125 0 0	60·95 „	2,021 0 0	.....	6,104 0 0
.....	£ 4,728,274 14 1	.....	£ 4,866,997 16 7	.....	278,802 17 6	140,079 15 0
.....	.....	.....	.....	.....	140,079 15 0	.....
.....	.....	.....	.....	Net increase...£	£138,723 2 6	.....

\* Rolled scrap iron. † The bulk of the silver produced is exported in the shape of silver-lead. ‡ Includes adjustment for an omission made in output as estimated and published for 1897. § This includes £20,000 omitted from the output of 1896; there was, therefore, actually an increase in value of 1898 output, although a decrease is here shown. ¶ Owing to the spasmodic manner in which the diamond industry has been prosecuted in the past, and the difficulty in obtaining regular and reliable information in connection therewith, this item has not been shown in reports of previous years.

The



## GOLD.

The following table shows the quantity and value of the gold won from our fields since their opening in 1851.

It was found necessary to adjust this table, as it was discovered that for some years past an appreciable quantity of gold, not previously taken into account as the product of New South Wales, had filtered from our Southern Gold-fields to the Royal Mint, Melbourne.

The Wyalong Field holds the position as premier gold-producer of the Colony, its total yield for the year being 34,582 oz. Lucknow produced 27,536 oz.; Cobar, 22,253 oz.; and Adelong, 18,268 oz.

It is pleasing to be able to say that our output of gold for 1898 is, with the exception of 1895, larger than any year since 1874. As already pointed out under the head of Mineral Products, the yield is likely to be largely augmented from the dredging industry, which, from present indications, is likely to be largely developed. The machinery in use at the mines is also being greatly improved upon, which will permit of many of the lower-grade properties being profitably worked.

TABLE showing the Quantity and Value of Gold won in the Colony of New South Wales from 1851 to 1898.

Year.	Quantity in oz.	Value.	Year.	Quantity in oz.	Value.
		£ s. d.			£ s. d.
1851 ...	144,120	468,336 0 0	1876 ...	167,411	613,190 7 9
1852 ...	818,751	2,660,946 0 0	1877 ...	124,118	471,448 8 1
1853 ...	548,052	1,781,172 0 0	1878 ...	119,710	430,200 5 4
1854 ...	237,910	773,209 0 0	1879 ...	109,649	407,218 13 5
1855 ...	171,367	654,594 0 0	1880 ...	119,322	444,252 10 7
1856 ...	184,600	689,174 0 0	1881 ...	151,512	573,581 11 3
1857 ...	175,949	674,477 0 0	1882 ...	140,469	526,521 12 5
1858 ...	286,798	1,104,174 12 2	1883 ...	123,811	458,530 4 3
1859 ...	329,363	1,259,127 7 10	1884 ...	107,403	396,059 2 8
1860 ...	384,053	1,465,372 19 9	1885 ...	103,736	378,665 0 3
1861 ...	465,685	1,806,171 10 8	1886 ...	101,416	366,294 7 7
1862 ...	640,622	2,467,779 16 1	1887 ...	110,288	394,578 16 3
1863 ...	466,111	1,796,170 4 0	1888 ...	87,541	317,240 15 9
1864 ...	340,267	1,304,926 7 11	1889 ...	119,949	434,784 6 1
1865 ...	320,316	1,231,242 17 7	1890 ...	127,760	460,284 16 2
1866 ...	290,014	1,116,403 14 5	1891 ...	153,533	559,231 2 3
1867 ...	271,886	1,053,578 2 11	1892 ...	158,502	575,298 16 1
1868 ...	255,662	994,665 0 5	1893 ...	179,288	631,285 15 8
1869 ...	251,491	974,148 13 4	1894 ...	324,787	1,156,717 7 7
1870 ...	240,858	931,016 8 6	1895 ...	360,165	1,315,929 5 4
1871 ...	323,609	1,250,484 15 11	1896 ...	296,072	1,073,360 4 7
1872 ...	425,288	1,644,176 19 5	1897 ...	302,817	1,128,163 15 0
1873 ...	362,104	1,396,374 11 4	1898 ...	340,493	1,244,330 0 0
1874 ...	271,166	1,041,614 5 9			
1875 ...	230,882	877,693 18 0		12,366,726	45,794,197 10 4

The following information relating to our gold-fields is compiled from the reports sent in by the Wardens and Mining Registrars. Although they experience some difficulty in obtaining full information in many instances, still the data supplied is fairly complete, taking all the circumstances into account, and when the multifarious nature of the duties carried out by many of the officers is considered.

THE BATHURST MINING DISTRICT.

*Canowindra Division.*

About 70 men are employed gold-mining in this Division. No return was obtained from the Lady Burdett Coutts Gold-mine at Boney's Rocks, as the manager states that the whole of the work done last year was to pull up the old timbers of the main shaft and fit it down plumb with the very best of hardwood sawn timber. Mining for gold was retarded in this Division during the year for want of water. Many of the men stated that they could make fair wages if water was available. Several parties are in receipt of aid from the Prospecting Vote throughout the Division, in some cases with very good prospects of striking something payable. The Blue Jacket Mine is still at work raising crushing stone. A large amount of developmental work has been carried out in this mine during the past twelve months, and the owners seem well satisfied with the prospects ahead.

*Cowra Division.*

Mining operations in this Division have been at a standstill during the past twelve months. Mr. Ashcroft, after testing a considerable quantity of stone from the Broula copper lode, found it of such low grade that he ceased raising stone altogether, and, with the exception of a little prospecting at Woodstock, nothing has been done. The total amount of gold purchased by banks during the past year is 123 oz. 4 dwt. 21 grs. valued at £484 2s. 11d.

*Mount McDonald Division.*

During the year 1898 work in connection with the mines has been carried on continuously, a large number of men (about 230) having been employed. From the Eureka Mine, which belongs to the Olliver's Freehold Mines (Limited), of Hong Kong, there has been raised and crushed 6,388 tons of stone, yielding 2,251 oz. 12 dwt. of gold. In addition to this a considerable amount of developmental work is going on, from which the company expect to reap profit in the future.

The Queen Mines (Limited), of Hong Kong, a new company which recently took over the property of the late New Balmoral Company, are prospecting at a depth of 400 feet, and hope soon to strike the continuation of the Queen and Grant reefs.

The

The Great Eastern and Caledonian Company have been developing their property in various places and raising stone ready for the mill which is being erected on the mine, and which, when completed, will be the most extensive and most complete plant ever erected on this field, consisting of 20 heavy head stampers, 6 Watson and Denny pans, and 4 frue vanners. The manager intends to start crushing towards the end of January, 1899.

In addition to work carried on by these companies, several small parties having been doing profitable work in the neighbourhood, and those most interested are looking forward to a prosperous year.

During a part of the year a number of European and Chinese have been engaged fossicking on the Ambercrombie and Lachlan Rivers with varying success.

The total quantity of gold won during the year on this field is estimated at 2,480 oz.

#### *Carcoar Division.*

Mining for the year 1898 has been almost at a standstill.

The sudden collapse of the Gallymont Gold-fields (Limited) is a matter for universal regret; for apart from the immense loss to the Proprietary, it is an untold loss to the surrounding community, as it was naturally expected the working there would have brought around a considerable population, as well as that the whole locality would have been developed in a manner and to an extent not hitherto attempted; and after the enterprise shown in the undertaking and the great amount of confidence shown in the anticipated result, it is most pitiable to see the hopes of the Proprietary so crushed and such a vast amount of new and valuable machinery erected, possibly, to remain to rust. For, in the minds of many who have mining experience, the opinion prevails that after such a trial as the Gallymont works have had and producing such a disappointing result, no better will hereafter follow.

Lucky Hill Junction, Burnt Yards, after erecting valuable machinery, find that they can get no stone to crush, and are removing their machinery to Tuena.

In fact the only mining that was of any commercial utility was the sending of ironstone from Coombing Blow to Dapto. For a portion of the year about 200 tons a week have been sent by rail—about 5,000 tons—which left a fair margin of profit on the work.

#### *Blayney Division.*

The only established gold-mine in the district is the Compagnie des Mines d'Or (Limited), at Brown's Creek. The mine has not been working for a period of over two years, during which time only three men have been employed to fulfil labour conditions. The value of the plant is £13,000, consisting of crushing and winding machinery. The depth of shaft and description are similar to those furnished last year.

There are several small mining holdings, of which information is not available.

The total amount of gold received at the banks in Blayney was 163 oz. 13 dwt. 18 grs., valued at £557 18s. 6d.

The only mining for copper is carried on at the Great Blayney Copper-mine, half a mile from the town. The number of men at present employed is sixty.

The plant, consisting of winding and smelting machinery, is valued at £6,000.

The amount of ore raised was 400 tons, which was smelted at the mine. The amount of copper obtained was 27 tons, of the value of £1,360.

Two large water-jackets are being erected, and upon completion of the plant it is anticipated that a large number of men will be employed.

There are a few men in the district prospecting for gold and copper.

There are five applicants now receiving Government aid for prospecting in gold and copper.

There are no operations carried on for mining minerals other than those mentioned.

#### *Newbridge Division.*

There were eighty-nine miners' rights issued in Newbridge.

Collins' Star of the West is the only reef working. He put through about 1,100 tons of quartz for 628 oz. of gold, valued at about £2,416. A large portion of this did not return more than 9 dwt. per ton, for the last crushing of 122 tons yielded 168 oz.

Only 36 oz. of alluvial gold can be traced as having been obtained in the Division during the year. The recent dry weather has completely paralysed sluicing in the district.

#### *Trunkey Division.*

During the year 1898 the continued dry weather has had a serious effect on sluicing, and many miners were compelled to abandon their claims for want of water. The drought, however, enabled miners to get into the bed of the Abercrombie River and the Sands Creeks, from which a large amount of alluvial gold was obtained.

There were no extraordinary finds, every one getting sufficient to maintain themselves comfortably, although in other places on the field the fossickers only made "tucker."

The Sounding Rock Gold-mining Company purchased Knowles and Son's sluicing claim. They have erected the necessary appliances for hydraulic sluicing on a large scale.

They have treated about 500 loads for a return, on the average, of 1s. 3d. per load.

Messrs. Jennings and party at Pharoah's Flat on the Abercrombie River have not met with much success during the year, their water-race being the main obstacle. It is cut from the river, a distance of several miles above the claim, and in its course crosses several deep gullies, which almost every time water is available break away. As the wash they wish to treat is 20 feet below the bed of the river, their task is a difficult one. In all, the quantity of gold won from the alluvial was 1,835 oz. 2 dwt. 19 grs., valued at £7,038 18s. 1d.

Mr. Haugh, of Parkes, by a cyanide process, treated upwards of 3,700 tons of tailings, formerly treated by the old Belmore battery for a yield of 334 oz. The plant is now treating a quantity of tailings on McPhillamy's freehold at One Eye, and when these are finished intend removing the plant to a quantity of tailings at Wilson's Reef, also in this neighbourhood.

Wright's Reef, near Wilson's Reef, owned and worked by Messrs. Crees and Francis, is the only quartz reef being worked in the Division. They have crushed 88 tons of stone yielding 66 oz. 5 dwt. 9 grs., valued at £241 0s. 5d.

Their shaft is 110 feet deep. Their reef varies from 9 inches to 15 feet in thickness.

At Mount Gray, Clarth erected elaborate machinery, and after doing little or no work abandoned it and left the district. His lease was cancelled, and eventually the machinery was disposed of and removed.

Messrs. Graham and party have done a little prospecting on the hill above Mount Gray. They sent 10 tons of ore for treatment to Sydney, and the reputation of the mine depends greatly upon the result.

At Pine Ridge, Snape and party took up a considerable area, but have not met with much success. They treated several small parcels—trial crushings—but were disappointed with the result.

The Wilson's Reef battery, owned by Crees and Francis, is the only machinery in the Division, and crushes for the public when required.

The rainfall, extending over eighty-six wet days, amounted to 20.23 inches, which is about 13 inches below the ordinary season's average.

#### *Tuena Division.*

The gold won from 324 tons crushed was 189 oz., valued at £730, and that from alluvial 2,492 oz., valued at about £9,550.

The old Victoria Reef is being worked by Blay and party. They have sunk 250 feet, and have a reef 3 feet wide, their last return was 1 oz. to the ton.

The Washington is worked by Ford and party, and at the 60-foot level have an 8-inch reef showing good gold.

The Iron Clad, at Dog Trap, is being worked by Green & Co. It is in ironstone and quartz, 3 feet wide. This party have sunk 260 feet, and good prospects obtained.

The Root Hog, also at Dog Trap, is worked by Fuge and party; their reef is 8 inches wide, and calculated to yield 4 oz. of gold to the ton.

From

From the Golden Dyke Mine about 80 tons of stone were crushed, yielding in all 250 oz. The scarcity of water has prevented this party from further working the property. About 70 tons of stone have been crushed at Jones' battery, for the public.

In the Tuena Division a great amount of mining is done on freehold estates. The company, known as "The Garnet," hold 20 acres under lease application. At present the property stands in the name of T. Hoare, but has been sold to an English company represented by their own manager, who has lately arrived, and financially looked after by Mr. Hardy, of Sydney. The main shaft is 64 feet deep and a good solid reef is visible, showing stone estimated to return 2 oz. of gold per ton. The company is now erecting pumping, winding, and crushing machinery.

The Advance Claim is also in the same neighbourhood. This is held under an authority. The reef is about 15 inches wide. A shaft has been sunk 110 feet. Crushings have varied from 12 to 24 dwt. per ton.

T. Hoare has a 3-acre lease application, which shows a reef at 10 feet from the grass, about 1 foot thick.

The Jasper is a 5-acre property, which has been tunnelled. A reef is showing at 25 feet; it is probably worth  $\frac{1}{2}$  oz. to the ton.

Peeks' Reef, area 2 acres, which contains a lode of great width, is being worked by two men. This ground was originally worked by the late Mr. Peeks, who occasionally came across bunches of rotten quartz of fabulous richness.

Mr. Opie, who represents the Garnet Claim, holds an authority over 20 acres, and has men tunnelling to cut a reef (which shows on the surface) at a depth of 60 feet.

Mr. Mills, the working manager of the Garnet Co., has an authority over 20 acres. This land was some years ago worked by Cooper and McKenzie, who obtained £1,500 worth of gold out of a few tons of stone. This reef is very patchy.

William Barnett has secured an authority over an acre of ground which contains an ironstone lode of great width, which is said to assay 25 dwt. to the ton.

McIntyre holds a sluicing claim under agreement with the owner, but has no water to sluice with.

Cooper and party also hold a sluicing claim in the same manner, and whenever they have water their claim gives good returns.

Collins and party, on Crown lands near the Police Paddock Reserve, have applied for 3 acres. They are tunnelling into the hill on a reef which shows from 15 to 24 inches thick.

Owen and party have a 4-men's claim on the south end of Collins'.

In the Tuena Creek during the dry weather several parties have dropped across rich patches of gold. If this creek could be worked out of face from its junction with the Abercrombie River upwards for a distance of about 14 miles, and include the old alluvial workings in the banks, it is thought that any company would be rewarded who would carry it out.

Mount Costigan and Cordillera Mines, held by Beetsen for a long time in connection with the Peelwood Mine, have been cancelled for non-work. It is to be hoped someone will work them, if only for the copper they contain.

The rainfall for 1898 was under 20 inches, consequently sluicing was out of the question, the average rainfall for the district being from 33 to 35 inches; but, against this the diggers were able to get into the beds of the Abercrombie River, Tuena and Sands Creeks. It is from these places that the gold obtained has brought the returns up so well up in Trunkey and Tuena.

#### *Rockley Division.*

The year 1898 has been an active one in this Division. Early in the year the Mount David Gold-mining Company (Limited) started crushing, and up to the 31st of December had crushed 5,387 oz. of gold, valued at £21,592. This was all done with a 10-head battery. Their new 20-head battery is now completed, and it is anticipated that when the new battery of thirty stampers are at work that there will be a great increase in their yield of gold during the ensuing year.

During 1898 there were 298 miners' rights, 91 business licenses, and 2 mineral licenses sold in Rockley. There were also 11 gold leases, 9 mineral leases, and 9 gold leases on private lands applied for here—making up 481 acres in all. The total revenue from mines during the year was £300 10s. 3d.

Mr. Tapson, of Sydney, who has subleased M'Intosh's Gold Lease of 24 acres on private lands in the parish of Mount Lawson, on the Gilmandyke Creek, has crushed 530 oz. during the year.

The continued dry weather very much retards alluvial mining in this district; some of the old workings at Caloola Creek, Back Creek, and Stony Creek are almost deserted.

At Hope's Creek, on the old Native Dog workings, in November last a miner named Wm. Gibbons found a nugget weighing 4 oz. 18 dwt.

During the year Jameison and party took up 280 acres for copper at the Sugarloaf, on the Church and School Estate, and have sunk three shafts on same, and are well satisfied with their prospects. The Old Cow Flat Copper-mines have changed hands, and mining operations are about to start once more.

On the whole, the mining prospects are looking up, and it is believed that 1899 will show a steady increase on the 1898 returns.

#### *Burrage Division.*

Mining in this Division is confined almost exclusively to copper, particulars of which will be found under its proper heading.

At Isabella River, the Isabella River Gold-mining Syndicate has been working their 15-acre lease during the whole year, but their prospects have gradually got poorer, and the water became so strong that they have now ceased work pending different arrangements. Sixty-six tons of stone taken from this mine for the year yielded 30 oz. of gold treated at their own battery on the ground.

M'Vicar brothers are working a very promising reef about half a mile north of the Isabella Company. They are down about 50 feet, and have a reef averaging 2 feet, which prospects about 5 dwt. per ton. This is the only quartz mining that has been carried on in this Division last year.

In alluvial there are about fifty men employed fossicking, but the results have not been more than a living.

At Mount Werong, Mum and party have taken out about £300 worth of gold from their sluicing claim for the year. The dry season has been a great drawback to mining, as there has not been enough water for sluicing purposes.

#### *Oberon Division.*

There have been about 200 men employed mining during the year, the total quantity of gold won being 447 oz. 14 dwt., valued at £1,834 6s., as against 361 oz. in the year 1897.

The work carried on has been principally fossicking for alluvial gold and of a prospecting nature. At the Black Bullock Mountain Mine, at a depth of 70 feet, some very good stone has been struck, and the syndicate has every confidence in their prospects.

Clarke and party, at Slippery Creek, Hazelgrove, have expended a considerable amount of capital. The amount of stone at grass is 26 tons.

The promoters have every confidence in the stability of their mine.

Mining by Errington and party, who are driving for copper at Bull's Creek, Jenolan Caves, has been vigorously pursued during the year, and with fair success.

Bouchier and Sons, of Tuglow, have also been mining for copper, and the prospects of their mine are on the whole promising. Ore raised in quantity during the year was 34 tons, and its value being £264. They are satisfied that success will ultimately repay them for their labour.

The drought had also a serious effect on the working of the alluvial claims.

On the whole, the mining prospects of the Oberon Division are good.

#### *Bathurst Division.*

There appears to be, with the exception of that done by Sinclair and party, no mining of an important character carried on in this Division. Sinclair and party's reef is situated at Clear Creek. From 25 tons raised the quantity of gold won was 50 oz.



*Wattle Flat Division*

Owing to the exceptionally dry weather, mining in this district shows a decided falling off for the year just ended. At the Great Victoria Gold Mining Company, the "Solitary" shaft is now 500 feet, the deepest level being at 480 feet. The lode is from 14 inches to 2 feet 6 inches, with south easterly underlay, bearing being about south west and north east. Several trial crushings have been put through from different parts of the mine at Brailey's battery. At McCudden's Daisy Bell Mine, Wheatfield's deepest level is 120 feet, vein being 12 inches. Strike north and south, 123 tons of stone was crushed from the mine for a yield of 145 oz of gold, valued at £580. At Fred Williams' mine, at Casey's Hill, the lode is from 1 to 5 feet wide, with underlay south west. Bearing or strike north easterly, 200 tons of stone crushed yielded 103 oz, valued at £383 13s 6d. Prospecting work has been carried on at other mines in the Division, but results are not to hand. Nine hundred and ninety eight tons of stone put through at local batteries yielded 496 oz gold, valued at £1,834 18s 4d. Alluvial mining has been greatly retarded owing to the scarcity of water, the majority of puddling mills being idle several months during the year. The average earnings of the men were small.

*Sunny Corner Division*

It has been found difficult to obtain anything like a proper and correct return of the gold won in this Division owing to the many fossickers disposing of their gold in so many markets. A great number of those miners are migratory, who dispose of just enough of the precious metal to provide them with the necessaries of life. The numberless pedlers, such as Syrians and Asiatics, &c, all purchase gold, and miners also sell where most convenient to them, either within or outside the Division.

During the latter part of the year mining matters in the Division were brisk, though want of rain is in a great measure retarding progress. The work done on the Paddy Lackey during the year has principally been that of development. On the Paddy Lackey Deep Level, an adjoining property, the water has been troublesome. Strange, that while the former mine is perfectly dry at 500 feet from the surface, the latter is flooded out at 326 feet from the surface. Powerful pumping machinery is now being erected to cope with the inflow of water. A new public battery is in course of erection on Bob's Creek, which should prove a boon to the public who have hitherto had their stone treated at Mitchell's Creek by Messrs Lean and Murray.

A reef giving splendid results, 11/4 to 4 1/2 oz per ton when crushed, has been found by Anderson and Odgers on Little Hill.

*Orange Division*

It is pleasing to be able to report that the gold returns from this Division have largely increased as compared with the previous year. For the sake of comparison, the returns for the past four years are given—

1895	83,342
1896	29,446
1897	12,524
1898	27,536

The principal mine in this Division is at Lucknow, which is owned by The Wentworth Gold Fields Proprietary Company, Limited, the next in importance being that owned by The Aladdin's Lamp Gold Mining Company, also at Lucknow. The former mine raised and treated 10,870 tons for 17,600 oz, and the latter 4,866 tons for 7,344 oz, during the past year. Particulars of the operations of these mines for the past three years may prove interesting.

Details	Wentworth Mine			Aladdin's Lamp Mine		
	1896	1897	1898	1896	1897	1898
Men employed	385	400	291	120	150	67
Tons raised	2,368	6,225	10,870	3,052	3,027	4,866
Yield in ounces	12,048	5,281	17,600	16,718	6,064	7,344
Value	£42,564	£18,752	£61,600	£58,195	£20,710	£22,032

The increased tonnage with decreased labour during the past year is most striking.

Mr Lock, the general manager of these mines, has kindly furnished some further particulars regarding them, and as these mines have yielded, during the past year, some £83,000 worth of gold, it will be interesting to know something of their peculiarities. The increase in the results this year prove that the ore bodies are increasing at the greater depth. In reference to the difference as shown in the increase of ore raised by less men in 1898 to that raised in 1897, is accounted for by the fact that a large quantity of dead work was done in 1897, which has led to the increase of the returns for 1898. Further prospects in the larger mine are still excellent. The Homeward Bound Company and the Hon A T Kerr are likely, in the future, to prove the direction of this rich joint. At present it is merely a subject of speculation, as Mr Kerr has a similar joint, but it runs at right angles to the Lucknow joint. Mr Lock says—

"All the workings along the outcrop of the 'joint' are on the property of the Wentworth Gold field Proprietary Company, Limited, and its subsidiary, the Aladdin's Lamp Gold Mining Company, Limited, and it is to them more particularly that my remarks will apply.

"Difficulties in the way of studying the salient features of the field are interposed by a flow of basalt (probably post tertiary, and derived from the neighbouring—distant about 7 miles north west—volcanic cones known as the Canoblas) which has covered the surface over a very wide area, and had it not been for local erosion of recent age, notably where a little water course called Parker's Creek crosses the line or 'joint,' just south of the Greek's shaft, the buried mineral wealth would have been hard to discover. It was from this tiny creek bed that the first alluvial gold was panned in the early sixties.

"Concerning the 'joint' already several times alluded to, the dotted line on the sketch, following almost a north westerly and south easterly course, and connecting various shafts, indicates a zone of contact between two classes of rock which form the 'country' beneath the basalt. This 'contact' line has frequently been called 'the Lucknow lode'—a highly convenient misnomer, which has been abundantly utilised by promoters of mining schemes for many miles around in utter disregard of obvious geological facts. Admitted that this 'contact' line or 'joint' is of primary significance in relation to the auriferous deposits, it is certainly neither a 'lode,' nor, as Mr Wilkinson opined, is it a 'fissure.' It would seem to be simply a line of metamorphic action. To the south west of this line the 'country' is an igneous rock, called 'diorite' by the local miners, 'augite andesite' by Mr Pittman, the Government Geologist, 'pyroxene andesite' by Herr Schmeisser, and in part 'hornblende felsite' by Mr Wilkinson. There appears to be no true diorite present, but the changes in the rock mass are so frequent and numerous that it is next to impossible to give it any final and exclusive name. To the north east of the dividing line the rock is serpentine, but while in many places the demarcation between the two is most pronounced, in many others it is a matter of the very greatest difficulty to determine where the one begins and the other ends, and long stretches of rock are encountered possessing none of the essential features of either. Though the general 'strike' of this 'joint' is about north west and south east, there are sundry turns and breaks in its longitudinal course, the greatest yet encountered being about 400 feet. Regarded transversely, the 'dip' of the 'joint' varies from the vertical to the horizontal, and the mean angle is somewhere about 60 deg. Farther to the north east again 'diorite' reasserts itself, to be in its turn once more followed by serpentine. These other 'joints' have a more westerly course than the main one, and effect a junction with it at several hundred feet to the north west of the Jackass shaft. The main 'joint,' from which so much gold has been and is still being won, has been worked on uninterruptedly for a length of 4,000 feet, and there are many indications that its full extent, whether to the north west or to the south east, has not yet been determined. Moreover, considerable work—in all some 1,257 feet of sinking and driving—has been done by the Hon A T Kerr on his Wellwood Estate, at a distance of about a mile north west from the nearest Lucknow level, disclosing a 'joint' precisely similar, only that it runs north east and south west, or at right angles to the true Lucknow 'joint.' The discovery of other 'joints' is triumphantly proclaimed now and again by the prospectors who are hunting for

for them outside of the boundaries of the Wentworth Estate; but it has been repeatedly proved that other conditions besides a 'joint,' however well marked it may be, are also required to make it a gold mine even of the most moderate dimensions. This fact is brought home very forcibly by the knowledge that out of a total of 28,000 feet, or about 5 miles of drives on the 'joint' in the Wentworth and Aladdin mines, only about 1,400 feet carry any ore at all; so that there are 20 feet of absolutely barren 'joint' for every 1 foot that is productive—a truly phenomenal state of things.

"Without trespassing too much on the domain of the geologist, it may be permissible to hazard a conjecture that the primary source of the gold in the Lucknow Mines is to be sought in the quartz veins that occur in the vicinity of the 'joint': certainly no reef gold has ever been found at any great distance from one or the other of them. These veins live in the 'diorite,' but invariably cease abruptly where they encounter the 'joint,' the silicious matter (quartz) being there almost wholly replaced by coarsely crystalline calcite (carbonate of lime), carrying more or less free gold, auriferous mispickel, all the common sulphides (generally non-auriferous,) and in many instances metallic antimony and stibnite. The quartz veins themselves, however, away from the joint, though auriferous are not payable so, and the enrichments occur only where calcite predominates and at or near the point of contact with this joint. The payable formation consists, therefore, not of a 'lode' or 'reef,' nor indeed of any reasonably continuous body of stone, but of an erratic series of 'pipes' or shoots representing the fug ends of quartz veins, which abut against the joint, for the most part at an angle of about 55°, as shown on the sketch plan. Sometimes, it is true, the ore body will extend for a limited distance along the joint, but in no case does it cross and enter the serpentine, though in an instance or two small bunches of ore have been found on the serpentine side of the joint. What the exact agency was which effected this change in the quartz reefs cannot positively be stated, but that a leaching and re-disposition have taken place seems obvious. Moreover, appearances would indicate that the serpentine is an alteration-product of the 'diorite,' seeing that every gradation from the one to the other can be found, and in the serpentine are encountered disconnected masses of rock having an unchanged 'diorite' core and a truly serpentinous exterior, showing that for some reason the metamorphic action ceased before its work was completed. Apparently the thermo-chemical waters which accompanied and followed the disturbance which created the original rift in the 'diorite' mass, changing it within a certain zone into serpentine, were also the leaching agents. Mr. C. S. Wilkinson gave it as his opinion that 'the vein fissures have chiefly derived their metalliferous contents by infiltration from the serpentine formation'; but the knowledge to be gained from the very limited workings of his day may easily have misled even so skilled an observer.

"As if the uncertainties of mining in such a formation were not sufficient, each pipe or shoot is also extremely capricious in size and in productiveness. Sometimes for a depth of a 100 feet and more a pipe will practically disappear, nothing but the truest line of calcite indicating the course it has followed, and there is absolutely no reliable guide by which to forecast the future. Frequently the ore-body is split up and parted by masses of secondary minerals, such as dolomite and other vein matter quite barren of gold but inseparable in breaking down the ore. On the other hand, the ore itself is phenomenally rich, the clean mispickel assaying as high as 1,500 oz. of fine gold to the ton; and out of the hundreds of tons of hand-picked ore shipped to London none has ever contained much less than 50 oz., while many parcels have averaged over 500 oz. to the ton. Thus is the redeeming feature which makes it possible to work the mines profitably. A peculiarity of the mispickel found here, disdistinguishing it from the product of every other known mine so far as observation has gone, is the striking arrangement of the crystals, forming star-like masses varying in diameter from half an inch upwards, locally known as 'Prince of Wales feathers.' A less noticeable but never absent peculiarity is the occurrence of antimony in alloy with the gold. Thus both the ore and the gold from this mine can be identified with certainty—a very useful factor in detecting thefts.

"In the mine workings the most notable features are the hardness and good standing qualities of the ground, except the serpentine, which is very heavy in places; and the coolness, dryness, and airiness of even the longest ends and deepest winzes. The equipment of the mine may be classed as superlatively good, probably superior to anything else in Australasia; and the total absence of even small accidents where 500 to 600 men are constantly employed speaks for itself. Compressed air-drills are much used, and these help to perfect the ventilation. Nothing but Nobel's best explosives are admitted, and in all sinking work firing is done by battery. Electric lighting is adopted at every platt in each shaft, and wherever a winch, fan, or pump is installed. A unique system of electric signalling (the message being repeated both from and to the engine-room, and recorded at each level, rendering mistakes and accidents well nigh impossible) replaces the old-fashioned knocker and line, which remain, however, as a stand-by in case of injury to the electric cable. Telephonic communication is carried right through the mine, and into the office, and the mine manager's bed-room. Safety-catches are everywhere, and the Phoenix underlie shaft is furnished with a special cage for conveying men up and down, affording sitting room for a dozen at a time. The diamond drill is much used for prospecting; but with ore-bodies of such limited extent and uncertain course it does not prove very satisfactory. Lockers are securely built in the mine for receiving the rich ore as fast as it is shot down, and there special members of the staff supervise the operations of picking and bagging it ready for transmission to the surface, each bag being separately numbered, weighed, and checked at every stage.

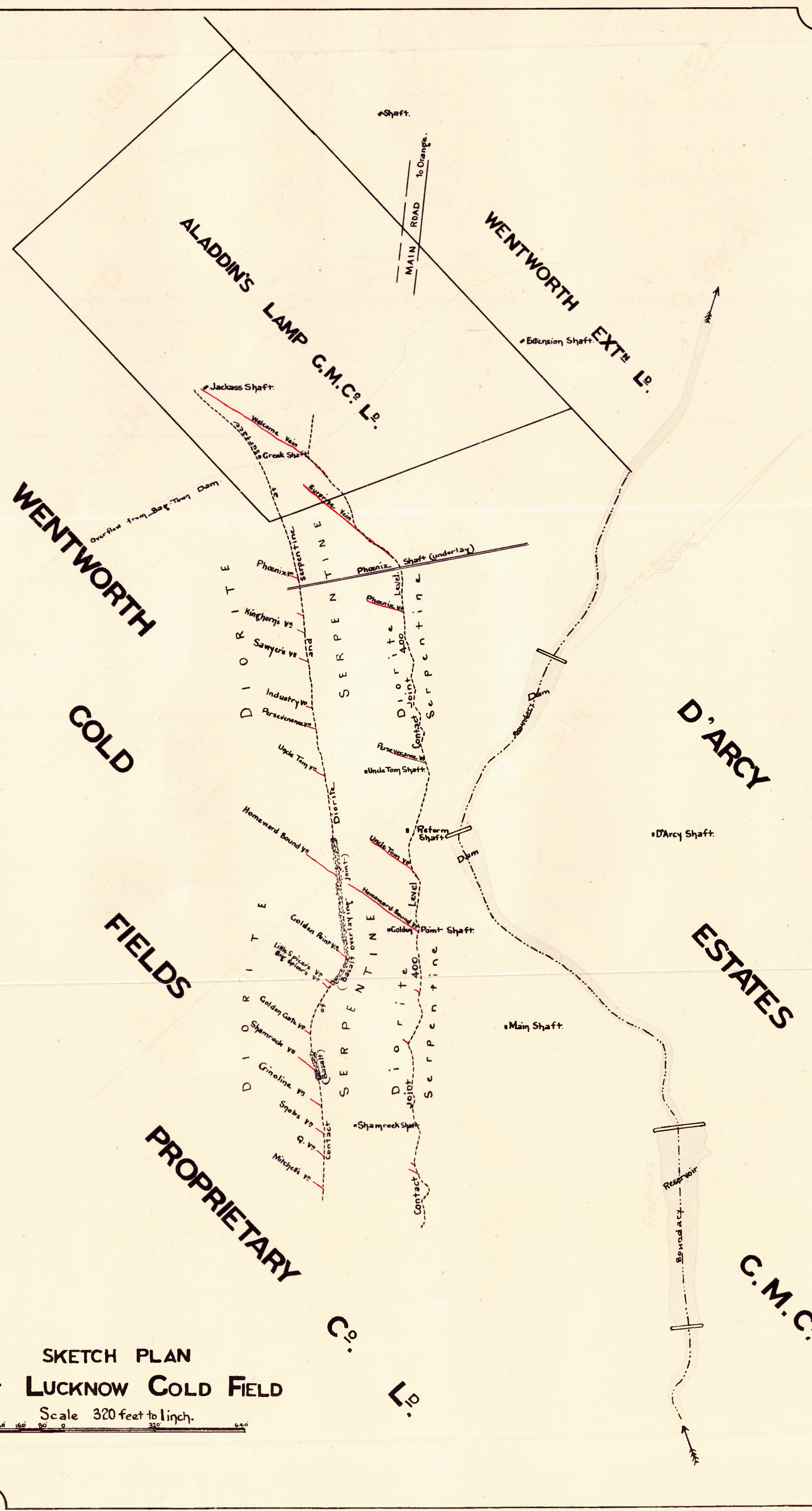
"As underground, so on the surface, no detail is neglected for securing economy, speed, and ease in handling. The grade of the tramways and the construction of the huge ore-bins, with doors so contrived that a boy can easily manage the filling of a truck, though over 100 tons of ore be lying in the bin, all show the care and forethought of the trained engineer. The rock-breakers are driven by a special engine of most suitable type, and reduce the ore to about 1½-inch cubes for the battery—an ingenious water-sprinkler being under control of the breakers attendant to minimise the dust created. The broken ore is elevated in trucks to the top of the battery, and tipped into bins of large capacity. Automatic roller-feeders are used. One man per shift (eight hours) easily manages the thirty-five stamps. These latter weigh about 800 lb., and drop 7 inches at the rate of ninety-eight blows a minute. Angle-slotted Russia iron screens (No. 7 needle) have displaced all other kinds tried. The Blanton self-tightening cam is being gradually introduced as the old (keyed) pattern wears out. Packed iron glands, invented by Mr. Robert Canning, the Chief Engineer, are being substituted with marked advantage for wooden guide blocks. Belt driving, with the aid of tightness and Smith's patent pulley covering, is in favour. After prolonged trials of cast iron, cast-steel, forged-steel, chrome-steel (both English and German), and manganese-steel for shoes and dies, by far the most satisfactory results have been obtained from shoes of Hadfield's (Sheffield, England) chrome or manganese cast-steel, working in dies of forged-steel imported from Glasgow. So hard is the gangue accompanying the milling dirt that the stamp duty per head per twenty-four hours ranges only between 1½ and 1¾ ton. Mercury and small amalgamated copper splash-plates are used in the boxes, and large copper plate tables and apron plates (no ripples or wells) outside. About 12½ per cent. of the total amalgam caught is collected in the mortar boxes. Owing to the carbonate of lime in the ore, no trouble arising from oxidising sulphides is encountered; nor is it found that the antimony and arsenic carried by the ore have any prejudicial effect on amalgamation. The pulp on leaving the outside plates passes through mercury traps, and thence goes to the frue-vanners (two 4-foot belts to each five stamps), where the pyrites is collected for subsequent drying (by waste steam) and shipment to London. The concentrates average about 3 per cent. by weight (dry) of the ore milled, and frequently contain as much as 20 oz. fine gold per ton. The tailings—elevated by a gigantic bucket-wheel to gain height for crossing a public road—flow away to a heap, whence they will soon be taken to pass through treatment by cyanide, containing as they do for the most part some 5 dwt. of gold bullion per ton. In their passage they flow through an apparatus which automatically takes a sample of the whole stream every half-hour. The average value of the milling-dirt is about 1½ oz. per ton, and the ratio of extraction, by battery and vanner, is in round figures 85 per cent.

"The establishment of the Proprietary and Aladdin Companies embraces four sets of winding-gear, four air-compressors, fourteen boilers, three dynamos for electric lighting, with foundry and fitting-shops replete with every appliance for effecting repairs and renewals. Its resources may be judged when it is said that its ordinary work includes casting battery boxes weighing over 3 tons, welding steel rods 3 inches thick, and reboring the cylinders of engines and pumps."

In addition to the work described in the Proprietary and Aladdin Mines, the Darcy Estates have done a lot of work during the year, namely, 101 feet of sinking, and 2,033 feet of drives, cross-cuts, &c., making a total of work done 6,031 feet, the deepest level being 1,021 feet. The capital of the company having been expended, the labour conditions are suspended for six months to enable the company to reconstruct. Fifty-nine men have been employed. About £1,000 worth of machinery is in use, and a trial crushing of 25 tons has only been brought to the surface.

The Wentworth Extension Mines Co. has sunk its shaft to a total depth of 760 feet, and the drives in it reach a distance of a few feet; but it is the intention of this company to sink deeper, and for this purpose the labour has been concentrated to the main shaft. Twenty-six men are employed.





SKETCH PLAN  
OF LUCKNOW COLD FIELD  
Scale 320 feet to 1 inch.





The Homeward Bound Syndicate, which are about to work 100 acres to the north of the Alladin Mine, are about to commence work at once, having prospected the land and decided upon a site for a main shaft.

The Hon. A. T. Kerr has been prospecting on his property, and has sunk seven shafts from 30 to 202 feet deep, in all 508 feet, and driven 1,257 feet. He has a winch and 10-h.p. boiler and hauling appliances for water and stone. £2,426 has been well expended on this property.

The Coolgardie Gold Syndicate, Limited, at Cadia has commenced work, the result of a small crushing being very satisfactory. The deepest old level is 120 feet, but a new shaft is being sunk to a depth of 300 feet. Eleven men are employed. Good results from this mine may be looked for with a degree of certainty.

At the Ophir, George Slater, the veteran prospector and miner of this district, has again put his battery in working order at the Bluff, and is about to start crushing from the numerous veins in the immense body of quartz situated on the bank of the creek known as the Bluff. Water is scarce, and the battery is therefore hung up. The I X L shaft looks well.

The Bletchington, which last year promised to turn out so well, has not come up to expectations. They are down 300 feet. Five men are employed.

The Ballarat of N.S.W. Gold Mining Company at Forest Reefs, alluvial, is down 241 feet, and some driving has been done toward No. 5 bore, where gold was discovered by aid of the diamond drill. Fifteen men are employed.

The Victory Gold Mining Company, Forest Reefs, alluvial, is still on gold, and has hardly come up to expectations. The water is very heavy, and the driving has to be done with great care.

Wills and party have a shaft down 145 feet through solid basalt, and they are in search of the alluvial near and corresponding with the Victory beds of wash. An engine and pump are used.

The Great Lumpy Extended Mine is still working. Harris Brothers have a shaft down 202 feet and drive 370 feet; also a drive is being put in to strike the Old Lumpy Lead. Two engines and pump are required to keep down the water, which is very heavy. There is a hauling gear, with cage and truck, &c.

The Wolaroi Gold Mining Company, near Orange, have sunk a shaft 149 ft. 7 in. x 3 ft. 3 in., and have driven 235 feet in serpentine formation. Eight men are employed, and, the country being very hard, explosives have to be used. The water has been no trouble. This is supposed to be on the line of lode passing through the Lucknow mines, and a discovery here would give mining a decided lift throughout all this part of the district.

Raphael and party have discovered an outcrop of iron gossan and a large deposit of magnetic iron. The surface carries good prospects of gold, and it is believed a large lode exists very near. A shaft is being put down now 100 feet, partly by aid from the Prospecting Vote. The Lewis Ponds and Ophir Creeks being now very low, a number of alluvial miners are making good wages therein; and the aboriginals are also turning their attention to mining. Some one or two of them are doing very well.

#### *Molong Division.*

Mining may be said to be practically at a standstill in this Division. Some thirty men have taken out miners' rights during the year.

A prospecting grant was made to W. H. Bennett, at Garra, to crosscut east from the bottom of the 37-foot shaft 50 feet. The men cut 40 feet, but were unsuccessful in striking anything of importance.

Claude Smith, the holder of a gold-lease at Delaney's Dyke, applied for and obtained six months' suspension of labour conditions in November. He stated that four men had been employed nine months, and about £260 spent.

There is a large quantity of old tailings at the Dyke. Some time ago a proposal was made to treat them, but after inspection it was thought that there was no hope of there being £1,500 in them, and the machinery necessary would cost about that amount.

There has been no gold or other metals or minerals won during the year in this Division.

Mr. Black, of Molong, crushed a quantity of quartz brought from other places, and estimates the value of the yield at about £100.

The only machinery in this Division used in connection with mining is a three-stamper crushing machine (6-horse power), owned by Messrs. J. Black & Son, of Molong, and valued at £300.

#### MUDGEE MINING DISTRICT.

##### *Cobbora Division.*

The want of water has again been the great drawback to mining work during the year. About 150 miners are at work in this Division. 15,615 loads of dirt washed for a yield of 2,395 oz. of gold, valued at £3 15s. per oz.; value of gold won, £8,981 5s.

The workings at Tucklan are now confined to surfacing, depth of dirt taken being from 1 to 4 feet.

The quartz lease at Little Stringy, held by the Yec Brothers, is being steadily prospected, and hopes are entertained by them of striking payable quartz. This lease is in receipt of aid from the Prospecting Vote.

Some miners on the Tucklan Gold-field are now turning their attention to the cement, which contains gold, and are taking some trial loads for crushing to Chapple's Battery, about 7 miles distant. The result of the crushing is not yet available.

##### *Leadville Division.*

There has been very little mining carried on in this Division during the year. The Mount Stuart Mine, after being idle for some years, has changed hands, and the new Proprietary is engaged in sinking an old shaft from 125 feet deep (where copper is showing) to 225 feet, to prospect for copper. The depth has been attained, and a cross-cut started for the lode, which is expected to be cut in about 40 feet. Twelve men are employed.

About 9 miles north-west from Leadville, A. Mason and party sank an old shaft on W. Davis' conditional lease, from 30 feet to 60 feet deep, to prospect for copper. They sent 6 tons of the lode to the Illawarra works, which returned 6½ per cent. of copper. The lode shows stronger at 60 feet, and is 2 feet 6 inches wide, but the party has disbanded.

##### *Gulgong Division.*

The number of miners employed in this Division during 1898 is about the same as for 1897, but the yield of gold shows a marked decrease. In the early part of the year special attention was devoted to quartz reefing near Gulgong. Two mines, "The Shellback" and the "Happy Valley," were successfully floated, and work was for a time busily carried on. Unfortunately, the prospects obtained fell short of expectations, work was suspended, and both companies have now gone into liquidation. On the Shellback a shaft was put down to a depth of 140 feet, and several crushings, said to have yielded good results, were obtained during the year, but the prospects at the lower level were below anticipations, and the mine closed for want of capital.

A large amount of work was done on the Happy Valley Mine during the year, one shaft of three compartments being carried to a depth of 268 feet. The work was all in the nature of prospecting, no crushings being obtained. This mine has also closed down for want of capital. Efforts are being made to re-float the property, but so far with little success.

During the year the Salvation Hill Syndicate have carried their shaft to a depth of 160 feet. There is a large body of highly mineralised ore in this mine, and some very rich specimens showing gold freely have been obtained. This mine is regarded as one of the most promising shows in the Gulgong Division, but unfortunately want of capital has prevented the lessees from properly developing it, but steps are now being taken to obtain funds necessary to work the mine to advantage, and good results may be anticipated during the present year. Several small rushes occurred during the year, on Raynor's conditional lease at Piambong, and on private land adjoining the lease some very good prospects were obtained, and under agreements with the owners of the land a good number of men were for a time employed, but only a few of the men found payable dirt, and the ground was soon abandoned.

Work is still being carried on at the "Royal George," near Cullenbone. A five-head battery is being erected by the owners of this mine. A good quantity of stone has been raised, and awaits the completion of the battery.

*Hargraves Division.*

During the year mining has not been extensively or successfully pursued. The scarcity of water has been a great drawback for the miners on the Merroo and Grattai Creeks, as there are a great number fossicking in these creeks. The Hampden Syndicate, which has been reorganised during the year, is now putting a tunnel through the hill, which when finished will be about 400 feet in length. The manager, Mr. Scott, thinks this mine will turn out well, as there are some good indications.

The Saddle Reef Syndicate (Spratt, Milton, and party) have also reorganised, and have put a large plant of machinery on their mine, estimated at £3,000. The water has been a great trouble in this mine, but now the pump erected on it has completely mastered the water. They are now raising stone from the 120-foot level, and there is every indication of the mine paying its way.

James and Thomas Laing are doing very little on their leases at present, owing to negotiations going on to float their property with a London Company. Frame Fletcher has the Eldorado Hill working on tribute; the vein is about  $\frac{1}{2}$  to 1 inch thick, but very rich, averaging from 2 to 3 oz. per ton. He has also had Government aid to prospect this hill, but got very poor results—in fact, nothing to pay.

W. McGregor and party also have had aid to prospect Tuckland Hill, but have had the same misfortune as Mr. Fletcher; in fact they have given up trying any longer to develop the mine.

The quantity of alluvial gold purchased by the storekeepers is estimated at 863 oz. 2 dwt. 22 grs., amounting to £3,138 4s. 8d.

*Mudgee Division.*

During the past year a good deal of prospecting has been carried on in this Division, but so far with poor results. At the 12-mile, Wyaldra, Messrs. Gates and party, and Wagner and party, have had seven men employed on their alluvial claims; 350 loads were raised, yielding 75 oz. of gold, valued at £296 15s., or at the rate of £3 19s. per oz.; the shaft is down on Gates and party's claim a depth of 29 feet. Another claim at the same locality, known as No. 1 East, reports having raised 200 loads, yielding 20 oz., valued at £79. In the majority of instances payable gold is not being obtained, but judging by the prospecting now going on if this Division carries gold we should soon hear of good results. As an instance of the work done with very little return for the outlay, M'Lean Bros' surface claim on the Mudgee River may be taken as an example. Three men are employed and 1,000 loads have been raised, the gold won being valued at £27 6s. The usual notices were dispatched to the various claim holders not yet abandoned, and judging from the returns to hand the yields have been so small that the interested parties have not considered it worth while to send in returns. Active boring operations were commenced during the past year by the Log Paddock Boring Syndicate. The ground has been thoroughly tested by bores, ranging in depths from 90 feet to 195. Aid was granted to the prospectors to put down two test bores which were bottomed at 145 and 194 feet respectively. A shaft is now being put down on the site of one of the best bores for which prospecting aid has been granted, and good payable wash has been found at 105 feet, and the shaft will be put down to that depth.

There are seven men employed, and a good boring plant, and two whims are in use. About £300 has been spent on the work, and the manager, Mr. James Higgins, has proved by diligent work and bore-tests that wash exists at greater depths than formerly known.

*Windeyer Division.*

Mining matters have not been very brisk during the year. Winter Bros' claim, known as the Golden Lily, have crushed 641 tons of quartz; the quantity of gold won from same is 671 oz. They have about 700 tons at grass, but are now delayed for want of water for crushing purposes. Liebenritt and party have crushed 195 tons; the quantity of gold won from same is 160 oz. This party have a deal of water to contend with. Leffley and party have had a small crushing out of their mine, known as the Golden Gate, but the results were of no consequence. The alluvial mining is almost at a standstill. There are a number of men fossicking about the various creeks, but are getting poor results. There have been 14 gold-mining leases applied for, comprising an area of 58 acres, most of which have been executed. About 1,450 oz. of gold have been bought by the local storekeepers. One hundred and ninety-seven miners' rights and 13 business licenses have been issued.

*Peak Hill Division.*

In this Division only a few mines are working, and most of them are on tribute. In the Great Eastern Reformed, the mine has been let on tribute for the last eight or nine months. The tributers are working at the 200 and 250 foot levels. In the past year, as nearly as can be ascertained, they have crushed about 700 tons of ore for an average return of about 15 dwt. of gold per ton, and have cleared about £3 per week per man. The lode will average 8 feet in width, and is described by miners as a flinty ironstone. The lode was poor to the 100-foot level; it then improved with depth. There are three or four lodes in this lease, but only the one I have mentioned is being worked. The deepest shaft is 390 feet—Wythes and Mooney's. This lease, 20 acres, is also let on tribute to four parties of tributers. It adjoins the Peak Hill Proprietary on the north. The lease contains several lodes or schutes, which have been worked from the surface to the 250-foot level. Two of these parties have made wages for the past year. The third party have made over £10 per week per man during the last year.

The fourth party have only recently started work on the northern boundary. They have a new lode, which has to be proved. Wythes and Mooney's have crushed about 2,500 tons of ore during the past year for an average yield of from 12 to 15 dwt. per ton.

In the Proprietary Mine a good deal of prospecting has been done at the 585-foot level. The main shaft is now 700 feet deep. At the 650-foot level the prospectors put in a drive to cut a new vein which was struck 29 feet north-west of the main shaft. A winze was sunk on this vein 30 feet. Twenty-eight tons of ore was raised and crushed, yielding 39½ oz. smelted gold, and 6 tons of concentrates, which gave 5½ oz. per ton. Since then the tributers are working from the surface to 150 feet. They crushed 169 tons for 5½ dwt. per ton, and since this crushing they have had another of about 70 tons for 6½ dwt. per ton. In this mine a good deal of experimental work has been done with reference to the treatment of refractory ores with indifferent success. During the past year the following crushings have been taken from the Proprietary Mine—719 tons pyritous ore yielded 135 oz. 14 dwt. 17 grs. of free gold; 210 tons of concentrates gave 104 oz. 14 dwt. 5 grs.; 202 tons from tributers yielded 34 oz. 4 dwt. of gold.

In the "Crown of Peak Hill" there are a few parties of tributers working, and some of them have been fairly successful.

The great difficulty in all these mines is to get a cheap process for treating the ore, especially in the pyritous lodes, which usually occur on Peak Hill at a depth of 200 feet. Treated at an ordinary battery from 4 to 5 dwt. free gold is obtained; when the tailings are tested at Dapto and other works a return is obtained per ton from half an ounce and upwards. In every mine on Peak Hill the greater the depth the better the ore, but the pyrites make it very difficult to treat. If this difficulty is overcome the future of Peak Hill is assured. No other claims or leases are working at Peak Hill.

The "Myall United Gold-mining Company."—This property is situated about 8 miles north of Peak Hill, and embraces an area of about 40 acres. The depth of the main shaft is 350 feet; it is 12 ft. x 4 ft. in the clear, and is closely timbered all the way down. It is connected with two reefs, being worked by three crosscuts; No. 1 reef being 10 feet wide, and No. 2, 11 feet, but in many places the lodes are double this size. The character of the lode is free milling quartz, carrying a small percentage of metals, sulphides of iron, and fairly charged with iron sulphides. The approximate number of tons of ore crushed by the Company for the last year has been 25,000, yielding 5 dwt. on an average per ton from the battery, and 3 to 4 dwt. cyanide bullion per ton. To produce the ore mentioned 22,000 feet of driving, rising, and sinking have been performed. An average of about 120 men are employed on this mine. The plant in connection with this mine is a very complete and model one, and is valued at £15,000. The profits made by this Company during the past year have been large, probably upwards of £20,000.

The total yield of gold from the Division for the year was 16,466 oz.

*Wellington Division.*

Quartz-mining has been chiefly confined to the Mitchell's Creek Freehold Gold Estate, where the hands employed numbered 200, and some 14,232 tons were raised, yielding 9,753 oz. of gold, valued at £34,418, showing an increase on last year's return of more than £2,000.

Under

Under the Mining on Private Lands Act, some quartz-mining was carried on on Mr. Samuel Taylor's property; and though the applications for authorities and leases were lodged here, as the nearest office, the land is within the Stuart Division of Tambaroora and Turon Mining District.

Alluvial mining has not been carried on to any great extent consequent on the scarcity of water, and the gold won has been obtained from the Macquarie River principally.

During the year no work was done at the Bolara Copper mines.

#### TAMBAROORA AND TURON MINING DISTRICT.

##### *Hill End Division.*

During the year just ended, the principal mining operations for quartz gold has been carried on at Tambaroora and Hawkins Hill, the total quantity of quartz treated at the various batteries for the year is 4,434 tons for a yield of 2,986 oz. 17 dwt. 4 grs., an increase of 536 oz. 5 dwt. 16 grs. on last year's returns.

In alluvial mining there has also been a satisfactory increase in the yield, due to the very dry season, which enabled miners to work the bed of the Macquarie River. The companies formed during the years 1896-7, for working the basalt hills near the Macquarie River, failed to find anything payable and have been wound up and all machinery removed. As the alluvial gold in this division is won by fossicking and ground sluicing it is not possible to give the quantity of wash-dirt treated.

During the year 150 Europeans and 55 Chinese have been employed in alluvial mining and have won 2,018 oz. 2 dwt. 16 grs. of gold an increase of 691 oz. 19 dwt. 13 grs. on last year's returns, with 57 less men employed. The prospects for the year 1899 are fairly good. The total value of gold won during the year is £19,269 4s. 2d.

##### *Rylstone Division.*

Excepting prospecting and fossicking, there has been no mining in this Division during the past year. Operations at the Cudgegong Copper Mine ceased early in the year owing to want of funds, and there appears to be no prospect of further capital being forthcoming to further develop the mine.

There is no machinery in the Division, and there were no new finds during the year.

##### *Sofala Division.*

The continual dry weather has hampered alluvial mining greatly in this Division; in fact, there has been very few fossickers working, and the few that have worked won very little gold, the only party who made wages was O'Farrell and Theobald, at the junction of Turon and Palmer's Oakey Creek, who earned about £2 per week per man. At the same place there are about 12 more working, with only fair results. At Tobin's Oakey about 20 men are fossicking, with more or less success, making only a living.

About Box Ridge there are about 40 miners making a bare living. On the Lower Turon a few have done fairly well during the year. In and around Sofala about 25 men have been digging on private property under agreements with owners, with fair results.

The bed of the Turon River has been taken up for dredging purposes. A special alluvial lease has been applied for. A dredge is in process of erection, which the company expect to float early in the year. The river and Crudine Creek have been specially prospected for that purpose, and the manager is quite satisfied that the dredging will pay dividends. About 35 miles of the River Turon has been taken up for dredging purposes.

On the whole, alluvial digging in the Sofala Division during 1898 has been the poorest on record.

No new reefs have been found during the year, and some of them which have been worked, viz., Queenslander Gold-mining Company and Turon Gold Mines (Ltd.), have not had any payable results.

Elkin's Extended Quartz Mine is the only one that has done much payable work, viz., 180 tons crushed for the year, which returned an average of 1 oz. per ton.

Leighton Bros., on same line of reef, crushed 50 tons for an average of 22½ dwt. per ton.

If the present dry season continues in this District much longer there will be no mining for gold except on the river.

##### *Stuart Town Division.*

The year has not been marked by any event of great importance. There is an increase in the yield of reef gold, but a falling off in the yield from alluvial mining, due to the continued dry weather, this being the fifth successive dry summer.

The Golden Gully Mine, after spending a large sum of money in preliminary work, has come to a practical standstill for want of capital. The manager reports that he hopes to resume operations early in 1899. In the meantime the lease is being worked on tribute, and the crushing-plant is earning something from other mines.

The "Poor Man," after being for a long time a hand-to-mouth affair, has fallen into better hands and is now being systematically worked, and better results are anticipated.

The "Post Office" has also come under good management, and a large extent of country having been opened up at 200 and 400 feet levels, and proved to contain more or less payable stone. A battery has been erected, and a good report is expected next year (1899).

Mr. C. L. Garland's dredging experiment on the Macquarie River has not yet reached the stage of actual test; but it is expected that work will be started early in the year. The barge has been launched and machinery is now being fitted thereon. Much depends upon this enterprise, and results are anxiously awaited. The freeholder is causing delay in the issue of other leases by urging his rights. The miners hope legislation will remove this imaginary right which has been imported from England where there are no auriferous rivers. They think the absolute right of the Crown to all privileges, not actually and in express terms alienated should be plainly expressed and strictly enforced.

#### LACHLAN MINING DISTRICT.

##### *Cargo Division.*

In Mount Durnard Mine all machinery is at a standstill for want of water. £12,000 worth of new plant has been erected, but, as no water has been available since, there are no results to report.

The "Ironclad" at Cargo has changed hands, and there is now every prospect of the late Mr. Dunn's valuable property being worked to advantage, which will be a decided boon to this part of the district.

The prospecting in parish of Byng is all at a standstill. The machinery required at the mines being totally insufficient for the works required. The several parties are negotiating for a further increase of capital to work on.

##### *Cudal Division.*

There has been very little mining done in this Division during the year except at Reedy Creek, where William Payne has been working a copper mine. A fair amount of work has been done in opening up this mine, but no particulars as to the amount of ore raised or treated has been obtained. The work done has been principally prospecting.

##### *Forbes Division.*

At Forbes the principal mine (referred to in the report for 1897) is that known locally as "Sinclair's" until it was sold to a private company, by whom it was formed into a limited company, called "The Lachlan Goldfields, Limited." The area of this mine is 26 acres. It is situated about 3 miles north from Forbes, near the Bald Hills. This mine is a very valuable property, and promises to become, with further development, and additional machinery, still more valuable. From 70 to 80 miners are employed, and a good deal of work has been done on the lodes or reefs. The main shaft is 160 feet deep, and is still being deepened. At the 70-foot level the lode has been followed for 900 feet, and, at the 150-foot level, 400 feet. There are four air-shafts, and mullock-passes from the surface to the 70-foot level; and 5 winzes from the 70 to the 150 feet levels—the lodes vary in width from a few inches to 9 feet. Winding and pumping engines, with poppet legs, are erected at the main shaft, and an 8-inch Cornish draw-lift. The water in the mine makes about 1,300 gallons per hour. There is a tramline from the main shaft to the crushing plant, which is erected close to the mine, and consists of a 10-head stamper battery,



battery, with ore bins and automatic feeders complete. The stampers are driven by a 20-horse-power horizontal engine on a Cornish boiler. A cyanide plant is erected on the mine (for the treatment of tailings, 130 tons per week), which consists of three 30-ton leaching vats, two sump vats, two solution vats, and two zinc extractor boxes, with pipes, pumps, tramlines, &c., complete. Two excavations, each 5,500 cubic yards capacity, have been sunk, and enclosed with dam for the storage of water, and connected with the battery by a Blake pump and line of pipes. During the past year, as nearly as can be ascertained, 3,500 tons of ore have been treated at the battery, and 1,700 tons of tailings at the cyanide plant, and about 900 tons of slimes are accumulated for future treatment. About 2,088 oz. of gold has been won from this mine since it was opened up. In consequence of the success which has attended the working of this mine, a number of leases have been taken up north and south of it. The areas (north) are 5, 3, 25, 20, 3, 10, 10, 3, 10, 10, 3, 10, and 10 acres—in all, 99 acres. South—4, 10, 20, 10, 20, 5, 5, 3, 2, and 2 acres—in all, 81 acres. In the lease known as Morris's, which adjoins the Lachlan Gold-fields Mine on the north, they have a main shaft 105 feet, and have driven 200 feet north. They have struck the lode containing gold in an ironstone and quartz formation. This party of miners have been working continuously since February, 1897. The lode has also been discovered in other properties along the line. It is confidently anticipated that various mines on this lode, or line of reef, will be proved payable in a few months. There can be no doubt that the rich leads which were worked in the days of the first rush at Forbes were fed from the lodes now being developed by the Lachlan Gold-fields Company and adjoining mines. South of Forbes a prospecting party, Messrs. Sam and others, have been working on what is known as Grossett's Lead for two and a half years without any return. Some rich patches of gold have been taken from this line of reef in time past, and it is, no doubt, the same line as that known as the Britannia. The prospecting party are still confident that they will, in the near future, be amply repaid for the work done; 130 feet is the greatest depth attained, and it is the opinion of competent miners that a much deeper shaft must be sunk before the value of the mine can be proved. No alluvial mining (except fossicking) is being carried on at present in this Division, except a prospecting claim—Doggis and Party—with Government aid, on the old Union Lead, close to the town, they have only recently commenced work, and it will be some time before the claim is found payable or otherwise.

At the Pinnacles Gold-mine, which is 24 miles south of Forbes, very little work has been done during the past year, owing to want of water, the nearest available supply being 8 miles distant. A great deal of work has been done on this mine, but without payable results. Four hundred tons of stone was crushed for a return of 3 dwt. per ton. From 35 to 40 men have been employed on the mine. The reef is a fair site but the quality of stone poor; but the manager reports that he is of opinion that at a greater depth the mine will be payable.

#### Parke's Division.

At Parkes, the principal mine, known as the New Bushman's Gold-mining Company, has suspended operations for three months. The mine was a very profitable one in the hands of tributors, who took some very valuable stone from the reef. This is the deepest mine in the district. The main shaft has been sunk 846 feet. Government aid has been granted to enable the owners to further prove their mine. A great deal of work has been done in the Bushman's and their mining plant is very complete.

The Kohinoor Gold-mining Company. In this mine some recent discoveries have greatly increased the value of the property. During the first four months of the year very little work was done, then the main shaft was sunk a further depth of 80 feet, making a total depth of 455 feet. A payable reef was cut from which very payable crushings have been taken. Encouraged by this, extensive drives have been put in at various levels, but the best gold—the mining manager reports—is undoubtedly in the bottom of the mine. At the 250-foot level, the reef varies in width from 6 inches to 3 feet. There are now thirty-eight men employed on the mine. This company have a battery of their own and probably a cyanide plant will be added, as they have a large stack of tailings ready for treatment.

In the Phoenix Gold-mining Company's Mine, a party of tributors have been working at the 400-foot level; they drove 120 feet, east; sank a winze 40 feet, and raised, and crushed 190 tons of stone for a yield of 6 dwt. per ton. They have also about 80 tons at the surface, which is expected to yield over 2 oz. per ton. The directors report, under date 31st October, last, that recent developments have made the prospects of the mine much brighter than they have been for a considerable time and that it only requires deep working to make it a very valuable property.

It is difficult to obtain a detailed account of the various mines in this Division, but the crushings during the year will give a good idea of their present value, and the number working and raising stone.

		oz.	dwt.	grs.
The Golconda.....	213 tons	=	160	0 0
Happy Valley.....	89 "	=	15	2 0
Phoenix .....	330 "	=	370	0 0
Kohinoor.....	2,019 "	=	790	0 0
Old London (alluvial) .....	439 loads	=	56	4 3
Dayspring .....	853 tons	=	233	10 12
New Bushman's Hill.....	5,913 "	=	3,343	16 0
Avoca (Birthday) .....	495 "	=	178	13 7
Quails Gold-mining Company .....	64 "	=	171	15 0
Mount Pleasant Gold-mining Company .....	98 "	=	63	12 0

In the Parkes Division there are large quantities of tailings and these have been purchased and are worked by private individuals and companies. It cannot be stated what the yields are, but, no doubt, they were very satisfactory.

At the Tichbourne, 6 miles south of Parkes, a party of four are working a reef, which, if proved payable, will be a very valuable property. It is 25 feet wide at a depth of 60 feet. A recent crushing realised 8 dwt. per ton, but the cartage lost 4s. per ton, and so far the owners do not consider the mine payable, but they hope that further depth will give richer stone. They are testing the tailings with the cyanide process but do not yet know the result.

The return of gold for this year is a little over 6,300 oz.; in 1897 the return was 9,052 oz., and in 1896, 12,500 oz., the great deficiency being largely owing to the drought in this district; and for this reason during the last year little alluvial gold has been obtained, and many of the batteries have been idle.

#### Fifield Division.

During the year just past 321 oz. 10 dwt. of gold, valued at £1,205 12s. 6d., and 1,250 oz. of platinum, valued at £2,062 10s., have been obtained in this Division. Almost all has been obtained at Platina, 2½ miles south of Fifield, the gold and platinum being obtained in the same washdirt, by the one process of puddling. The only crushing of quartz in the Division during the year was one lot of 6 tons from Rand and Party, Carlisle, which returned 5 dwt. of gold per ton, and did not pay cost of cartage and crushing.

At the present time mining is practically at a standstill at Carlisle, only a few miners being on the field, none of whom are making a living. At Fifield and Platina the miners are making a living, and the average yields during the latter months of the year have been better than during the early part, which shows that probably the men are getting into a better run of ground. Latterly much attention has been paid to those who are washing the surface. These men are obtaining more gold than those who are working in the deep ground, and it is very probable that during the ensuing year a large quantity of gold will be obtained from the very shallow ground between Fifield and Platina.

#### Condoblin Division.

In this Division, which includes Carlisle and Fifield, a good deal of interest is taken in mining, but chiefly among the townspeople—storekeepers, &c. Close to Condoblin, about 3 miles on the Melrose Road, a local company has been formed to work a prospecting claim known as Shepherd's. The company is known as the Condoblin Gold-mining and Quartz Crushing Company, 5,000 shares at 2s. each paid up. This company have made arrangements for a 10-stamper battery to be erected near the claim. The company is taking up the land in the vicinity of their mine, so that they may have sufficient scope if the mine is payable. The reef they propose to work is 3 feet wide, and the assays, carefully taken, have given 1½ oz. per ton. Carlisle and Cugong, where a few months ago a good many miners were congregated, are abandoned. At the Yellow Mountain some prospecting for copper is being carried on, but, so far, nothing of importance has been discovered, the deepest shaft being only 100 feet. Another party is working near Burns' hotel, on Melrose Station;

twenty men are employed. Copper has been known to exist for a good many years in this locality, but the difficulty has been to find a permanent and large lode. Small and broken lodes have been found, but nothing likely to develop into a payable mine. At Winter's, situated 17 miles north of Condobolin, stone crushed from this reef has been very remunerative, but for some reason the owners do not sink. At the present time they have 125 tons of stone ready to be crushed, but it is only surface stone, although the returns are very satisfactory. On the adjoining claims there is a good surface show, and the reef is apparently a continuation of Winter's.

#### *Alectown Division.*

The principal mine in this Division, the Monte Carlo, from which great profits were expected, is, for the present, idle. Some splendid specimens were got a year or two since, and the proprietors were very loathe to give up the work. They are workmen, and probably could not carry on. There is not the slightest doubt when the leases are cancelled, as they will be very shortly, they will be remarked and further prospected. Stone taken from this line of reef went as much as 10 and 11 oz. per ton. Mead and party, on private property (Beazley's conditional lease), have a fair sized reef, from which great things were expected; but, so far, the expectations have not been realised. They have raised 29 tons of good-looking stone, estimated to yield 1 oz. per ton. Alectown is an old alluvial diggings, and supports a good many families, but they have had a very hard time this last year owing to the drought. It is supposed that about 5,000 loads of alluvial dirt were washed during the past year, for a return of about 200 oz., and most of this dirt was washed with a dish, as no water was obtainable for a pug-mill. One party of miners got 3 oz. in an old prospecting claim, out of a block of wash missed by the prospectors. It is quite certain that there are plenty of payable reefs in this Division, but capital is required to find them. The ordinary miner, unless he can earn his living from the stone as he goes down, cannot prospect. The Monte Carlo has only been prospected to a small extent. More work has been done on the Young Australian and the Bachelors, but a great deal more work requires to be done before these reefs should be abandoned.

#### *Grenfell Division.*

In May last there was a rush to Toohy's Settlement Lease (private land) in this Division, situated about 20 miles from Grenfell, and in the course of a day or two sixteen or twenty claims were pegged out. Results, however, very soon proved that there was very little if anything to warrant the rush. The sinking (alluvial) was too deep, 150 feet, and the yield too scanty, a quarter of a grain to the dish, to pay, or even to make "tucker." The field is now abandoned. There is much difficulty in obtaining detailed information from mineowners in connection with their properties. It has, however, been ascertained that 3,266 oz. of gold of the value of £12,432, have been won at Grenfell during the year. This shows a considerable increase on last year's output, the figures being for 1897—1,780 oz. of the value of £6,855, thus showing a balance in favour of 1898 of £5,577. This is a satisfactory increase, and is chiefly attributable to the operations of the two cyanide works, which would appear to be in full swing, notwithstanding the dry weather during the greater part of year. Quinn and party, working under an authority to enter on private land at Arramagong, had a parcel of stone from the mine treated at one of the Grenfell batteries, which went 18 dwt. to the ton. This yield is satisfactory, inasmuch as the stone was not very difficult to raise. Quinn has now applied for a lease of the property. Reefing, however, at Grenfell, has been much retarded by the dry weather during the year. With favourable seasons mining in quartz at this place, must, it is thought, show favourable results. About 90 men find employment in the Division, say 60 in quartz, and 30 in alluvial. Little mining is being done on private lands in the Division, and the results of any work done have so far proved disappointing.

#### *Murrumburrah Division.*

The prospects of the mining industry in this Division do not grow any brighter. Judging from the quantity of gold purchased locally, as compared with the quantity which changed hands in 1897, there is a considerable falling off. In that year 1,992 oz. of the value of £7,682 passed through the hands of local people. Last year (1898), the quantity purchased was 1,169 oz., of the value of £4,503.

On the 28th day of October last, part of the police paddock at Wombat, Reserve No. 33, parish of Wilkie, was thrown open to occupation for mining purposes. The place was rushed and fifteen or sixteen claims were at once pegged out. The sinking was shallow ranging from 15 to 30 feet. The results proved very disappointing, with the exception of at Tobin and party's claim where, at a depth of 50 feet, about a dwt. to the load was stated to have been won; no other gold whatever has been discovered at the place. The miners have now all left, but it is believed to be the intention of some at least to return when the locality is favoured with a fall of rain. Brown and party followed up and sank a shaft to a depth of 52 feet and bottomed a duffer. Near the red bridge on the Murrumburrah road, Wilson and party, aided from the Prospecting Vote, have been working a reef for some time past. They have not been very successful; the place is now abandoned.

The property known as Tilden's Proprietary in this Division at Cullinga, passed into the hands of Gough and party during the year. A cyanide plant, erected at the mine by the new company, has been in operation during several months past. The Department has been unable to ascertain as to the success or otherwise of the venture. The company does not, for private reasons, care to afford any information on the subject. The plant has, however, been recently removed, and is understood to be in operation at Cowra Creek near Cooma, and the mine has been recently leased on tribute.

Boxsell and party have been working a 10-acre lease (private land) adjoining with indifferent results. A crushing of 23 tons yielded only 1½ dwt. to the ton, but later on a crushing of 10 tons gave a return of 8 dwt. to the ton. Boulderstone and party working adjoining ground are, it is said, doing little if any good.

#### *Gundagai Division.*

During the year there has been a considerable increase in the amount of gold won, the increase amounting to 5,187 oz. Total amount won, 8,627 oz., made up as follows:—From alluvial, 873 oz.; from quartz, 7,754 oz.

The principal increase in the amount of gold won is owing to the return from the Prince of Wales Mine at Mount Kimo. At this mine a 20-head stamper battery has been kept constantly going during the whole year, and as foreshadowed in last report, the development of this mine has aided materially in the increase of gold won, viz., 6,172 oz.

The deepest level of this mine is 500 feet. At the 200-foot level there is a drive of 240 feet in a northerly direction, and one of 1,100 feet in a southerly direction; and at the 300-foot level, a northerly drive of 270 feet and a southerly one of 680 feet.

The directors are now erecting another 10-head stamper battery, which fact points to the future prospects of the mines.

The great difficulty experienced is the want of water, the supply at present being very low, owing to the continuous dry weather; but a lease of a dam on Back Station Creek having been granted, the Company hope to tide over the present difficulty.

The best yield for the year was obtained from stone raised at Robinson and Rice's Mine at Kimo—500 oz., from 90 tons, realising £4 per oz.

With regard to the claims at Johnston's Hill, and Booth's Reward at Coolac, no returns have been received, no gold won, consequently no opinion can be expressed concerning their future.

At Jackalass only 90 loads of alluvial reported, yielding 120 oz.

The following applications were lodged during 1898:—9 applications for gold leases on private lands, 8 for gold leases on Crown lands, 92 for authority to enter to prospect for gold, and 18 to dig and search for chrome.

#### *Temora Division.*

There were sold during the year 1898, 250 miners' rights and 24 business licenses. The quantity of wash-dirt treated in this Division was 5,125 loads for a return of 1,000 oz., at £3 17s. 6d. per oz., value £3,875.

The stone crushed during the year amounted to 1,365 tons, yielding 1,349 oz., at £3 18s. per oz., £5,383 10s., being the aggregate value of stone crushed.

The principal portion of the crushings occurred during the last six months of 1898.

During the year, mining matters have been hampered by the following causes:—

1. Want of capital with which to develop the mines.
2. Want of water, caused by the drought.
3. Want of crushing plants.

Mining in this district extends 16 miles east and 35 miles west of Temora. The only crushing plants are about 12 miles east from Temora—that is to say, at the extreme end of the mining area—with the result that all the stone from the west end, a distance of from 20 to 50 miles, has to be carted there for treatment. Under such drawback, unless the stone is very good it cannot be worked.

With the advent of capital, this place would develop into a large quartz-reefing field, supporting a large number of miners.

There have been four fresh reefs discovered here during the year, one of which is very wide, and the assays are from  $\frac{1}{2}$  to  $1\frac{1}{2}$  oz. per ton.

In reviewing the work of the year, there is only one conclusion to be arrived at, viz., that without capital the field will be very slow of development; but with the advent of capital, for which there is legitimate and profitable employment, this district would become one of the best reefing centres in the Colony.

There are two cyanide works at Sebastopol, treating 300 tons per week, and one at Springdam, treating 240 tons per week, of tailings. Twelve men are employed on the work in question.

The bank returns show that 2,070 oz. of gold were purchased, representing in value £8,024 14s.

#### Barmedman Division.

Mining matters have been almost at a standstill, with the exception of the Barmedman Cyanide and Milling Company. Thirty-two men were employed in mining. The yield of gold was 2,950 oz., valued at £8,456 10s., being 1,743 oz. less than last year. No work has been done upon the leases held by the Fiery Cross Gold Mining Company and they have been forfeited, and applied for again by E. Butler. This application has been opposed, and this prevents work being done or capital coming in. Until the tricks of the designing mining cliques in this Division are put down with a firm hand, mining will be almost an industry of the past. Capital is required to work the reefs in this Division.

#### Recfton Division.

The work and prospects this year have not been encouraging. Four claims have been at work, viz., The Enterprise, Pioneer, Sydney, and Prospectors. These claims are below water-level, and capital is required. Twenty men were employed. The gold won was 300 oz., valued at £1,186. The machinery, including a small cyanide plant, is valued at £900. There are six gold-mining leases in force.

#### Wyalong and Wyalong West Division.

These Divisions have been dealt with as one in the usual way. The yield of gold for Wyalong has been as follows:—

1894— 9,649 oz., valued at.....	£35,946	from 6,358 tons raised.
1895—24,497 „ „ .....	91,864	„ 15,634 „
1896—33,495 „ „ .....	130,000	„ 18,279 „
1897—34,370 „ „ .....	137,490	„ 34,750* „
1898—34,582 „ „ .....	138,328	„ 30,940 „

\*Including 4,000 tons of "mullock."

The yield this year is satisfactory, considering that the mines now are more expensive and difficult to work, and that capital is required to develop them at a depth. The yield accounted for exceeds last year's by 212 oz. 11 dwt. 13 grs., and, it is believed, there is at least a couple of thousand ounces not accounted for.

Sixteen hundred miners were employed, being about 500 less than last year; but this will be soon altered, as four of the chief mines intend putting on a large number of hands.

The value of the machinery and appliances upon the field is about £50,000. The population is about the same as last year, viz., 4,200. The field is now more developed and is permanent, although there are a less number of mines at work, but as capital comes in this will be rectified. The Shamrock and Thistle claim, and the Waratah adjoining, were sold for about £12,000.

The Bantam and Lady Grace amalgamated and formed a company, and have erected good machinery, and intend to prove the mine to a great depth. The Bantam treated 593 tons for 1,414 $\frac{1}{2}$  oz.; the Lucknow (Bolte's) treated 1,675 tons for 5,518 oz., valued at £22,000, which is a splendid return. Some of the stone went 26 oz. per ton. The depth is 380 feet, and the deepest level is 336 feet.

Neeld's (leases) treated 1,813 tons 16 cwt. 3 qrs. for 5,098 oz. 4 dwt. 4 grs., valued at £21,412 8s. 8d. Depth of shaft is 300 feet and deepest level 200 feet. The value of the plant is £5,000. There are about 3,000 tons at grass awaiting treatment. This is a splendid property, and it is believed the yield for 1899 will at least be double of that for this year.

The True Blue treated 2,956 tons for 1,920 oz., valued at £8,117. The depth of the shaft is 370 feet, and the deepest level is 370 feet. The reef averages about a foot. This is a good and payable property.

The Golden Fleece treated 857 tons for 990 oz., valued at £3,803. The depth of the shaft and level is 320 feet. The reef averages about 8 inches.

The Junction treated 1,700 tons for 1,900 oz., valued at £7,600. The depth of shaft and the deepest level is 380 feet. The reef is about 12 inches.

The Klondyke crushed 707 tons for 1,926 oz. 16 dwt. 15 grs., valued at £7,202 18s. 8d. The depth of the deepest shaft and level is 260 feet.

Klink's New South Wales Company treated 1,150 tons for 796 oz., valued at £3,438 10s. 6d. The depth of shaft is 500 feet and the deepest level is about 240 feet.

The Shamrock Gold-mining Syndicate treated 183 tons for 324 oz., valued at £1,346 19s. 6d.

The White Reef treated 191 tons for 445 oz., valued at £1,670 10s.

The Currajong treated 337 tons for 515 oz., valued at £2,000.

During the early part of the year a rush took place at Hiawatha. Many claims were taken up upon Crown lands, and an enormous number of applications for authorities to enter under the Mining Laws Amendment Act were applied for, and a very large number were granted. There were about 500 miners upon the ground, but at the end of the year only six authorities were being worked. One or two parties have paid wages and working expenses. When a depth has been obtained this field may yet prove a good and payable one.

A few miners have been fossicking at Billy's Lookout, but the want of rain has retarded operations.

Duncan, Noyes, and Company have erected a dry crusher and enlarged their plant.

Improvements have been made at Sully's and also at Neeld's.

Nicholas and Raymond are making additions to their battery and are increasing the crushing power.

Another cyanide plant is to be erected.

428 tons 8 cwt. were treated at the Dapto works as follows:—Gold, 5,119.27 oz., valued at £20,477 1s. 7d.; silver, 333.58 oz., valued at £38 4s. 5d.

The Called Back mine is now the property of a Melbourne Syndicate and is likely to be worked again.

#### Yalgogrin Division.

Mining in this Division has been retarded for want of capital. The yield of gold was 1,180 oz. from 751 tons, valued at £4,130, being 451 oz. less than last year. One hundred and fifty miners were employed, and the population is about the same as last year.

Several authorities under Mining Laws Amendment Act were granted, and several leases were applied for.

If the leases upon the private lands resume work the yield next year will be far larger.

The Great Eastern in Waldron's Paddock went 16 oz. per ton, but the reef is only about 2 inches.

A list of the crushings at the local battery is attached, which shows the yields. Besides this, some stone was treated away from the field. The Piccaninny had two or three good crushings at Dapto, the last being over 3 oz. per ton. The Eureka has been worked fairly well, and has been proved to be payable. Stanley's lease at Nariah is being worked, and looks promising and likely to be a good and payable property.

## List of Crushings at Gough's Battery at Yalgogrin

Claim or Lease	Tons	Yield			Remarks
		oz	dwt	grs	
Eureka	85	25	0	0	Mullock.
"	20	61	0	0	Firsts
"	39	60	0	0	Firsts and seconds
Forster and party	1	2	0	0	Firsts
Stanley's, Nariah	22	15	2	0	"
Adelaide	5	0	11	0	Seconds.
"	24	36	0	0	Firsts
Try Agan	3	3	0	0	"
"	16	2	18	0	Seconds
Black Coon	38	7	19	12	"
"	136	279	8	0	Firsts
Mount Graham	20	4	12	0	Mixed
Day Dawn	11	4	12	0	Firsts
Mount Allen	7	6	5	0	"
Shelley's	56	70	0	0	"
Great Central	30	13	15	0	Firsts and seconds
Democrat	15	37	18	0	Firsts
Piccaninny	37	14	16	18	Seconds
"	29	115	6	0	Firsts
Southern Cross	8	1	7	0	Mixed.
Daisy Bell	12	3	8	0	"
O Birch's	2	8	0	0	"
Great Eastern	5	35	0	0	Firsts
Hastie's Molonga	5	3	10	0	Mixed
Boomerang	10	13	10	12	Firsts

165 tons of mullock for various parties for 3 dwt per ton, being 24 oz 15 dwt

*Young Division*

Mining operation in the Young Division have varied but little during the year. The year 1897 was very dry, and retarded considerably the work of the miner, but the year which has just expired has been *less* auspicious in respect to rainfall, so that, except in a desultory way, little mining is being done. The sluicing claims have done almost absolutely nothing. In the gullies and at Spring and Stoney Creeks a few men are scattered here and there fossicking, but the rich finds of former days would appear to have departed. At Tipperary Gully and Sawpit Gully some fossicking is being carried on, but no finds of any importance have been reported. A few men who combine other occupations with mining make a living, but no more.

With favourable seasons a good deal of gold might, probably, be won in the locality. All the flats without, perhaps, an exception, contain gold in more or less quantity. This alluvial gold must, it is supposed, have been shed from reefs in the neighbourhood. It is puzzling that prospecting for reefs, of a systematic nature, has not been more extensively carried on. The only reefing enterprise prosecuted in the vicinity was by the Day Dawn local syndicate about 6 miles from here, in the early part of the year. Some parcels of the stone have been treated at Dapto and the Clyde, with rather disappointing results. It is said that the sinking, although deep (180 feet) and expensive, is not sufficiently deep, and that the stone grows richer as it goes down. The reef varies in width from about a foot to 2 feet. The company has been aided from the Prospecting Vote. At present little work, if any, is being done. The property appears to exhibit a reasonably good show for the enterprising miner or capitalist. A small cyanide plant (two vats), the property of Plumb, Gaffney, and another, has been in operation at Stoney Creek for several months. About 600 tons of tailings were treated, with, it is stated, fairly remunerative results. The exact return cannot, for private reasons, be obtained. The works are now dismantled, and the plant removed to some other locality. As nearly as can be ascertained the quantity of gold won in the Division would be about 1,507 oz., value £5,838, being 628 oz. less than the yield for 1897. Only about 70 men find work in the Division, being about 200 less than the number employed last year. The Registrar issued 395 miners' rights and 7 business licenses, he registered 7 mining tenements and 1 agreement M P L; he issued 7 "authorities to enter", and there were 7 cases dealt with in the Warden's Court.

## TUMUT AND ADELONG MINING DISTRICT

*Albury Division*

Beyond some desultory mining and prospecting, principally in the neighbourhood of the Black Range, but little work has been done in this Division. At that place Messrs Turner and McGrath have treated some 300 tons, with a small cyanide plant, extracting therefrom about 65 oz. of gold.

By a joint arrangement between the Governments of New South Wales and Victoria boring operations are to be carried out in the vicinity of Doctor's Point, near Albury, and the Wodonga Flats, on the Victorian side, with a view of ascertaining the existence of deep leads in the locality. Operations have already been commenced near Wodonga.

Work of a similar nature is to be performed by the Government at a site already fixed at Black Range. Jones, Walsh, and party are also being aided to test the deep ground in this locality. They have bottomed one shaft, and have obtained very encouraging prospects.

*Walbundrie Division*

Mining at Bulgandra has been practically confined to three leases, viz., the Welcome Find, the Lone Hand, and the Goodwood, with the approximate result of about 260 oz. of gold from some 500 tons.

The provisions of the Mining on Private Property Act have not been largely availed of throughout the Division.

*Geamanton Division*

No mining was carried on in this Division during last year.

*Corowa Division*

The Corowa Deep Lead Company's Mine, upon which a large amount of money has been spent in machinery, and upon which boring operations have proved the existence of a deep lead, has now two shafts—one sunk to a depth of 97 feet, and the other to 123 feet. This company is in receipt of assistance from the Prospecting Vote to carry out the operations.

*Adelong Division*

The Adelong Gold field is still producing a large quantity of gold, the figures for 1898 being 18,268 oz. as compared with 19,690 oz. during 1897. The Gibraltar Consolidated Company's Mine contributed the bulk of the gold, having produced 13,459 oz. from 12,886 tons of stone. On an average this company employed 280 men all the year, and are operating from three shafts, particulars of which are given below—

Radcliffe Shaft—Depth of shaft, 565 feet; deepest level, 555 feet, average width of reef, 1 ft 6 in

O'Brien's Shaft—Depth of shaft, 360 feet; deepest level, 300 feet; average width of reef, 1 ft 6 in

Perkin's Shaft—Depth of shaft, 280 feet; deepest level, 260 feet, average width of reef, 12 inches

The

The strike of the reef is approximately north 60 degrees east, and the underlay is on the average about 10 degrees to the east.

Full particulars of the machinery employed by the company were given in the Departmental Report for 1897.

The Challenger Gold-mining Company raised 186 tons for 164 oz. ; the Caledonian Company 133 tons for 240½ oz. ; and the Adelong Proprietary Company 260 tons for 240 oz.

Alluvial mining was exceptionally quiet during the year, only about 635 oz. being won. This is considered a very small output for this Division, the drought being responsible for the falling off.

Large areas of land in the Adelong Creek below the Gibraltar Mines are much sought after. The depth of the land is about 45 feet, and from its nature found to be wet and expensive to work. However, the introduction of improved machinery and modern methods of working may yet create a remunerative industry in this portion of the creek.

#### *Tumut Division.*

It has not been possible to get the returns of gold won in this Division during the year, as the miners sell their gold to the different storekeepers, and keep no record of their transactions.

A large number of applications for authority to enter private lands, also applications for permission to mine on reserves, have been lodged during the last three months, by persons representing large companies, and it is considered that mining on the Tumut Gold-field will, during the year 1899, show a very great improvement on previous years.

#### *Batlow Division.*

There are no important finds to report for the year. Griffiths and party prospecting on a continuation of Walsh's Dyke have obtained fair prospects, but the lead has dipped away, and they are now sinking a shaft to strike the underlay of the dyke at a lower level. In the neighbourhood of Laurel Hill some good gold is being obtained by driving under the basalt, and Currie and Corbett, who are sluicing on Richardson's conditional purchase land, are doing very well. Several claims lower down the Gilmore Creek are being worked with very fair results, though the fact of the creek not having been made a frontage creek, and being measured into the selected lands, rather hampers mining.

Timmis and party are erecting crushing machinery on their holding known as Walsh's Dyke. This formation is about 150 feet wide, and is estimated to go from 2 dwt. to 4 dwt. to the ton. As the ground is easily worked, the proprietors consider they will be able to make it pay.

It is difficult to estimate the quantity of gold won in this Division for the year, as some goes towards Tumarumba, some again is sold at local stores, and is brought from all parts of the mining district, but the gold sold here amounts to 920 oz. for the year, valued at £3,565.

#### *Tumarumba Division.*

The gold won in this Division during the year was 1,650 oz. from alluvium and 150 oz. from quartz, which is a decrease on the quantity won the previous year.

The dry weather which prevailed during the greater part of the year was a great obstacle to all mining work in this Division, and accounts to a great extent for the small amount of gold won.

The powerful pumping machinery which was early in the year erected on the ground held by the Tumarumba Flat Gold-sluicing Company has, after an exhaustive trial, proved the large area operated upon to be quite worthless, and the enterprise of testing the ground involved a heavy loss. The machinery has now been erected on the ground lately held by the United Trades Company in the bed of Tumarumba Creek, and the prospects so far are exceedingly good, the failure of the ground higher up cannot, however, but prove seriously detrimental to the district.

During the year there were no rich finds of alluvial gold in the Division, a most promising feature as regards this class of mining being Messrs. W. and H. Bell's successful tunnelling through the basalt at Cherry Hill ; the wash has there been struck, but to the present there is no data from which to judge whether there is sufficient gold to be payable.

No forward movement of any note has taken place as regards quartz-mining, this industry being distinguished by a remarkable apathy considering the good prospects obtained from many of the reefs. Lack of water has again somewhat retarded operations.

There is undoubtedly a large diminution in the number of miners employed in the Division, 346 miner's rights only having been issued, as against 409 last year, and a larger proportion of these rights have been for six months only.

The number of Chinese employed in the Division remains the same, viz., two.

It is evident that a considerable quantity of the gold won in this Division is taken into the Colony of Victoria, but owing to the manner in which the gold is exported it is impossible to give an estimate of the quantity.

#### *Narrandera Division.*

The Grong Grong Reefs lie north of the railway line, about 22 miles from Narrandera, and 14 from the railway station at Grong Grong. The country is easy of access but waterless, except where reservoirs have been sunk and dams erected to store the rainfall. Quartz and ironstone veins abound, and there is an ample supply of timber for mining purposes.

The Harry Smith is the principal mine, and the only one on which systematic work is being carried out. The manager reports having crushed 493 tons of stone during the twelve months for a return of 251 oz. of gold, value £998. The whole of the gold won from this mine has hitherto been devoted to its further development, but it is surely, if slowly, approaching a time when it will furnish dividends to its shareholders.

When this comes to pass an impetus will be given to mining development in this locality which present appearances show is much needed.

The reefs at Cowobbie are about 10 miles from Grong Grong, and 23 miles from Coolamon Railway Station (45 miles from Wagga), in a country of low rises, where the ironstone outcrop appears to have undergone a more severe denudation and erosion than was apparent on the soil-covered undulations at Grong Grong. In past years gold was won from surfacing about half a mile from the head station on this run, and a battery was erected to crush the contiguous vein-stuff ; but although the metal was proved to exist in payable quantities, it was found impossible to save it with the machinery in use, and the venture was in consequence abandoned. There is little doubt that these reefs would pay well if worked with adequate capital and up-to-date machinery.

The country rock is of slate, and the veins frequently show a strange mixture of ironstone, quartz, sandstone, and slate.

Evans and party are at work about 3 miles from Cowobbie, under similar conditions as to the matrix and lightness of gold, but the vein is reported to be from 7 to 12 feet wide. A sample of stone from this mine sent to Sydney some eighteen months ago gave a return at the rate of 21 oz. per ton ; but with the battery in use it is found to be impossible to save this "paint gold," and the return of 41½ oz. on the labour of nine men for twelve months is not encouraging to further efforts without more perfect appliances.

This property is in the parish of Brangalga, at no great distance from the newly-discovered reefs in the adjoining parish of Yarranderry ; and it is not improbable that a connection may be traced between these through the intervening country.

Evans' Claim is on Crown land, and the reefs at Cowobbie on private property ; but both holders of the properties named, it is understood, welcome the assistance of the capitalist to aid in developing the mines.

A broad auriferous belt of rounded ironstone and quartz pebbles extends easterly about 14 miles from the town of Urana, in the direction of Lockhart, on the northern edge of which, 7 miles out, gold has been found and mined for in deep ground.

This tract of country has not been tested elsewhere. Further exploration may yet reveal the existence of deep leads under its promising surface indications. The waterworn drift has evidently been swept from a gold-bearing formation now buried in the general level of the plain.

Further south, towards Corowa, on the district boundary range, there are a few gold-miners at work ; but reliable information has not yet been obtained as to the geological formation of the range or the condition of the mines.

*Junee Division.*

Very little mining has been done in this Division during the year, a great many of the leaseholders having abandoned their mines on account of the scarcity of water and grass for their horses, &c.

With the exception of Howell and Co.'s Consolidated Gold-mining Company Mines, there is only one other mine at work at Junee Reefs, viz., H. J. Baker and party, W. C. Valentine and party's, among others, having been recently cancelled for non-fulfilment of labour conditions. There are a few alluvial mines about Wantiool and Eurongilly.

Junee Reefs.—At the Dusthole Mine and the Just-in-time Mine (Howell and Co.), which are being worked conjointly, there are about 1,000 tons of stone at grass awaiting treatment, and at the Doctor's Mine (also the property of Howell and Co.) there are 400 tons of stone at grass also awaiting treatment. The Dusthole Mine is a gold lease of 10 acres, employing fourteen men. There is no machinery on the ground, all the hauling being done with a whip, and the stone being sent away at times to the smelting works at Lake Illawarra. The deepest level is 320 feet strike E.N.E. by W.S.W. underlay about 1 in 2 feet towards S.E. In the Doctor's the deepest shaft and level is 200 feet; the reef in a N.W. and S.E. direction underlaying west. No stone has been treated during the year.

At Hy. J. Baker's Rockdale Mine, on 23rd February last, reduction of half labour was granted for three months. On resuming full labour, stoping has been carried on between Nos. 1 and 2 shafts, and driving 50 feet at the 100 feet level, the reef averaging 15 to 18 inches; they are timbering as they stop up. Also stoping and driving in No. 3 shaft, where they have driven about 9 feet in the lode, averaging a width of about 12 inches ferruginous quartz, but not fit for battery treatment. It is understood to be very expensive to the leaseholders in treating, they having sent 36 tons of stone to be treated at the Smelting Company's Works at Lake Illawarra, which yielded 51 oz. 10 dwt. 16 gr., and it is stated the treatment of the stone in this way naturally leaves no margin for the proper working of the mine by so small a party, they all being poor miners. It necessitates their sending the stone to Old Junee Railway Station by team, a distance of about 10 miles, and thence by rail to Illawarra, a distance of about 347 miles. The lessees state that the total expenditure on the mine for the year was £505 12s. 8d.

Eurongilly.—At the Pioneer Mine (G. H. Rowland) little or no work has been done during the year, consequently the lease has been cancelled for non-fulfilment of labour conditions. James Steele and party have been mining on alluvial, off and on, for some time, and for 100 loads they obtained 9½ oz. of gold, valued at £34 8s. 9d. They have now removed to another place, and applied to the Warden to mine on private property in the parish of Wantabadgery, and have erected a sluicing plant just outside the boundary of this Division. Another party have erected a small cyanide works at Eurongilly, near the site of the old Huntington mill, but since the beginning of the year have done no work owing to the scarcity of water. About 35 oz. of gold was obtained from this plant during the early part of the year, but owing to the proprietors being absent on their Christmas holidays, and the place shut up, the quantity of tailings put through was not obtainable.

Wantiool.—On C. W. Crawley's lease no work has been done this year, but he has between 70 and 80 tons of stone ready to crush at his battery, which is some miles from the mine, as soon as a sufficient downpour of rain comes to enable him to conserve enough water for the purpose. John Charlton has also about 30 tons of stone at grass, which he intends getting crushed at Crawley's mill as soon after Mr. Crawley has crushed his own as possible. Mr. Warden Martin sent some samples of stone from this latter mine to Sydney for assay, which yielded very good results.

*Wagga Division.*

In the face of the long-continued drought but little prospecting could be undertaken in this Division, and operations on the few mines at work were seriously hampered for want of water, even for domestic purposes. In consequence the output of gold has not been as great as early indications in working mines led the miners to expect, and new ground has not been anywhere opened out. There are indications that a most promising mineral field is here lying dormant for lack of that enterprise with capital which is so freely invested in other more distant and probably poorer districts. The colour of gold can be found almost everywhere, and reefs bearing more or less of the precious metal intersect the country in several directions. Many of these reefs have been worked for payable gold for a short distance down and then abandoned, it is stated, on account of the lessening yield. None of these have been tested at any depth, and it is probable that the greater skill and more perfect appliances of the present day would enable the capitalist to obtain a more satisfactory return on investment than was possible with the ruder appliances available twenty or thirty years ago. This is not now a field for the poor miner. Capital, directed by skill, would be absolutely necessary to give any chance of success, and it is thought the probabilities of success are many, and worthy the attention of experts.

Four men working the alluvial on this field report having won 32 oz. gold, valued £116, and the same party have received authority to prospect 10 acres in deep ground on portion 44, parish of Wantabadgery. A small cyanide plant worked on some old tailings recovered 35 oz. of gold, value £79, but for want of water operations have been in abeyance for some six months past.

Pullitop, 30 miles easterly of Wagga, is amongst ranges of micaceous granite, felsite, and ironstone slate, and the country has been proved to contain gold, wolfram, and tin—the latter in stream and lode. The gold has been mined for up to the present in a quartz matrix in the felsite ranges, but there is little doubt that further exploration will reveal its presence in the quartz-veined slate ranges. Spence and party hold a lease of 12 acres in the parish of Currandarra, and have crushed about 50 tons of stone, yielding an ounce to the ton, at the stamper battery they have erected on Pullitop Creek.

Water has been very scarce, and operations have been much hampered for want of it. Other parties have been prospecting over the same range of hills and report having got a good show by dollying, but had to return in consequence of the want of water.

Small leases of land carrying wolfram, in the same parish, have been applied for, but no work has yet been done in connection with the claims.

Tin is known to exist in the bed of Pullitop Creek, but no effort has been made to win it from its resting place. It has also been found further off in veins amongst the higher granite ranges.

Close to Wagga, on the town common, gold has been found in quartz veins in the slate country rock, but nothing payable has yet been discovered.

Prospecting operations are, however, still being conducted in a desultory fashion.

*Cooma and Kiandra Division.*

During the year 1898 a fair amount of prospecting work has been carried on chiefly in the vicinity of Cooma, but so far as gold is concerned nothing of any importance has been discovered, but with respect to copper the case is different. At Middle Flat, on a conditional purchase owned by Mr. T. Goodwin, there is a very bold outcrop about 5 chains wide consisting of gossan showing, it is said, copper in places. The walls on either side of this formation are slate and are stated to be very well defined. The prospectors, Molesworth, Skidmore, and party, have sunk a shaft on the outcrop to a depth of about 100 feet. At about 47 feet a strong formation of sulphides was struck yielding, it is claimed, an assay of 15 per cent. of copper and 12 dwt. of gold. This formation is stated to have been proved to the whole depth of the shaft, and to be about 7 feet wide at the 100 feet level. Water was struck at a depth of about 50 feet, and as it was found impossible to cope with it without machinery, the proprietors erected a 6-inch Cornish drawing lift, driven by a 6-horse power portable engine. This pump throws from 3,500 to 4,000 gallons per hour. Between twenty and thirty assays have been made from stone taken from the 70 feet level; these, it is stated, averaged 2 oz. 11 gr. of gold, and about 3 oz. of silver per ton and 8 per cent. of copper. This formation can be traced for some considerable distance, and is supposed to be identical with that which is now being prospected on property known as Dartmoor, owned by Mr. M. Eylemann, about 1½ miles north from Middle Flat. The same formation is also believed to run through property owned by Mr. W. Jardine, which lies about 1 mile north from Dartmoor. Should the work at Middle Flat prove satisfactory, no doubt capital will be found to prove the ground on the properties mentioned. Molesworth, Skidmore, and party claim to have expended about £800, and are at present in receipt of Government prospecting aid.

At Bushy Hills, 3 miles easterly from Cooma, work is at a standstill, it being found impossible to work the lease without costly machinery, the stone being found very difficult to treat, and as the holders of the leases are not in a position to erect machinery, negotiations are now being carried on with a view to the introduction of capital to thoroughly prospect the hill. The opinion of all the experts who have visited the place is that it is a place of great promise and well worth thoroughly prospecting. The lowest return that has been obtained from any of the ore that has been treated is a little over 2 oz. per ton.



At Bredbo, 20 miles south from Cooma, on property owned by Mr. John Clifford, a reef carrying gold has been discovered, but as only a little work has been done, it cannot be said whether it is likely to prove of any value; the surface stone assayed 6 oz. per ton.

At Kydra work has again been started on this field but nothing of importance has been discovered.

Kiandra.—The usual amount of fossicking has been done on this field, and a good many men are earning fair wages. No new finds have been made. It does appear strange that some steps are not taken to thoroughly test the deep leads that are known to exist in and around Kiandra; this result might be obtained if larger areas at a reduced rental could be granted.

Nine Mile.—At the Empress Mine, owned by Mr. J. W. Lett, good results are being obtained in the deep alluvial ground, and some large areas have been applied for as leases adjoining it; this should lead to a revival of work in this locality.

Gray Mares, Boogong.—Work is being vigorously carried on in this field, a complete crushing plant has been erected worked by water-power, and good results are being obtained from what appears to be a permanent reef; it has been tested to a depth of 150 ft.; the reef at that depth being 6 feet wide, and gives an average of about 9 dwt. to the ton. Work has only been carried on in the past during the summer months, but the manager now hopes to be able to work during the whole of the year. Twenty-five men are employed.

Cowra Creek.—At this field satisfactory progress is being made, a good number of men are at work and are making fair wages. There is now in course of erection a cyanide plant; this will be a great help to the field as nearly half the gold is lost by battery treatment, and as there is a large amount of tailings in the field it is fully expected that the returns next year will be largely in excess of any previous year.

Buckley's Crossing.—Little or no work has been done in this part of the district, but it is believed application has been made for leases covering the bed of the Snowy River near the township, and that if these leases be granted the river bed will be worked by dredging; if this should prove successful the other rivers in the district will also be similarly treated.

The Black Range.—This place is situate about 42 miles south-easterly from Cooma; only developmental work has yet been done, and this has been greatly retarded by the drought from which that part of the country is at present suffering. If capital could only be got to thoroughly prospect this part of the district some valuable discoveries both of gold, silver, and lead would be made.

About thirty applications have been made for authorities to enter on private lands in various parts of the district, twenty-five of which have resulted in failure; five are still being worked with some hope of success, but with the exception of Molesworth, Skidmore, and party at Middle Flat, the work generally done is of the most primitive character, and good results could not be expected.

#### *Captain's Flat Division.*

During the year 1898 the quantity of ore raised and smelted by the Lake George Mines Co. (Limited) was more than twice the amount treated in any previous year.

Three pyritic blast-furnaces, of a nominal capacity of 100 tons each, were in operation during ten months of the year, while a smaller 60-ton concentrating-furnace was in operation during a portion of that period. The total quantity of ore treated was 56,040'61 tons producing matte the contents of which were valued at £69,213 12s. 6d. About 300 men were employed directly on the mines during the year, whilst a large number such as teamsters, wood-cutters, &c., were also employed.

The greater part of the sulphide ores treated were raised from the Northern or Powell's Section, locally known as the Koh-i-Noor, while smaller quantities were raised from Keating's or the Southern Section, where gossans for fluxing purposes were also obtained.

During October the operations having proved unprofitable the Company applied for and obtained two months suspension of the labour conditions on all their leases. The directors, however, did not avail themselves of the privilege for a longer period than was necessary for a thorough overhaul of the machinery, and work was resumed as soon as this was accomplished. Since the resumption of operations, owing to a vigorous policy of retrenchment on the part of the management, it is understood that the operations of the Company have shown a substantial profit.

Outside the Lake George Mines there was no productive mining in the Division, although a considerable amount of prospecting was done on leases held by the Lake George Proprietary Co., the Lake George North Co., Lake George South Co., and Chas. Sacagio, which was unfortunately without successful results. A rich vein of auriferous ore was worked by tributors on behalf of the Lake George Mines Co., on the old Vanderbilt Hill, the returns from which are included in the smelting operations of the Company. Alluvial gold-mining was confined to occasional fossickers on the Molonglo River.

#### *Bungendore Division.*

Mining matters at Bungendore are very quiet, the quantity of gold won during the year being under 150 oz. A number of parties are working throughout this Division under aid from the Prospecting Vote, who have fairly good prospects ahead of them.

#### *Gundaroo Division.*

Mining matters in this Division are at a standstill. There is only one claim on gold at the present time. While there is a decrease in the amount of alluvial gold won, there is an increase in the gold won from quartz, which is attributable to the fact that a battery has been erected at Dairy Creek. This battery was erected by Mr. Thomas Coleman, of Gundaroo, at a cost of something like £200, and it consists of 5-head of stampers. No gold leases have been applied for during the year. Two applications for suspension of the labour conditions, were the only matters dealt with by the Warden's Court for the past year.

#### *Yass Division.*

There is nothing very satisfactory to report as regards mining in this Division for the past year.

Murrumbateman, the new field, about 10 miles S.E. from Yass, has turned out a failure, only one claim (the prospectors, receiving aid) being now at work.

At Nanima, a few miles further, the same result appears, the two claims on payable gold last year being still the only two on gold. These two claims (Remington's and Crocker's) are some considerable distance apart, and although a large amount of genuine prospecting has been done, the reef has not been found anywhere between them. Remington's (the prospectors) had one crushing of 11 tons, about the end of the year, from which they obtained 103 oz. 12 dwt.

At Blakney Creek, 15 miles north from Yass, the prospectors are again disappointed, as up to the present they have failed to find payable gold. There should be a good reef in this locality, as Blakney Creek for many miles along its course has carried good gold.

At Gininderra, some 30 miles south-east from Yass, a good deal of prospecting has been carried on. The prospects are very promising, as a large ironstone formation, of a gossan character, runs through the country for several miles. As this carries gold in many places, the miners look upon it as an indication of a good lode underneath. The drought has, however, been a great bar to satisfactory prospecting. When rain enables the miner to continue operations, I should not be surprised at a payable reef being discovered. As it is, the Warden has been obliged to grant suspension of work all round.

At Gooda Creek there is still only one claim (Buckmaster's) on gold. The reef worked here has not as yet been traced outside the limits of this claim.

#### *Tooma Division.*

There was little or no mining going on in the Tooma Division last year. Toolong Creek, from which place a good deal of alluvial gold has been won, is worked out, there being only three men working, and scarcely getting enough to keep them in food. Khancoban Creek, where it was expected there was good alluvial gold, has been abandoned altogether.

## SOUTHERN MINING DISTRICT.

*Braidwood Division.*

Within this Division mining has been confined to the bank of the Shoalhaven and Jembaicumbene Creek. The Colombo Company are now preparing to complete their race. This company have some good ground, but it is feared it will be found, as in other undertakings of this nature, that the work will prove deeper than the present bed of the river, also, that the current in the river is not sufficient to carry away their sludge and tailings.

At Corang a considerable amount of prospecting work has been done, proving the existence of a large body of auriferous wash, but, so far, barely payable. It is, however, well worthy of further prospecting, and the consideration of the Prospecting Board.

*Araluen Division.*

The most pleasing feature of the years' transactions has been the attention directed towards dredging in this district. We have had numerous visits from practical men from New Zealand and Victoria, who express themselves amazed at the want of enterprise in New South Wales, and say if similar country was available to the other colonies it would have been secured and worked years ago. Upwards of 1000 acres have been applied for, and although, as usual, a large proportion is held solely for speculative purposes, yet there is a considerable area in the hands of men who are so well satisfied with the results of their tests as to the value of the ground, that they are finding all the necessary capital for the undertaking.

The machinery for a dredge to be used in Lower Araluen is now in course of construction, and there is every probability of dredging operations being in full swing within the next six months.

Should this venture prove successful it will cause a complete revival in the mining industry throughout the Braidwood District. The whole of the Araluen Valley will again be worked, and, in my opinion, there is no worked ground in the colonies containing so much gold as Araluen.

A Melbourne syndicate have lodged applications for authority to enter the private land at Jembaicumbene, and are preparing to thoroughly test it, and, if satisfied, will put on the pumping machinery so successfully used on similar deposits in Victoria.

Some 7 miles of Shoalhaven River have been applied for, and, in view of the fact that hundreds of miners have from time to time won good returns from the immense bodies of drift on both sides of the river, it would seem highly probable that the dredging of these deposits will be remunerative.

It is generally believed that the drifts below the junction of the Mongarlowe River are richer than those above it—the gold is certainly heavier. We already have Mr. Geological Surveyor Jacquet's report on the upper drifts, and, in view of the success of his book on dredging, published by the Department of Mines, a further report as to the value and extent of the drift deposits in this district would materially assist and benefit the mining industry in this locality.

The gold won at Araluen is nearly a third less than last year—this is chiefly due to the severe flood in February last, which caused a complete stoppage of work for some months in all the principal claims. But it is most remarkable that in two or three months after the flood before referred to, some eight or ten fossickers obtained fair wages in Lower Araluen by simply cutting up and washing the grass and turf, showing the quantity of gold still in Araluen, most probably, in the old tips.

There are about 270 men employed gold-mining in this Division, and they won, so far as can be ascertained, over 2,100 oz. of alluvial gold.

The exceptionally heavy rains in February caused an immense amount of damage in this district, claims were filled up, dams washed away and races destroyed. Araluen especially suffered severely; nearly all the claims were filled to the top either by sand or water, and had not the Department of Mines come to the assistance of the sufferers few would have been able to recommence work. Much time was lost in effecting repairs and when this was accomplished the dry weather set in and no water was available for sluicing purposes, consequently it is not to be wondered at that the gold returns are less than last year.

*Major's Creek Division.*

In consequence of the dry season very little progress has been made in alluvial mining within this Division during the past year, the owners of what are termed flooding-off claims, *i.e.* ground sluicing on a large scale, have not done well, and the same may be said in regard to owners of puddling mills; they too have been short of water, especially at Long Flat and the Back Creek portion of what is still termed the new rush. Some half dozen mills on or near the Jembaicumbene Creek have had sufficient for puddling and sluicing.

Quartz-mining is almost at a standstill, there being at the present time only two claims at work, *viz.*, the Snob's and Hanlon's Reefs. The working miners have not sufficient means to sink deeper into the hard rock, where water has to be contended with; and the cost of carting and crushing is quite heavy enough, and more so when the pyrites have to be sent to Maryborough (Q.) or other establishment to be treated; hence the profits to the producers become too small to enable them to continue the work of developing the reefs at Major's Creek. At Snowball, some 33 miles from Major's Creek, about 16 men are said to be engaged prospecting for, or are already on reefs; but as yet no stone has been crushed, hence it is not known whether any of those already opened are payable.

It is said that the few parties working in alluvial ground are making from 3 to 4 dwt. per week, each man, which is very small to live upon. One hundred and nineteen miners' rights have been sold, as against 135 for the previous year, being a decrease of 16, which looks as if the lowering in price has not caused a greater number to be taken out, and 4 mineral licenses as against none during 1897. There is a decrease of 252 oz. 15 dwt. 6 grs. in the quantity of gold won, when compared with that of the year 1897, and which may be attributed partly to the drought, and lack of capital to develop the reefs. There are a number of puddling mills at work; the owners of these mills keep no mine books and are unable to give an accurate account as to what the wash dirt averages to the load. The dirt runs from about a  $\frac{1}{2}$  dwt. to 3 dwt. to the load.

*Little River Division.*

With the exception of a storm in February, the past year has been the driest ever known in this Division, and mining was confined to the well-worked river banks.

The water-races afforded only a few weeks' work, when nuggets of 22, 10, 8, 4, and 2 oz. were unearthed.

The Day Dawn reef, from which so much was expected in proving the reef at a depth, has been idle during the past year.

There are some thousands of acres of auriferous ground on both sides of the river that would give employment to a large number of small parties of miners if a supply of water from a main-race was on the ground, and there is no impediment to this being carried out at a small expenditure.

*Nerriga Division.*

The continued drought during 1898 acted as a great drawback to alluvial mining.

A large extent of ground has been taken up at the Oallen Crossing by C. Blacket, who intends working same with a newly-invented gold-saving machine.

Two 100-acre leases have also been applied for, to be worked by dredging. Four 25-acre water-rights for the working machinery, in connection with the Phoenix reefs, have also been taken up.

A tunnel, 600 feet in length, has been driven on the Phoenix reef, and was to be extended a further 200 feet. Tunnels to the extent of 400 feet have also been put in on Mark's leases, but have been stopped for two months.

A shaft, now down 140 feet through lignite, and dry, is at work under aid from the Prospecting Vote, and will help to define the extent of the Corang deep lead.

*Nowra and Yalwal Divisions.*

On the 30th June, 1898, there were 27 gold leases in force within the Yalwal Division, on which about 100 men are employed. There has been an increase of 431 tons of stone crushed at the various batteries, as compared with the previous year.

The total crushing at the Yalwal Gold-field for the past year may be put down at 8,951 tons, yielding 1,320 oz. of gold; and 4,750 tons of tailings, having passed through the various cyanide plants, giving 649 oz. of gold. No alluvial mining has been tried for the past year, and nothing whatever has been done by way of mining within the Nowra Division.

The Yalwal Gold-mining Company hold fourteen gold leases with an area of 81 acres 1 rood and  $\frac{1}{2}$  perch, employing fifty-two men; have a 40-head stamp battery, said to be one of the best in the Colony, which is in a thoroughly efficient working condition. During the past year a cyanide plant has been added, capable of treating 400 tons per week, and four

large Speck gaskins, 7 feet by 8 feet, were put in for the purpose of reducing the slimes, and were found to act admirably. The cyanide plant consists of four 20 foot x 6 foot circular wooden vats, and one 16 feet x 5 foot vat for the alkaline solution, two concrete sumps, 20 feet x 20 feet x 5 feet, for cyanide solution, and one small sump, 13 feet x 13 feet x 5 feet, for alkali solution, two large pumps for water supply and cyaniding are ready for use. A tramway, 30 chains in length, has also been constructed, and a small winding engine, 6 horse power, is placed above the stone crusher for bringing the ore from the claims in Saw pit Gully. The cost of these additions is about £3,000. Most of the work done during the past year on the various amalgamated leases was prospecting, with a view of testing the ground, and it is contemplated by the owners, Messrs Hay, Wright, and party, in the near future, to go in for more extensive exploration at the lower levels. The quantity of stone crushed by this company has been kindly supplied by Mr Wright—4 800 tons yielded 230 oz of gold, 3,150 tons tailings passed through the cyanide process, giving 450 oz 10 dwt of gold. The cyanide yield is very much better in a sense, but is entirely due to the fact that 200 tons of the tailings were saved and stacked from some of the rich stone or ore taken from the Caledonian Mine some years ago. The Homeward Bound Gold mining Company have also erected a large cyanide plant for treating past tailings, consisting of leaching vats, revolving distributors, also over flows on South African plan, as well as sluicing vats, and pumping engine. The arrangement is somewhat original, due to the irregularity in the ground, inasmuch as the sluicing vats are placed above the leaching vats. The sand in the vats is washed by upward percolation. This was made necessary by the impermeability of slimes. It is intended should the results of the cyanide work prove successful the company will erect other vats. The amount of cyanide used at present per ton of sand is about 1½ lb per ton, but it is thought that now the vats have been soaked the treatment in the future will be done with 1 to 1¼ lb per ton. The cost of treatment, including all chemicals, is from 4s 6d to 5s per ton. The results of crushing from 1st September to the 24th December last was 3,712 tons, yielding 971½ oz of gold, average value £3 7s 6d per oz, 300 tons of tailings were also treated by the cyanide process, producing 23 oz smelted gold. The company look forward to the future as being very satisfactory.

Moore and party have also during the past year erected three vats, 10 feet by 6 feet, and all appliances, near the creek, to work the tailings of some years' collections that have been deposited in the creek. The vats are capable of treating 250 tons per week. They have treated 1,000 tons of tailings, which yielded 100 oz of gold, this, however, does not represent the value of the tailings treated, as the extraction is said to be very imperfect, owing to the presence of charcoal in the tailings.

The Poorman Mine, Gold Lease 686, has also a 10 head stamp mill and cyanide plant, open working—lowest level attained, about 80 feet—439 tons of stone passed through the battery, giving 69 oz of gold, and 300 tons treated by cyanide yielded 70 oz of gold.

Barron and party, at Grassy Gully, are the owners of a lease formerly owned by the Anglo Exploration Company, who had a drill at work for some time, making a bore of 309 feet, and then abandoned it. After the cancellation of the lease the present holders applied for it, and have held it for six months, and during which time several parcels of stone have been sent to the Dapto Smelting Works, with the following very satisfactory results, particulars of which have been supplied by Mr Barron—46 bags crude ore assayed 8 oz 14 dwt gold per ton, 6 bags tailings assayed 1 oz 2 dwt 4 grs gold per ton, 63 bags quartz ore assayed 5 oz 1 dwt gold per ton, 83 bags crude ore taken from the mouth of a shaft 98 feet deep, left by the former company, assayed 11 oz 3 dwt 4 grs gold per ton and 4 oz 7 dwt 3 grs silver per ton, 56 bags of stone that had been thrown away and used for a track for a horse working a whip and dug up by the present owners assayed 5 oz of gold per ton and 1 oz 12 dwt of silver per ton, 55 bags crude ore assayed 7 oz 4 dwt 4 grs per ton, and several other parcels that were sent were equally as good, the bags averaged seventeen to the ton.

#### *Ulladulla Division*

No mining business has been done in this Division during the past year, except a little washing for gold from sand at Murramarang Beach, and there is at present no prospect of any fresh mining work being started. The sand washing did not pay and has been abandoned. Four men only were engaged at it. A little prospecting has been done, but with no results. There have been sixteen miners' rights and one mineral licence issued.

#### *Nelbgen Division*

Mining matters have been very slack in this Division during the past year, particularly in quartz mining as only twenty men have been employed, as against thirty five in 1897, and those employed in alluvial mining number about the same, but the yield of gold is just half, viz, 60 oz, value £240, as against 120 oz last year. The yield from quartz has also been much less, being 118½ oz, value £474, against 270 tons in 1897 which might be accounted for, to a certain extent, by the fact that McLeod and party have only crushed 60 tons this last year against 220 tons in 1897, as they have been proving their ground by sinking and driving, and will commence stoping and crushing on a large scale when they resume after the holidays.

The total value of machinery in the Division has also fallen, as one of the batteries from Bumbumalla was removed early in the year, and the horse power one at Currowan has been dismantled. The first named battery is the one that it was anticipated last year would be removed to Currowan but the leases at that place have not been worked, the lessee being unable to do so, and they have now been cancelled, and are now being worked by four miners on miners' rights, who say they intend to give it a good trial.

Two mineral prospecting areas were applied for by Messrs Backhouse and Cleaver at Sugarloaf on the Birdwood Mountains, to work a copper lode there but only prospecting has been done, and no ore raised, and the affair hangs fire.

There are six gold mining leases in force in the Division with an area of 50 acres, three have been applied for during the year, with an area of 8 acres, also one P L A lease of 15 acres.

Twenty six miners' rights and one business licence have been issued during the year.

#### *Bateman's Bay Division*

Mining in this Division is in a better state at the present time than it was in the year 1897. No doubt the cause may be attributed to the miners, who relied on making more out of the reefs than out of the alluvial. Some genuine prospecting has been carried on at Mogo, Old Mogo, Tucker Hill, Cabbage Tree, and Waterfall Creek, with the result that the diggers made fairly good wages. There are noles of auriferous country in this district not yet prospected.

Aid was granted to G A Loxton, at Waterfall Creek, to drive a tunnel 150 feet, the work has been completed. The tunnel is now 501 feet, a cross drive of 95 feet, and a shaft of 40 feet. He has a tramway from the tunnel to Waterfall Creek, a distance of a quarter of a mile. While driving the 150 feet he got 200 loads of washdirt, yielding over 28 oz of gold, valued at £112 11s 4d. He thinks the claim will last for years, and is satisfied with the prospects. Aid has been granted to Samuel Bellett, at Tucker Hill, to the amount of £20, to drive a tunnel 200 feet. He has the tunnel 164 feet, and is satisfied with the prospects ahead of him. He has washed 180 loads for 40 oz, value of gold won, £156.

Aid was also granted to James White, at Old Mogo, to drive a tunnel 150 feet or so, the work has been completed. This tunnel should be carried on some 200 feet further into the hill, then fairly good results might be expected, and would likely be the means of a lot more ground being opened up, as there have been some heavy deposits of gold obtained from near where the tunnel is now being driven.

John White and party, at Ryan's Hill, have done a lot of work during the year. Their dam was washed away in February last and part of their tunnel fell in, nearly ever since they have been engaged getting their claim put in order to start again at the beginning of the year, their tunnel is now in 500 feet. Good results may be expected from this mine during the year 1899, as the party is comprised of some practical miners.

There are other parties engaged in tunnelling and working claims in the district with fairly good prospects, and there is every reason to believe the yield from alluviums during 1899 will exceed the return for year 1898.

The Dick Consolidated Gold mining Company, situated at the Big Hill (quartz claim), when working employ about eighteen men. During the year the Company have had 506 tons of stone crushed for 318 oz, value of gold won £970. The Company have a winding and pumping plant and a 10 head stamper battery, each about 8 horse power. This Company has had three lots of suspension, two and three months under partial suspension, and in October last they obtained three months total suspension, thereby causing a lot of men to be thrown out of employment.

Fitzgerald's gold lease of 2 acres at the Big Hill is turning out well, two men are engaged working on the lease, 63 oz of gold was obtained from 67 tons crushed, value of gold won £195. The vein in this lease is fairly good, he has other stone at grass ready for crushing.

David

David Bevan, the lessee of so many gold leases at Big Hill, representing the Bateman's Bay Syndicate, has not done any work on the leases during the year. Early in the year suspension was granted for three months; Bevan left for Sydney and has not returned. The leases were cancelled on the 30th ultimo.

Very little work, if any, has been done on Veitch's gold lease, No. 52. This lease was originally known as the Big Hill Company. The owner has not the means to work the claim properly; he is evidently waiting to dispose of the claim.

The claim known as Latta's has not been properly worked during the year; very little work has been done. Believe owner just holding claim with a view of selling. Exceedingly good prospects have been obtained from this claim. Two tons of stone from this claim went 13 oz.; value of gold won, £52. That appears to be the only stone taken from the mine during the year.

Mining was started at Cullendulla, on a selection owned by Michael and Henry Ryan, under the Private Lands Act. They gave a Mr. W. H. Ferrier a lease of 20 acres for twenty-five years. They were to receive one-fifth of the gold won; subsequently Ferrier gave them £525 for their interest. A reef was worked, from which they got out 14 tons of stone, yielding 13½ oz. of gold, valued at £54. Five men were employed for about three months. The shaft is now down 42 feet. Water is the drawback in this claim. Work ceased nearly four months ago, and it is not known whether he will start the claim again. The vein is 10 inches wide, showing good gold.

During the year 78 miners' rights and 1 business license were sold.

#### *Moruya Division.*

There is a slight decrease in the quantity of gold won in this Division as compared with the yield of the previous year, the figures being 520 oz.

At Bimbimie, where a number of men have been employed and a large area of land is held under lease, a large quantity of prospecting work has been carried out, the results from which being considered very satisfactory.

At the Silver-mine, Wamban, four men have been employed raising ore for shipment to Sydney to be tested.

At Dwyer's Creek, about 3 miles south from Donkey Hill, Messrs. Crapp and Walker are opening up a reef, but up to the present have struck nothing permanent.

At Mrs. Flanagan's homestead, portion 34, parish of Bergalia, a party of men, acting under arrangement with the owners of the land, have at last erected a cyanide plant, to treat the tailings which were included in Mr. John Miller's application for authority to enter, which latter was subsequently refused.

At Francis' Hill, between Wamban and Candoni Creeks, the following parties are at work:—Ling and O'Neill, Kelly and T. Batt, junior, William Fry and Sons, and Cantlay and party. The stone raised by these has been crushed at Mr. Batt's recently-erected battery on Donkey Hill, the total up to the present being 62 tons for 16 oz. 19 dwt. 15 grs., an average of about 6 dwt. Mr. Batt, who has been at considerable expense in erecting his battery, is greatly disappointed at not having been better supported by the public, who promised to keep his battery going full time if he erected it. But no doubt the large number of local residents employed during the last twelve months in getting stone for the Government improvement works in the river has greatly lessened the number of those who would otherwise have turned to mining for a living.

At Donkey Hill Nixon and party are raising ore for shipment, the presence of other minerals apparently rendering the stone too difficult of treatment locally. The old "Een" Mine is being worked by Messrs. T. Elliott and W. Constable; they are raising stone, but have had no crushings yet.

At Pompey Point, Mr. Thomson, with aid granted by the Prospecting Board, are sinking, following an outcrop down. They are down about 25 feet, but with no satisfactory results yet.

There are the usual number of fossickers at work along the river banks, working up towards Merricumbene and Araluen. It is reported that two parties on branch creeks—R. Constable and Sons and R. Foreman's party—have done fairly well.

The total amount of gold purchased by the two Moruya Banks during the year was 861 oz. 8 dwt. 1 gr., value, £3,337 8s. 4d.; but this includes gold won outside the Moruya Division.

#### *Nerrigundah Division.*

In quartz-mining there has been an increase, both in the number of miners employed and the quantity of gold obtained, and with every indication of a still greater increase for the year 1899.

The principal quartz-mine in this Division is the Bumbo Gold-mining Company's Mine at Bumbo. The area of the Company's leases is 56 acres. There are several veins on this property, but the principal one averages about 4 feet in width. 179 tons of stone from this vein yielded about 300 oz. gold, and 55 tons from the "old vein" only yielded a trace of gold. The Company have added five head of stampers to their battery during the latter end of the year, which will in future be driven by steam instead of a water-wheel as at present. About twenty-one miners are employed.

Latty Brothers' Red Creek Mine crushed 163 tons for a yield of 232½ oz. gold. There are two veins on the leases, one averages 10 inches and the other about 3 feet. The last crushing yielded 98 oz. from 13 tons of stone. Six men are employed on this mine.

Motbay and Martersteck cut some very rich chutes in their mine during the year, a dish of stone yielding as much as 25 oz. of gold; about 48 tons were crushed for a yield of 111 oz. gold. This vein was opened up under aid from the Prospecting Board. The amount of aid received has since been refunded. The vein averages about 1 foot.

Jessop Bros., Davidge and party, Gordon and party, and others are doing prospecting work on small veins, small crushings from some of the veins yielding from 4 dwt. to about 15 dwt. per ton.

Thomas and party have discovered a vein on private land at Brassknocker Creek. So far they have only sunk a few feet on what is said to be payable stone.

Alluvial mining in the Division is almost a thing of the past. About 100 Europeans and Chinese are fossicking about in the old workings, the majority of whom are only making a very precarious living.

The following business was transacted in the office during the year:—

Miners' rights issued .....	170
Business licenses issued .....	15
Gold-mining lease applications received (area, 60 acres) .....	14
Gold-mining leases executed .....	17
Gold-mining leases transferred .....	3
Causes heard in Warden's Court .....	22
Total collections for year, £179 3s. 9d.	

The quantity of gold won during the year amounted to 1,375 oz. 14 dwt. 13 grs., valued at about £5,502 18s. 2d., being an increase of about 300 oz. on last year's return.

#### *Wagonga Division.*

There has been considerable increase in mining in this Division during the year. The Wagonga Creek Proprietary Gold-mining Company hold under lease about 300 acres, the greater part of which is held under the Mining on Private Lands Act. These leases are situated on a belt of low-lying hills, about 120 feet above sea-level, and about 2 miles in a northerly direction from the Warden's office at Wagonga. The country rock is slate, with intrusive bosses of diorite. The ore is a low grade felsite, with a large number of quartz leaders passing through same, and bulk tests have yielded up to 12 dwt. to the ton. There are six lodes running parallel, varying from 5 to 20 feet; strike of lodes, west of north dipping east. The Company has put down five shafts to a depth of 100 feet, and has made extensive arrangements for working a portion of the east lode by the open cut system. A 20-head battery, of the most modern construction, is now in course of erection and almost completed, between the first and second lodes on the side of a hill, with floors excavated for amalgamating, concentrating, and cyaniding. The ore, which will be very easily worked, will be delivered from the various lodes to the battery in trucks running over a tramline which is constructed at right-angles over the lodes. The ore will be dumped on a grizzly, the lumps being reduced to the required size by passing through a stone breaker. It will be fed to mortars by automatic feeders, and the pulp will pass over silvered copper-plates, 5 x 6 feet, through two silver wells on to a shaking table 5 x 6 feet, and then through another silver well. The tailings will then be stored for future treatment. The amount of water obtainable is limited to one creek, which is at present rather low. The company, however, has made extensive arrangements for pumping salt water with which to dress the ore. A sum of £6,000 (six thousand pounds) has already been spent in the erection of machinery, &c. The district is splendidly timbered, and will supply all requirements for mining and building purposes for many years to come. The company expects to commence crushing operations about the middle of January. About forty men are at present employed. Should

Should the operations of this company prove successful a great impetus will be given to gold-mining in this Division, as the large lodes running through the company's leases are traceable for miles.

Taylor and party, on the same line of lode, have sunk shafts 65 feet deep and one 60 feet, and have driven 500 feet. They have crushed 33 tons for 11½ oz. of gold.

There has been considerable work done by other leaseholders on this line of lode, but so far the results have not been satisfactory.

The McDonald Gold Mine (Limited), Easdown's line of reef, situated on the north side of the Wagonga River, near Barlow's Bay, prospecting shafts have been sunk 40 feet on a lode 150 feet wide. It prospects from 5 dwt. to 12 dwt. to the ton.

F. G. Gray's Lady Carrington Mine, which is situated a little north of Easdown's line of lode, have sunk the old shaft a further 50 feet and driven 40 feet north. The reef is 2 feet wide and carries fair gold. This mine is receiving prospecting aid.

The Belle of Australia line of reef is still being worked, 150 tons being crushed from Mr. Fraser's lease, giving satisfactory returns.

On the Beehive line of reef, C. Laurentz and T. P. Lynch have claims from which they are getting fair stone.

The Mount Dromedary Company have done considerable work since last year, having driven No. 5 tunnel up to 1,600 feet from the mouth, and in No. 6 they have driven in a new vein 200 feet from the mouth, and they are also in several hundreds of feet with No. 4 tunnel. There are about fifty men employed in this mine.

On the south-western side of the mountain all leaseholders are at work.

Pye and Braithwaite are putting a shaft down in their tunnel to test their vein at 100 feet. The last crushing from this mine at their own battery went within a few grams of 2 oz. to the ton.

W. Stephens, adjoining Pye and Braithwaite's, is raising stone which yields over 1 oz. to the ton.

N. Bailey has been driving in his 20 acre lease to cut the Dromedary Company's vein, which he has succeeded in doing about 500 feet from the boundary, and it prospects over 3 oz. to the ton.

On the eastern slope of the mountain W. Wilson and party are working for alluvial on Little Dromedary Creek, and are getting very good returns; they have 14 feet of washdirt, which yields ½ dwt. to the load.

R. Simpson and party, a little further down the mountain, are hydraulic sluicing, and say they are satisfied with the yield, and further down several white men and Chinamen are working and are getting fair gold.

Bowen and party, on their alluvial leases at Makin's Hill, have erected a very large and expensive pumping plant, but operations have been very much retarded owing to the scarcity of water. A very large dam has been made, but since its completion very little rain has fallen.

At Kianga Creek a number of miners are at work in the alluvial, but their progress is retarded by the water.

On Connolly's lease of 4 acres, at Whittaker's Creek, a very rich reef has been discovered. 12 oz. 11 dwt. of gold was dolled out of a small parcel of stone taken from the 35-foot level, at which depth the reef is 15 inches wide, and if the stone continues anything like this as it goes down it will be the richest ever found in this Division.

The New Hope Sluicing Company have erected a large pumping plant, and intend to work the mine by hydraulic sluicing. They have made a start, but on account of the very dry weather the water is short. The wash-dirt is from 10 to 12 feet thick and prospects ½ dwt. to the lode, which is considered very satisfactory.

At Corunna Lake, H. Reade and party have a prospecting protection area in a lode formation which appears to be felsite. The lode just below the surface is 9 feet wide and crops out at the water's edge. A shaft has been sunk some 150 feet inland to a depth of 60 feet and driven easterly 100 feet; the stone in some parts of the lode prospects from 3 to 9 oz. to the ton.

Mining is undoubtedly on the increase both in alluvial and quartz in this Division, and as several battery plants are now ready to start, the yield for 1899 ought to be larger than any previous year, and will give employment to a large number of miners.

#### *Cobargo Division.*

There is very little to report in connection with this Division. At Montreal, Mr. S. Vickery has leased 10 acres for sluicing the old ground, and has recently erected a 30-horse power engine and pumping plant. The prospects are good, but there is great difficulty with the water. Three men are employed with him, and up to the end of the year they have treated 200 loads of washdirt for a return of 5 oz. of gold. There are several other diggers fossicking amongst the old abandoned claims, and one of these obtained 30 oz. of gold during the year, which he has sold locally at the rate of £4 per oz.

Raley Bros., of Coolagolite, have sold their battery there, and it has left the district. They have also abandoned their claim at that place. No new finds of any description have been reported, and there is no indication at the present time of any increase in mining in this Division.

The business for the year derived from the sale of miners' rights, business licenses, &c., amounted to the sum of £11 15s. 9d.

#### *Bega Division.*

Very little mining work was carried on in this Division during the past year. The gold obtained comes from a patch of country about 7 miles from Bega, on the coast, in an easterly direction. The miners working there prospect the country close to the coast and for the greater part along several small watercourses in the area referred to. There are no registered claims, and the Mining Registrar was not in a position to describe the particular locality from which the 35 oz. of gold won was obtained.

No other minerals are being mined for in this Division at the present time.

#### *Wolumla Division.*

During the year 1898 the progress on the Wolumla Gold-field has been steady and satisfactory. With one or two exceptions all the leases are on payable gold; and some of the returns have been exceedingly good and encouraging to the miners to continue their exploration to greater depths; and, with depth, more settled country is being met with, and the stone is as good and in some cases better than near the surface.

Two private batteries, viz., Momsen's and Brady's and White's, have been erected, which have been crushing with satisfactory results; also a public battery and cyanide plant have been erected by Mr. J. Haugh, at which some hundreds of tons of stone and tailings have been treated, the extraction of the gold from the tailings being very satisfactory.

There appears to be room on the field for further reducing plant, as a considerable quantity of the higher-grade stone is still being shipped to Dapto, which class of stone usually returns 4 oz. to 10 oz. of gold per ton; and there is also a considerable quantity of lower grade ore awaiting treatment, for which the cost of local treatment is considered too high.

The deepest level at which payable gold is being won is 116 feet in the Pacific Mine, where a strong body of stone is being worked, yielding about 1½ oz. fine gold per ton.

There is every prospect of this being a permanent and profitable field.

There is a mining tenement about 2 miles north from Wolumla field, where a little gold is being obtained. This is in the strike of the Wolumla reefs, and probably the country between, and possibly beyond, would be found to be auriferous if systematically explored.

#### *Pambula Division.*

Mining throughout the Division has been dull during the year, owing partly to the refractory nature of the ore, which cannot be successfully treated in this district; no new payable finds have been reported during the year.

Parish of Yowaka.—On this portion of the field mining has been confined to a few companies. The Mount Gahan Gold-mining Company (no Liability), have been engaged sinking to the depth of 460 feet without satisfactory results.

The Pambula Mines (Limited), have been working gold lease portion 221, and have been rewarded by obtaining from 260 tons of ore 397 oz. of gold, valued at £1,311; depth of shaft, 80 feet.

The Falkner Company (Limited), have treated, during the year, 4,378 tons of ore, from which they obtained about £12,500 of minerals; depth of shaft, 318 feet. Approximate value of machinery, £2,000.

The Falkner Company (Limited), and George Harrison gold lease, portion 37, treated some 50 tons of ore out of 160 tons raised; 25 tons yielded 52 oz. gold over the plates, valued at £200; also the tailings were treated by cyanide and yielded 60½ oz. gold, valued at £204. The yield from other 25 tons are included in the Falkner Company's return above. Depth of shaft, 240 feet.

Several other Companies have failed to make a return, but the amount of gold won would not be very materially altered by such returns.

No new ground has been taken up in this parish during 1898, and the only important development has taken place on the Pambula Mines (Limited) property, where rich ore has been struck, and a shaft is now being sunk to work the same.

Parishes of Wyndham and Gnupa.—The mineral lease 7,060 has changed hands during the year, viz., transferred from W. J. Keep to George Charles Elliott.

Forms have been sent to mine manager but not yet received back; therefore, the result of work done is not available.

Also for mineral leases 8,279, 8,336, 8,509, and 8,554, the lessee has failed to return forms sent.

The gold leases have practically been idle during the year with the exception of a little work done on gold lease 667, Southern; but in this case also, lessees have failed to return form sent.

In the parish of Wyndham, on private lands, William Cullen has applied for lease of 10 acres, P.G.L., portion 3, and also aid has been granted to him to sink his shaft (down 38 feet) to a depth of 100 feet.

Patrick Daly has applied for lease of 8 acres, measured portion P.G.L. 2; 15 tons ore raised, not yet treated.

Parish of Burragate.—Henry Grant and party have further sunk their shaft, under aid, to depth of 94 feet. Assay made locally of ore, at 90 feet depth, went 2 oz. 12 dwt. and 6 gr. of gold per ton, and 3 oz. silver, which is not considered payable, the reef being only 4 inches wide at that depth; and nearer the surface has varied a great deal. (Only obtained about 2 tons of this ore.)

Parish of Ynglamah.—Practically no work has been done in this parish during the year, although a few miners are still holding their claims. Mark Southwell reports 10 tons ore raised; sample submitted to the Department from his Prospecting Protection area yielded—gold, 2 oz. 13 dwt. 8 gr. per ton; and silver, 1 oz. 19 dwt. 5 gr. per ton, which he considered not payable, as the ore cannot be successfully treated in this district, and cost of transit of ore to nearest port for shipment would be too expensive.

Parish of Nungatta.—Prospecting is still going on by about six miners; which prospecting will most likely cause land to be applied for, as Messrs. Blissett and party report 25 tons ore raised for 14 oz. 14 dwt. of gold, valued at £42.

Parish of Coolangubra.—Wm. Haggart, Gold Lease, 790, portion 1, reports 100 tons ore raised. Trial crushing, 12 tons for 5 dwt. gold to the ton, valued at £10 10s.; depth of shaft, 40 feet; and say that they find the lode will not pay without cyanide, as the ore is mineralised—the mineral containing the greater portion of the gold. J. C. Denny and party raised 20 tons, which is not yet treated.

Parish of Howe.—N. Jensen and party have abandoned their claim, the ore being of too low a grade to pay. In many parts of this Division the ore met with is of that refractory nature that the appliances at the command of the ordinary miner have not been able to save the gold without the extra expense of the cyanide process.

#### *Delegate Division.*

There are about eighteen Europeans and twenty Chinese engaged in alluvial mining here, and as far as can be ascertained they have obtained about 110 oz. of gold, to the value of £430 10s. The alluvial working in this Division is principally done in the old river-beds, by Chinese, with poor results. There are only two reefs working, which are situated at Brown's Camp, and have given good results, considering the difficulties they have to contend with by carting their stone into Victoria for treatment.

Of course these reefs are only on a small scale, and worked by poor men. The gold obtained from these two reefs was 534 oz. 19 dwt., valued at £2,114 8s. Reefing in this Division is quite new, and only since the New South Wales Prospecting party discovered some finds has any been done.

It may be mentioned that a considerable amount of gold-digging, both alluvial and quartz, is done along the Border Line of Victoria, and the greater part of the gold obtained is brought to this town, of which I have made no mention in my returns.

#### HUNTER AND MACLEAY MINING DISTRICT.

##### *Copeland Division.*

Very little stone has been raised during the year. The Gloucester River Mine heads the list with 639 tons for a yield of 277 oz. This has not proved payable.

Prospecting aid has been granted to this party to drive a low-level tunnel to tap the reef about 200 feet below the present workings, and as some of their best stone was under foot, it is well worth further prospecting. In the Centennial very little stone has been raised, the crushing of 145 tons being taken from the surface and from old heaps of stone lying on the surface, which, when raised, was not considered good enough to cart to the machine.

The Lady Belmore has been idle the greater part of the year, but lately a party of tributors erected a small engine and took out a crushing from near the surface, which did not turn out payable.

The Mountain Maid party only took out a small crushing, which was not payable, haulage and pumping being too expensive.

A party of tributors took out a crushing from the Rainbow Mine about the beginning of the year, which did not pay, and the mine has been idle ever since. Water is excessive in this mine.

In the Mint two men are working; a small crushing was taken out. The party is now engaged driving a low-level tunnel.

The Prince Charlie Mine has been worked. A tunnel has been driven along the reef over 800 feet, but no stone has been crushed, the battery being too far away. The party is now endeavouring to raise sufficient capital to erect machinery near the mine for treating the stone.

The Jubilee Company of Newcastle has taken up the land formerly worked by the Black Prince Company, and has continued the tunnel, which is now in about 1,200 feet. They have not crushed any stone yet, but intend starting at once to take out a crushing. There is a large reef in parts of the tunnel, but does not show any gold, though fair prospects can be obtained by dollying.

The Hidden Treasure Mine has been idle during the year, but a party is now engaged pumping the shaft out, with a view to commencing mining operations.

At the Boranel Reefs no stone has been crushed during the year. McDonald and party have about 40 tons at grass, which they intend crushing shortly.

The Cobark Reefs have been at a standstill, little or no work being done during the year.

In alluvial mining, matters in this division are about the same as usual. A few old miners still make a living fossicking in the creek.

James and party, who lease the Morning Star Mine, erected a puddling machine and brought water on from Duffer Creek, a distance of about 1 mile, by means of galvanised-iron pipes, and put through 2,500 loads of the surface, but the result was not satisfactory.

A small rush occurred during the year on Mr. Thomas Laurie's private land at Rawden Vale. Gold had been found there in small quantities for a considerable time, but in last June two miners named Swinbank and Townsing struck payable gold, and the result was that a rush set in, and about 100 miners came to the place and sank holes in all directions, but only a few of them struck anything, and most of them soon left. There has not been any rich find, and only four or five claims are considered payable. Miners are leaving daily, though in all probability a few old miners may make a living there for some time. According to the returns received in alluvial, 2,810 loads have been treated for 170 oz. 10 dwt. of gold, but additional returns of alluvial gold, from two buyers at Copeland, amounting to 223 oz. 15 dwt., make up the total amount of alluvial gold to 394 oz. 5 dwt. So that the actual gold won during the year was—from quartz, 425 oz. 10 dwt., value £1,606 15s.; from alluvial, 394 oz. 5 dwt., value £1,388 2s.

##### *Dungog Division.*

In this Division matters have been fairly quiet during the year. A small quantity of good gold was obtained from Whispering Gully, and the place was inspected with a view of floating a Company to properly develop the country there, but negotiations have fallen through. The country is not easily accessible, and the miners who have prospected have worked only in a desultory fashion.

At Upper Wangat it is understood that a considerable amount of work has been done, with a view to develop the old Mountaineer line of reef, and Thomas Gurr, an old worker of the Welcome Stranger Reef, has started again with a party with sanguine expectations; however, in the absence of details, which have been asked and waited for, it is presently impossible to state to what extent, more especially as, under existing circumstances, the Warden cannot visit the workings and acquire personal acquaintance with the progress of the fields as formerly.

At Lower Wangat the Wonga Wonga Mine has been worked, and crushings have been put through which are fairly satisfactory.

*Bulladelah*



*Bulladelah Division.*

During the past twelve months several new finds of gold in quartz reefs have taken place, both at Paddy's Creek and Coolongolook, in consequence of which six applications have been received for leases, three of which have up to the present been granted, and two of them have been accepted by the applicants, though as yet none of the finds have proved payable. The Curreki and Myall Queen properties are both being worked with fairly good results.

*Kempsey Division.*

In this Division during the past year there has been very little mining of a practical or beneficial nature, and that almost entirely in the Port Macquarie portion of this Division. Some work has been done at Deep Creek Mines, to the extent of £400, by its new proprietor, Mr. Nathan Davis; otherwise, in that part of the Division there has been no mining of consequence. The machinery at Deep Creek has been sold for £400, and is understood to be in course of removal.

About Bourville four mineral leases have been applied for during the year, with a view to mining for antimony, but so far no work has been done. The Willi Willi and Moonabah Mines have done nothing during the year, as far as are to be ascertained, suspension having been granted, and matters there are in abeyance.

*Taree Division.*

Very little prospecting for alluvial gold has been done in this Division during past year, as the old creeks appear to be nearly worked out, and up to the present no fresh ones have been discovered.

During the year the entire crushing plant connected with Andrews Bros. leases at Cell's Field has been doubled (the battery now consisting of ten head of stampers, in good working order).

At the same place, about 300 tons of stone have been crushed, and several of the tunnels have been extended, also five new ones started and driven on.

The yield of gold has, it is regretted, been less than was expected; still the proprietors have every faith in the field, and intend to put on more machinery and carry out developments.

## PEEL AND URALLA MINING DISTRICT.

*Glen Innes Division.*

Very little beyond prospecting has been done during the past twelve months in this Division. The Glen Elgin Gold-mining Company have had a crushing of about 40 tons, which yielded 40 oz. Work on these leases was suspended for six months. The Klondyke, Conroy and party, hold 24 acres of leased land. They have three shafts down of 50 feet, 60 feet, and 90 feet, and one tunnel of 320 feet in length. They have had a trial crushing of 50 tons, which yielded over 90 oz.

John Lyttleton is at work on a claim on the Butterleaf Creek, receiving aid from the Prospecting Vote; he is down 35 feet.

J. B. Allen, of the Birthday Claim, at Glen Elgin, also receiving aid from the same Vote, has a tunnel driven 76 feet. There have been three special gold leases applied for by Messrs. Dibbs and Farmer, of Sydney, one of 50 acres and two of 15 acres each, for the purpose of dredging the river at Glen Elgin, the applicants undertaking to expend the sum of £11,000 on machinery for the purpose of developing these leases if granted.

*Kookabookra Division.*

Mining in this Division for the past year has been very slack, owing to scarcity of water caused through the continued drought.

Quartz-reefing is at a complete standstill. A few tons of stone was put through the Bare Hill Battery at the beginning of the year, but the returns are not available. The battery has since been idle.

Messrs. W. Ditton and M. Meehan received Government aid, the former to sink a shaft 50 feet on the Old Welcome Stranger Reef, and the latter a shaft 50 feet on Curley's Reef.

Ditton sank for 7 or 8 feet, and then abandoned the shaft, the country being too hard.

Meehan has continued his shaft to a depth of 72 feet, and is still sinking. So far there has been nothing payable struck. The only gold of any consequence obtained during the year was from the old alluvial workings at Oban, Paddy's Gully, Mitchell River, and Nowland's Creek.

The output was about 236 oz. of gold, and 4 tons of tin; value, £1,045.

About seventy-six miners, European and Chinamen, were employed during the year alluvial digging. Their earnings would be about 10s. or 12s. per week per man.

*Armidale Division.*

So far as this Division is concerned mining in any shape is at a standstill. There are only about fifty Europeans and two Chinese engaged in fossicking. There were 203 miners' rights, 30 mineral licenses, and 3 business licenses issued, and the total collections from all sources was £97 12s. 11d. The following applications for leases were lodged, viz. :—3 gold, 2 mineral, and 2 mineral purchase lands. During the year the four local Banks consigned between them about 5,130 oz. of gold, of the approximate value of £18,544. This gold was won outside the Division—probably Hillgrove.

*Hillgrove Division.*

The mines in this important Division gives employment to 586 men. The quantity of gold won during the year shows a decrease on the yield for 1897, the figures being 16,507 oz. as compared with 21,556 oz.

Baker's Creek Gold-mining Company still retains the lead as the chief gold producer for this district, and crushed during the year 12,527 tons for a yield of 9,974 oz., valued at £34,902. They also crushed 15 tons for tributors, yielding 65 oz., worth £238 5s. No dividends were paid during the year, but one has been announced which is payable early in 1899.

The main battery of 40 heads has made full time, but the north battery of 10 heads has only worked thirty-one days during the year.

The main shaft is 900 feet, and the north shaft 225 feet deep.

The deepest level is 900 feet from the brace, and 1,100 feet from top of workings.

Twelve hundred and forty-five feet of driving has been done, and 324 feet of sinking. There were 1,025 tons less quartz crushed, and a decrease of 4,078 oz. 11 dwt. compared with the yield of last year.

The reef averages about 6 inches in width.

There were no special developments in this mine during the year.

The Eleanor Gold and Antimony Mining Company crushed 3,139 tons for a yield of 4,804 oz., worth £16,824; also 25 tons crude white metal, valued at £416.

They obtained three months' suspension in December, 1897, and were closed for the first five weeks of the year. Early in February they resumed treating the old tailings with the additional advantage of a Huntingdon Mill to pulverise the hard lumps which previously had been a source of annoyance to the management. They also let a portion of the north end of the mine on tribute.

In April a portion of the battery commenced running again, but it was not until May that it was in full swing. Forty head more stampers were erected, making a total of 70 head.

Further suspension was granted, but was only partially availed of.

This Company has found it difficult to pay expenses owing to the low grade of the ore, and it was intended at the beginning of the year to reconstruct and raise fresh capital, but the directors decided to work on and give the mine another trial; but it has not proved altogether satisfactory, and they are now taking into consideration the reconstruction of the company upon a sounder basis, and the advisability of amalgamating with the Garibaldi Company, which, if decided upon, would be to their mutual advantage. They have been heavily handicapped through want of water, but latterly arrangements were made with the Garibaldi Company to use the water in their dam.

The Baker's Creek Consols crushed 1,696 tons for 1,377 oz. worth £3,567 18s. 4d.

They have a 15-head battery, 10 head of which worked 207 days, the other 5 head were only got ready about the middle of December. They have done a considerable amount of development work, and have three reefs known as Smith's Reef, Baalgammon Reef, and the Middle Reef, the last mentioned seems the most promising, the lode averages about 6 inches.

They have driven altogether 366 feet and sunk 145 feet. The outlook of this mine is very encouraging at present, and with the additional 5 head of stamps should soon be on the dividend-paying list. The

The Hillgrove Proprietary Mines, Limited, formerly known as the Baker's Creek, No. 1, Extended, and the Golden Gate were purchased and are now under the control of the United Australian Exploration Limited, of which Mr. A. S. Boucher, A.R.S.M., M.I.C.E., is the general manager in Australia.

These mines adjoin Baker's Creek on the south east. The operations during the year have been entirely exploratory.

They started at the lowest possible point in the gorge on their property and are driving a tunnel approximately on a course at right angles to the Baker's Creek and Golden Gate Reefs, and, judging by the leaders struck lately, must be in close proximity to the former.

The tunnel is of sufficient size to carry a double tram-line, and has been driven during the year 502 feet, making a total of 1,060 feet from the entrance.

The machine drills have been introduced into this mine and are worked with compressed air.

It is the intention of the Company to continue this tunnel to their eastern boundary, adjoining the Eleanora Mine, at which point it would be of a depth of nearly 2,000 feet from the surface.

Another tunnel 300 feet above the former one is also being worked and has been driven 74 feet. They are driving on a small reef here to ascertain its value.

It is confidently expected that other veins will be intersected by these tunnels, which are as yet unknown owing to the difficulty of examining the side of the gorge.

They erected during the year an air-compressing plant on the top of the gorge, the air being conveyed by 5-inch pipes to the tunnels mentioned, the main line having a length on surface of 2,508 feet, the difference in altitude being approximately 1,800 feet.

The results so far have proved very satisfactory, the loss in pressure in transit being under 1 per cent.

In that part of the property known as the "Golden Gate" they have sunk 133 feet and driven 325 feet.

No crushing has been done, and there is no immediate prospect of any, it evidently being the intention of the management to thoroughly open up these mines before erecting crushing appliances. They have a 10-head battery, erected on this property by the former owners; but it is unlikely to be used in its present position, and the appliances are crude and ineffective. Altogether 1,034 feet have been sunk and driven on these properties.

The Garibaldi Gold and Antimony Mining Company has been worked by tributors during the greater part of the year and had only a small crushing of 53 tons for a yield of 30 oz., valued at £116 5s.; but they also treated 1,000 tons of tailings for 104 oz. worth £416.

Practically no work has been done underground, and since the early part of November the plant has been idle owing to an action taken by the Eleanora Company to recover the cost of tailings treated by the Garibaldi Company, and which are claimed as the property of the former company.

At the Old Hopetoun Company, Fuller and party crushed 21 tons for 20 oz. worth £70, and also raised 1 ton 3 cwt. 3 qrs. scheelite valued at £30. They had a small chute of this mineral which soon pinched out and has not since been met with.

At the Cosmopolitan Mine 68 tons were crushed for a yield of 66 oz. 8 dwt., valued at £231.

The Carrington Syndicate, working the old Lady Carrington Mine, crushed 47 tons for 67 oz., worth £240 10s.

At Rockvale the Phoenix Gold Mine, which is still held by the New Zealand Mines Trust, Limited, under a working option, the operations have been purely of an exploratory character. During the year they have done 138 feet of sinking, 507 feet driving, 31 feet of cross-cutting, and the ground has been well prospected on the surface all along the line of lode, also some stoping has been done in various parts of the mine for the purpose of trial crushings. One thousand five hundred and ninety-seven tons of ore have been crushed, but pending a final decision of the Directors of the Company as to the future actions concerning the operations of the mine the results are not available. They have a reef which averages about 4 feet and is heavily impregnated with iron and arsenical pyrites, and in places copper pyrites have also been met with.

The main shaft has been sunk to a depth of 196 feet, and there are six other shafts, varying in depth from 40 to 98 feet. The depth of deepest level is 152 feet. Six months' suspension was granted on 8th August last, since which time the mine has been shut down. Up to that time between thirty and forty men were employed.

At "Warm Corner" very little work has been done. Several syndicates were formed and prospected this locality with fair results, but through want of capital work has been abandoned.

Burgin and party had a cyanide plant erected to the south of Baker's Creek to treat the tailings, but the results were not very satisfactory, so they ceased working and have left the district; consequently the returns were not available.

As was the case in 1897, the mines have been considerably handicapped through want of water.

It has been the driest year experienced since this field was discovered, the rainfall being only a little over half the average annual quantity registered. There is plenty of scope for prospecting in this locality, but it is a difficult matter owing to the great steepness of the gorge, which ranges from 1,600 to 1,800 feet deep.

#### *Metz Division (late Hillgrove West).*

The output of gold from this Division is certainly not up to the expectations held at the commencement of the year, as matters looked far brighter then.

Despite the continued drought there has been a plentiful supply of water at the "West Sunlight," but at the Sunlight Mine matters were not so favourable. They have had to depend on the water flowing down Baker's Creek, and as this failed they crushed interruptedly for some considerable time.

Not much prospecting is going on in the Division. Murgatroyd and party are still working their leases adjoining the eastern portion of the Sunlight Mine, but are so far unsuccessful.

Peterson and party still continue developing their G.L. 170. Prospecting in this locality is certainly very expensive, and without capital development is slow, but should prove successful. At the "Starlight" quartz claims a tunnel has been driven into the hill, for which the shareholders secured Government aid.

West Sunlight Reef Company.—The crushing power of this company consists of twenty heads of stampers with six Woodbury vanners. During the year they crushed 8,481 tons for a yield of 3,647 oz., valued at £13,190; there are 125 men employed in and around the mine; the value of the plant is estimated at £10,000.

For the past three or four months the mine has not been up to its usual standard. The quartz everywhere was poor, and the directors were forced to seek the aid of the contributing shareholders; still there are hopes of good gold coming in at a deeper level, as right through poor patches of quartz were met with, but they did not continue to exist so long as at present. It was always found the mine improved as it deepened, and better times are looked forward to.

The Sunlight Gold-mining Company.—At this mine matters are more favourable. They put through 10,997 tons for a yield of 4,597 oz., valued at £15,376. During the year sinking operations commenced. This is being done by an electrical winding plant. The whole mine is lighted by electricity generated by the surplus steam from the battery boilers, and is a great boon to the mine. For years the mine was worked by driving into the hill and stoping, but now the mine has commenced sinking, which for years has been carried on by the surrounding mines, and they are now down 200 feet, the reef averaging from a few inches to 10 feet. Its crushing power consists of 40 heads of stampers and eight Frue vanners. These were out of use, but are now being placed in thorough working order, and will be running very soon. About eighty men are employed in the mine.

The total output for the year was 19,478 tons for 8,244 oz., valued at £28,566.

#### *Uralla Division.*

About 230 miners are at work in this Division, chiefly engaged in alluvial ground. The continued dry weather has, however, very materially affected their earnings. Several grants from the Prospecting Vote have been made throughout the Division to test some recently discovered reefs, but so far nothing of a sensational character has been met with, although the men are very sanguine that they will ultimately strike payable stone. The quantity of gold won during the year was 1,200 oz.

#### *Novendoc Division.*

Mining in this Division is almost at a standstill. There have been no new finds discovered during the past twelve months.

Following is a list in detail of crushings which have been made for several parties during the year:—100 tons, 100 oz.; 20 tons, 23 oz.; 114 tons, 35 oz.; 45 tons, 8 oz.; 80 tons, 20 oz.; 200 tons, 210 oz.; 60 tons, 21 oz.; 600 tons, 300 oz.

Work is still proceeding at Cell's Creek, where six men are employed. The party are so satisfied with the prospects of the mine that they are adding to their crushing plant.

*Swamp*

*Swamp Oak Division.*

Mining in this Division has not progressed to the extent anticipated in the last Annual Report—not from want of capital, energy, or good management, but, as will be shown, through unforeseen circumstances. The Highland Mary, the property of the New South Wales Gold-fields (Limited) is still under the able management of Mr. Arthur J. Brown. Upon the prosperity of this claim, having the advantages of excellent machinery and capital, is dependent to a great extent the prosperity of this Division. If proved to be payable with a show of permanency, and that proper machinery at a reasonable cost will be sufficient to contend against the influx of water, it may be reasonably assumed there will be no want of capital to develop the good show that has been disclosed in so many of the local leases. The owners are anxiously awaiting the result of the Highland Mary at its lower levels. This claim in the past has been the mainstay of the place in the number of miners employed on wages and the capital expended in the erection of its splendid machinery. Although the expenditure has been great, in the near future it will be found that the expenditure was justified, and that the confidence of the Company was not misplaced in the value of their property. At the end of 1897 the main shaft was down 235 feet; at that depth a cross-cut was being driven west to catch the reef. The main shaft is now at a depth of 330 feet, the last 15 to 20 feet being in splendid country, full of small quartz leaders, and showing an indication of cutting the main reef on the underlay without going much deeper. During the past year the work was carried on by a greatly reduced staff, as the miners could not be profitably employed in the developmental work. After cross-cutting some 60 feet west the main reef was met with, which gave payable prospects; but on opening out north and south the returns were not satisfactory. Very rich patches, extending along the reef, were found, and are now under foot. In the level the cross cut was extended 25 feet west and cut another reef giving encouraging results. For some feet going north along the drive the good stone in this reef is also under foot. It is thought the main shaft should be sunk to a depth to intersect the two reefs, and if found to be payable, the prosperity of the claim and locality is then assured. During the past year mining operations on this lease were for a considerable time seriously retarded by a heavy influx of water, quite beyond the power of their pumping machinery. A large boiler had to be erected to maintain steam to their powerful machinery; they were then able to contend with the unexpected influx. The mine is now, however, dry, and developmental work is being actively carried on, with favourable prospects. The cyanide plant erected on this mine has justified the expenditure by its success. From 548 tons of tailings treated there resulted a win of gold valued at £1,053. This should induce the saving of tailings at the other batteries, for it is now proved beyond doubt, however fine the grating may be, the gold in this locality cannot all be saved by the process of crushing only.

For the further testing of the Mount Sheba Mine, aid from the Prospecting Vote has been granted to extend the level into the hill. The drive is now in about 200 feet. The reef is small, and the few tons raised crushed fairly well. When stoping is commenced a party of good working miners will find payable employment, with the usual mining chances of striking something rich.

The Camp Fire Leases are situated at Shearin's Creek, in the vicinity of Swamp Oak. Suspension of labour was granted for six months (now expired) but labour has not been resumed. It is expected that application will be made for the leases when available through cancellation. They were held by Sydney and Hillgrove shareholders. The surface show in these leases was undoubtedly good, but, so far, has not turned out equal to the anticipations then formed. A shaft was sunk about the middle of the chute to a depth of 120 feet, and driven southerly along the course of lode. At that level a winze was sunk a few feet from the shaft, without any encouraging prospects. Nothing has been done north at the 125 feet level—no cross-cutting. It may be that the main reef is further west. Considering the expenditure in the erecting of a battery, and the small amount of developmental work and prospecting done, these leases will not remain for any length of time idle.

From indications it is thought that Niangala will soon become an important reefing district. It has decidedly advanced in this class of mining during the past year. The principal mine is the Lady Jersey, the property of the New South Wales Gold-fields (Limited), the same proprietary, and under the same management, as the Highland Mary, at Swamp Oak. A large amount of developmental work has been done, with payable returns at every crushing, and now has every appearance of realising the favourable opinions formed at the time of purchase by its enterprising shareholders. The present main shaft has been sunk to a depth of 225 feet, and a cross-cut put in west about 30 feet. Here a fresh reef was struck, not the one worked by the previous owners of the mine. The new reef was cut in the upper levels at from 4 feet to 18 inches wide. The prospects in this mine are now so good, with a show of continuing, that it will find employment for many miners during this year, for this Company has not only the capital but the energy to develop the property, when its value is proved.

The Golden Spur lease was abandoned during the year, but recently taken up by a party of working miners, and their efforts are now meeting with success, the reef is from 3 inches to 12 inches wide, giving a return of about 1 oz. to the ton of stone. Previous to the mine being abandoned, the then owners did a considerable amount of work, but the heavy water they had to contend with prevented them with their appliances going to any depth. This is one of the mines that has benefited through the severe dry weather. Prospecting is now totally (and for some time past) suspended in this locality, through want of water.

The mine at Paradise which a few years ago, promised to become of some note, is now abandoned. Several of the reefs crushed 1 oz. to the ton; antimony is also found in the locality, but has not been worked.

At Glen Morrison, very little work has been done during the past year. Farrell and party only at work; 40 tons quartz is now going through, the result has not yet been reported.

*Tamworth Division.*

Tamworth Division comprises Limbri, Spring Creek (Moonbi), and Moore Creek. The principal mining, alluvial only, is carried on at Spring Creek, where a number of old miners, with a few new comers, are working on and near the same lead, referred to in the last report, their win of gold, averaging from tucker, to at times a little over wages.

Quartz-mining only is in operation at Limbri, the principal work in development, being at Stockyard Creek, about 2½ miles from the Limbri railway platform. Two or three lots of stone have been crushed from leases in the locality, the result was not satisfactory considering the expenses the owners were put to in having to crush at distant batteries. Prospecting is still energetically carried on, and recently aid from the Prospecting Vote has been allowed to test a claim at the junction of Stockyard Creek and the river, but so little work has been done that the first measurement has not been made or asked for.

A new find has been made at Moore Creek on the private lands of Mr. Vickers, situate about 4 miles south-easterly from Tamworth, by Mr. J. Bourke. The shaft is down about 45 feet, carrying colours from the surface, in a rubble leader. Assays from it, made by the Department for Mines, were so satisfactory that the prospectors intend carrying on their work, in the hope of striking the main reef, which from the present dip and country they expect to do within a few feet, and that it will be more than payable.

*Nundle Division.*

This old gold-field still maintains the premier position in this District as a gold producer and the number of miners employed, but from the time of its first gold discovery mining has not been at so low an ebb as during the past year. The win of gold from quartz is in a great measure due to the action of the Tamworth Gold-mining Company in permitting their machinery to crush, for the various claims in the locality, stone that would not have paid the extra cost of cartage to a distant battery. The United Australian Exploration Co. (Limited), under the direction of Mr. Boucher, have done excellent work in the prospecting of their leases without success. Although they have not met with success, their work to the field will be a great benefit as a guide to future prospecting, their work in this direction being not only extensive but also so substantial that if it was abandoned by the Company it will be a good guide, and without cost to the future prospector.

Alluvial mining in this Division has been much retarded owing to the severe drought. There was a good rainfall about the end of the year, when about 380 points were registered. The area in which it fell was so circumscribed, and the rain fell so quickly that it ran off the surface into the gullies and creeks, and was of but little benefit to the miners. The most payable claims in alluvial mining are at Bowling Alley Point, on private lands the property of the Peel River Company.

*Stewart's Brook Division.*

The principal mining fields in this part of the Peel and Uralla Mining District are Stewart's Brook, Moonan Brook, Dry Creek, and Omadale Brook. The distance of these fields east from Scone is about 35 to 38 miles. The character of the country is mountainous, and the climate salubrious. The Stewart's Brook field consists of very steep hills composed principally of eruptive rocks extending over large areas. The reefs, as a rule, outcrop on top of the hills.

There are seven batteries on the fields and are more than sufficient to meet requirements. Four of these are at Stewart's Brook, two at Moonan Brook, and one at Omadale Brook. There are also a cyanide plant, and an air-compressing plant, with pump and gear, erected by the New Royal Standard Company.

There has been a falling off in the amount of gold won at Stewart's Brook, owing to the expensive nature of the operations, viz., quartz-mining in deep ground, the alluvial workings being small. A large number of holders of claims have exhausted their capital and have been compelled to apply for suspension of the labour conditions, either wholly or partially, the greater number in order to seek for fresh capital by the formation of companies or syndicates. The following claimholders obtained suspension for periods of from three to six months:—At Stewart's Brook, Bluey Gold-mining Company, Ninness and party, the Adams Gold-mining Company, the Lady Maude Mine, the Lady Grace Mine, Henry Kilbride, and R. Hancock; at Dry Creek, Bakewell and Brown, Patrick Ahearn, and Patrick Woods; at Moonan Flat, Buckland and Sellors. In all applications for suspension of labour, where it was clearly shown that the applicants had expended considerable capital in carrying out the works and in erecting machinery, suspension of the labour conditions for the purpose above stated has been granted.

The New Royal Standard Company has been steadily working and improving its leases during the year. Recently they have expended upwards of £1,000 in erecting an air-compressing plant, pump, and gear. They are now working at the 180-foot level; the plat has been cut, and the shaft is being timbered preparatory to sinking well. The winze at the 120-foot level last month has been sunk 17 feet. All the machinery is working well. The battery is at work, though the water at the Brook is low. Their last crushing, in November, of 103 tons, gave 151 oz. 5 dwt. of smelted gold. Notwithstanding their large outlay in the year, the Company have paid three dividends, and have a considerable reserve capital.

At the new find at the upper end of the field, named the Klondyke, 6 tons produced 1 oz. 4 dwt. per ton. From the Golden Ada claim a trial parcel of a few tons was crushed, giving 1 oz. 3 dwt. per ton. Adams' Syndicate, at the Stewart's Brook Company's battery, have lately put through about 30 tons. This will be followed by another parcel, amongst which there is some nice stone, showing coarse gold freely. The reef is from 2 to 3 feet wide where it is being worked. A small crushing from Here's Luck Reef gave 2½ oz. per ton.

Wells and party's Syndicate are carrying on the work in their mine with much energy and determination, but have rather a small capital for so large an area as 13 acres. They are doing what should have been done in the first instance on this line of reef—sinking to some depth. They are down 127 feet, and have passed through slaty belts, some more than a foot in thickness. In passing through the slate they have met stone showing gold freely. Their enterprise is being watched with general interest, and if it is successful, it will encourage other enterprises all along the reef.

The total quantity of stone crushed in this Division for the year was 2,324 tons, yielding 2,585 oz. of gold.

*Moonan Brook, Omadale, and Dry Creek Division.*

Williams and party who have been working for a long time at hard dead work on their property on Simpson's line of reef, Moonan Brook, have at last been rewarded by the appearance of a strong body of stone giving payable prospects. The reef being strong, and the conveniences for working good, it will not require a large yield to give profitable results.

The Federation, Frame and party, Omadale, a week or two ago cleaned up 27 tons at Johnson's battery for a yield of 39 oz. 18 dwt. 11 grs. of gold. This is about the same return hitherto obtained from the same property, and should be highly satisfactory.

Hayes and Tilse obtained 12 oz. 7 dwt. from a trial crushing of 2 tons of stone taken from Neil's Creek. The vein is in new country, and near a battery.

At Dry Creek the Sugar-loaf Prospecting Syndicate are continuing the extension of their tunnel. The ground that they are on just now is the most favourable and settled that has been met, and it is considered probable that the large reef formation, for which they are driving, is very close.

The total quantity of stone raised in this Division during the year has been 599 tons for a yield of 634 oz. 2 dwt. of gold. From alluvial workings, of which there are very few, 29 oz. 10 dwt. were obtained worth £103 5s.

*Barraba Division.*

Mining has been very slack during the year owing to drought, want of capital, and numerous other reasons.

At Crow Mountain there are about twenty-five men at work.

Geo. Nix and party have the shaft of the Daddy Mine down to a depth of 180 feet, and from a crushing of 10 tons a return of 4 oz. of gold valued at about £15 was received; 25 tons were raised. The deepest level is 65 feet, and the quartz-vein has an average thickness of 6 inches. The bearing is east and west. The Prospecting Board is aiding this party, and as no other shaft has been sunk to such a depth, the results are anxiously awaited.

John Dyson of the Red Flag Mine has his shaft down 174 feet, with the deepest level 100 feet, and quartz-reef from 6 inches to 3 feet in width, bearing east and west. Twenty-eight tons of quartz were raised and 22 oz. of gold won, valued at £88 6s. 4d.

Wm. Singleton at the Day Dawn Mine is being aided by the Prospecting Board to sink a new shaft, and is busily engaged sinking on to the reef.

The owners of the Princess Mine have been busy most of the year, but no crushings of any importance have been announced.

Several parties are receiving aid from the Board to sink shafts and test their holdings.

At Wood's Reef the Barney Barnato Mine, owned by Phillip Rosenthal is 80 feet deep, the deepest level being 50 feet. The quartz-vein is 6 inches in width bearing north and south. Three tons of quartz were crushed for a yield of 23 oz., valued at £94 17s. 6d.

There are a few fossickers on the field. The cyanide plant movement seems to have turned out a decided failure, owing apparently to faulty construction. This is a great drawback to the Division in general as most of the ore is refractory, and requires cyanide treatment.

When cyanide works become more plentiful or an improved method of extracting gold from refractory ores is discovered there will be a great future for this Division. It is to be regretted that some parties have been persuaded to erect small and useless cyanide works where large works would be kept constantly at work owing to the largeness of the reefs.

It is simply impossible in such a scattered and diversified field to obtain a correct record of the total quantity of gold won as the Chinese send all, or nearly all, the gold won to Tamworth, and Europeans have agents outside the district to whom they forward their winnings in small parcels. The Mining Registrars only give the precise quantities they have been able to trace.

*Bingara Division.*

The only gold-mining carried on in this Division during the year was at Spring Creek, which extends about 6 miles from the town in a S.S.E. direction. This has been worked for alluvial gold for the past thirty-five years, and with sufficient rainfall will provide profitable employment for 300 miners. During the past year only some thirty-three men have been able to work from springs which occur in the creek. Several reefs are being prospected on the falls leading into the creek and its flats, but as the reefs found are refractory they cannot be profitably worked until a good cyanide plant is erected.

About 6 miles in a N.E. direction there is a 4-mile strip of broken ground known as Bobby Whitlow, to which the same observations apply as to Spring Creek, but in addition thereto a payable copper lode has been discovered for which leases have been applied for, and a good return is expected in the near future.

The total quantity of gold won was 790½ oz.

*Coonabarabran*

*Coonabarabran Division.*

The only portion of this Division which has been worked upon during 1898 is Scabby Rock or Mooren, situated about 10 miles northerly from Coonabarabran and 5 miles north of the Gunnedah Road.

On the east side of the Rock, Dalmain and party continued a shaft 20 feet deep, a further 25 feet on aid. They were satisfied with the prospects and continued the shaft to a depth of about 80 feet without any gold being obtained.

This reef bears north and south, and the dip for about 70 feet was to the east (away from the Rock); but for the last 10 feet the dip has been towards the Rock as if to go under it at a considerable depth.

On the west side of the Rock, and about  $\frac{1}{4}$  of a mile from Dalmain's shaft, Martin Hona and party have sunk a shaft which is now 65 feet deep, 5 feet by 3 feet for some distance down, narrowing to 3 feet by 3 feet 4 inches, and timbered about 15 feet from the top. This shaft has gone straight down, cutting the reefs all the way. These reefs dip towards the west and bear north and south and are ironstone and quartz, something like those in Dalmain and party's shaft.

Hona has obtained two short suspensions of the labour conditions. He intends to go a good deal deeper in this shaft before driving.

A third shaft has been sunk by a man named McIntyre at the north end of the Rock and about equally distant from Dalmain's and Hona's shafts. This shaft is now down about 60 feet on stuff looking like ironstone, but when exposed to the weather it crumbles away.

During the year numerous samples were sent from these three shafts for assay, but in none of them could gold be found, though the stone carried a yellow substance, apparently gold, which could be retained in a dish after crushing and washing.

No work was being carried on at the end of this year, but Hona and McIntyre are both about to start work again. It is also likely that during this year Dalmain will continue his shaft.

## NEW ENGLAND MINING DISTRICT.

*Drake Division.*

The results of the past year's operations in all branches of mining have not been up to expectations formed in the early part of the year, and the gold returns show a considerable decrease on the yield of the previous two years. This must not be, however, attributed to the poverty of the mines or the want of energy on the part of those engaged in the occupation of mining, but to other causes over which there is at present no control. In the first place the oxidised ores which the miners have been operating on for some years past, and which extend to no great depth from the surface, are almost exhausted and the sulphide ores have been met with, but it is found that they are of such a refractory nature that it is impossible to separate the gold from the other minerals with the gold-saving appliances at present in use on this field. Developments during the past year have revealed the fact that there are large bodies of ore at a depth in our mines, rich in gold and silver, but utterly valueless until the advent of a cheaper and more effective system of treatment than that of the ordinary stamper battery and amalgamating tables. Parcels of ore, which have been forwarded from here to Dapto and Cockle Creek for treatment, have given very high returns of gold; but the cost of conveyance of the ore from here by road and rail to distant metallurgical works, besides the charges for treatment, leave a very small margin of profit to the miner, and when the mineral is not classed up to a certain grade it is likely to end disastrously for the consignor. If local works were established, it is considered certain that a great quantity of the ore which is at present discarded as not being payable could be treated at a profit, and the mineral products of the district would be considerably increased.

Great disappointment has been experienced here with regard to silver mining, and the expectations of many who had hopes of the silver-mining industry again coming to the front have not been fulfilled. At the commencement of the year the White Rock Silver-mining Company were pushing along vigorously with the work of development of the mine and the erection of extensive milling, concentrating, and lixiviation works, which were almost completed, and the general aspect of the surroundings of the mine indicated a long term of prosperity; but early in October all operations suddenly ceased and about 113 men were thrown out of employment, and it is not known when work will be resumed. A very large sum of money has been expended in connection with this mine during the past year, and the value of mining machinery and plant on the ground is estimated at £51,200.

Notwithstanding the many failures and disappointments that have been met with on this field, the outlook of the mining industry is not by any means gloomy. It will be seen in the course of this report on the various mines that as depth is attained they do not show any diminution in the value of their ores.

What is likely in the near future to be a most important feature in the mining industry of this district is the dredging of the Clarence and Timbarra Rivers, which streams in their course intersect a large area of auriferous country, and have acted as sluices for ages past for the collection of auriferous gravel. In dry seasons, when the water is low in each of those rivers, many parties of miners find remunerative employment by sluicing the gravel beaches.

At and around Drake the principal mining carried on is quartz-mining, and what is the most important mine on the field, and from which a large quantity of gold has been obtained, is the Lady Jersey Mine, at Long Gully, distant about 6 miles south of the township of Drake. This mine has, during the last ten years, given employment to from twenty-six to thirty men, and has paid large dividends to the shareholders, and the output of gold has been steady and regular during that time. The deepest workings on this mine are about 150 feet from the surface, but at this depth the same difficulties are met as in other mines on the field, inasmuch as when the oxidised ore belt is passed through, great difficulty is experienced in the extraction of the gold contents from the other minerals, and in consequence of this difficulty in dealing with the refractory ores in the lowest parts of the mine work has been discontinued. The principal source from which the milling ore is now obtained is from open cuts on the back of the lode, as a number of oxidised quartz-veins traverse the felsite formation, and some of these veins are extremely rich in gold. During the present year 1,550 tons of this stone has been crushed for a yield of 1,082 oz. of gold, of the value of £2,997. The plant used for crushing and gold-saving purposes is a 5-stamp battery and amalgamation tables, driven by an 8-horse power portable steam-engine, to which there is also attached a Frue Vanner, over which the tailings from the battery are allowed to pass, and by this means a large quantity of concentrates are saved, of which there are about 500 tons collected and reserved for special treatment on some future occasion.

The Pioneer Mine is the next of importance on the field, and is situated on the crown of Mount Carrington, which overlooks the village of Drake. The area of this mining property is about 34 acres, and is owned by a syndicate of Sydney gentlemen. There are several auriferous veins of quartz traversing the property, also some promising looking copper-veins. The mine is not supplied with any further plant than the ordinary windlass, although a great deal of work has been performed on the property during the past four years. The number of men employed on the mine this year has varied from five to thirteen. The main shaft of the mine is down to a depth of 200 feet, and an adit level has been driven from the south side of the mountain, at the 200-foot level, and from this point the principal operations have been carried out during the year, with the exception of opening up and prospecting other veins on the surface, which traverse the felsite porphyrite formation, from which about 35 tons of quartz have been obtained. About 20 tons of this is on the ground awaiting treatment, and is estimated to contain 2 oz. of gold to the ton. Eight tons, estimated to contain 7 oz. to 9 oz. to the ton, are now on the way to the Australian Smelting Works, at Dapto, for treatment, and about 6 tons have been treated, which yielded 9½ oz. of gold, of the value of £3 10s. per oz. During the year 76 tons of ore, raised from the main shaft at the 200-foot level, were forwarded to the Australian Smelting Works for treatment, which resulted in a yield of 2 oz. of gold and 3½ oz. of silver to the ton, and 3 per cent. of copper. A parcel of 7½ tons of this ore, from the same level, was forwarded some time ago to the Ballarat School of Mines, and was treated by the Wynn and Tregartha riffle plates and barrel amalgamation, and they succeeded by that method in extracting 1 oz. 5 dwt. of gold to the ton, leaving about 12 dwt. in the tailings. This result is considered a vast improvement on the ordinary battery treatment when applied to this class of ore. About 25 tons of carbonate of copper ore has been taken from the oxidised zone in the main lode, which is estimated to yield, as it lies on the surface, without picking, about 10 per cent. of copper and 1 oz. of gold to the ton. About 50 tons of sulphide ore, taken from between the 65-foot and 110-foot level in the main workings, and now lying on the surface, is estimated to average about 2 oz. of gold to the ton and 3 per cent. copper. The total percentage of pyrites in the stone will average something like 20 per cent. of copper, though in some parts of the mine it may amount to 60 per cent., or even 70 per cent. A few experiments have been made with this stone by hand crushing and concentrating to find the proportion of free gold. Stone not showing a colour in the dish has assayed 10 to 12 dwt. of gold to the ton, and stone showing

showing from 10 to 15 dwt. to the ton by the dish have yielded on assay from 2 oz. 3 dwt. to 5 oz. 7 dwt. of gold to the ton, and stone showing about 1½ oz. of free gold to the ton has given on assay a yield of 12 oz. 7 dwt. to the ton. These latter samples of stone were taken from a depth of 110 feet from the surface, numerous pieces of stone have been picked from the ore heap and broken out of the stopes at the 100 and 110 foot level, showing dense splashes of fine gold which become almost invisible when the stone is dry. The gold in this mine occurs generally in a free state where the reef has a distinctly banded nature, the splashes of gold usually following the bands of white quartz, which are sometimes found on the hanging wall and then perhaps in the centre of the reef. The bands alternate to the quartz bands partake of the nature of the felsitic country and very often the gold may be seen in these bands, one small block of stock which brought up from the 100-foot level and which was about 6 inches wide, appeared to be literally covered with fine gold, and if crushed would contain at least 1½ oz. of gold. Contrary to expectations the ore from the sulphides in the deep levels of this mine appear by assay to be richer in gold than that obtained from the gossan formation, and also as far as operations have proceeded the richness increases with depth. This verifies the statement of the late Mr. Wilkinson, Government Geologist, who said on one of his official visits to this district that when the sulphide formation was met with, the ore would be found to be richer in gold but more difficult to deal with than the oxidised ores. Though the gold is extremely fine it is as patchy as it is in reefs where coarser gold is found.

In addition to the parcels of mineral already referred to which have been taken from the Pioneer Mine. A parcel of 16 tons of mixed ore was forwarded to the Australian Smelting Works at Dapto for treatment in the following lots, viz. :-

- 4 tons battery tailings yielded 2 oz. 4 dwt. 14 grs. of gold to the ton.
- 3 tons copper carbonates, 16 dwt. 5 grs. of gold per ton and 21·2 per cent. copper.
- $\frac{3}{4}$  of a ton of tailings of picked sulphide ore, 4 oz. 14 dwt. 14 grs. gold.
- $\frac{1}{4}$  tons picked ore from the 100 to 200 foot level yielded 16 oz. 8 dwt. 19 grs. gold and 3·5 per cent. copper.
- 1 ton tailings from battery, 3 oz. 8 dwt. 5 grs. gold to the ton.
- 7 tons of copper ore yielded 19 grs. gold to the ton and 17 per cent. copper.

This latter parcel of ore consisted of boulders of copper ore occurring in clay apparently shed from a lode which has not yet been traced. The ore had the appearance of copper matte and was not picked but simply bagged as it was broken out. The boulders had the appearance of a clay ironstone on the outside but were very dense towards the centre and contained fully 30 per cent. of copper. The total of the ore treated from this mine during the year was 117 tons yielding, 205 oz. of gold, and 4 per cent. copper.

Besides the ore treated there is at grass about 115 tons estimated to contain 225 oz. of gold and from 4 to 5 per cent. copper.

It will be seen by the returns from the various parcels of ore from this mine which have been treated at different works and by different methods that the mineral on this field is rich in gold but unfortunately we have not the means at hand for its proper extraction.

The Perseverance Mine is the next mine of importance which is gradually making its way to the front, and is the property of Messrs. Hunting and Ryan. The reef runs nearly north and south and varies from 18 in. to 2 ft. in width. In the first part of the year whilst operating in the oxidised belt which extends to a depth of 40 feet the proprietors took out about 48 tons of stone which was locally treated at the All Nations battery for a yield of 243 oz. 12 dwt. 21 grs. of gold. After passing through the oxidised ore it was decided to continue the sinking of the shaft, and as the sinking was proceeded with, the ore was found to be of a very mixed character being composed of zinc blende, copper pyrites, and quartz, and as there was no hope of having it locally treated with any degree of satisfaction it was decided to forward 11 tons to Dapto for treatment with the result that the parcel yielded 85 oz. 17 dwt. 15 grs. of gold making a total of 59 tons of ore treated from this mine during the year for a yield 329 oz. 10 dwt. 12 grs. of gold of the value of £1,192 3s. 10d.

The Rainbow Mine is the next that may be classed with the payable mines of the district, having during the last three years yielded a large quantity of gold. Although in the returns for this year it shows a considerable decrease in the yield of gold of the previous two years. This mine is situated on the western boundary of the Perseverance, but is a distinct line of lode. The deepest shaft on this property is 110 feet deep, but at this depth the ore is highly charged with copper pyrites, which renders the extraction of the gold contents very difficult. Several parcels of this mineral have been forwarded for treatment to the Dapto Smelting Works which resulted in a yield of a little over an ounce of gold to the ton and 4 per cent. copper. With the ordinary gold-saving appliances in use on the field it would be impossible to save even one-third of that quantity of gold from the baser metal. The owners of the mine, Messrs. Parker and O'Connor, have during the latter part of the year been operating at a higher level in the oxidised ores where the vein is much smaller, but free from base mineral, and have taken out 30 tons of stone which yielded 57 oz. of gold of the value of £172. The lode varies in width from 6 inches to 2 feet.

The Lone Hand Mine is adjacent to the Rainbow, and is situated a little to the south-east, and lower down the southern slope of the mountain. In this mine there is no distinct lode, but a number of small veins of quartz traverse the felsite formation, the veins varying from an inch in width to bunches six inches thick, and extremely rich in gold. During the year 35 tons of stone have been taken out by two men from a depth of 60 feet, which, when crushed at the local battery yielded 150 oz. of gold, of the value of £560.

On the northern slope of Mount Carrington there are still a few payable mines, prominent amongst them are the Nil Desperandum and the American Barber. Both those mines during 1897, produced a large quantity of gold, but in the early part of this year after passing through the oxidised belt very good copper ore was met with, on which they have been operating with satisfactory results for some time past.

In the "American Barber," a very large copper formation occurs at a depth of 80 feet, the ore body being composed of blue and green carbonates, and varying in width from 2 to 4 feet. 30 tons of ore treated at the Australian Smelting Works, at Dapto, gave a return to the owners of this mine of 7 tons 12 cwt. 3 qrs. of fine copper, of the value of £395 10s., besides gold of the value of £31 10s.

The "Nil Desperandum" Mine is a gold lease of 4 acres of land, held by Edward Hancock and party, and is situated on the northern slope of Mount Carrington, and for some years past has been the principal gold producing mine in that locality, and from which, up to the end of 1897, a large quantity of gold was obtained. At the 100-foot level the veins of oxidised ore appeared to cut out or merge with a very promising copper lode, which this party have since continued to operate on with very satisfactory results, and have during the present year taken out a few parcels of black oxide of copper, some of which assayed as high as 25 per cent. copper. Some of this ore was forwarded to the Australian Smelting Works at Dapto for treatment, yielding as follows :-

	£	s.	d.
8 tons 5 cwt.—Copper of the value of .....	71	18	0
And gold of the value of .....	20	16	3
3 tons 16 cwt.—Copper of the value of .....	40	4	3
Gold of the value of .....	14	15	10

Besides the above parcels of copper ore, they have also had treated at the same smelting works, 6 tons 8 cwt. of battery tailings, which yielded gold of the value of £136 1s. 4d., or a total of £283 5s. 8d. from 18 tons 9 cwt. of mineral. The prospects of this mine at the present time indicate a large output of mineral during the forthcoming year.

Hawkins and Tubman's mine is on the same line apparently, but a little to the north of the Nil Desperandum and on the fall into Sawpit Gully. This mine has been worked exclusively for copper, and at a depth of 80 feet there is a well-defined lode, varying from 1 to 2 feet in width, and is composed principally of black oxide of copper assaying from 20 to 26 per cent. of metal. During the year the proprietors of this mine have forwarded to the Australian Smelting Works, 16 tons 7 cwt. 1 qr. 14 lb. of ore, from which they have obtained a yield of 3 tons 4 cwt. 1 qr. 3 lb. of fine copper, of the value of £172 19s. 4d. They have also a large parcel raised and ready to despatch to the Australian Smelting Works, which assays over 20 per cent. copper. There are several promising copper lodes in this locality, and as there is a tendency to a rise in the price of the metal in the London market, there is no doubt that a good deal of attention will be directed to the development of our numerous copper lodes during the incoming year.

Work was resumed in the Adeline Mine in the latter part of the year, the mine, which has been idle for some years past, having been purchased from the original proprietors by an English syndicate. Nothing has yet been done beyond the preliminary work of pumping out the mine and putting the machinery in order and making preparations generally for going earnestly to work at the commencement of the incoming year. This



This mine was formerly worked for gold, but operations were not carried to any great depth in consequence of the gold-bearing veins being so much impregnated with copper that the extraction of the gold by the gold-saving appliances in use was impossible. The deepest workings in the mine are over 100 feet deep, and at this level a main drive has been taken along the course of the lode for a considerable distance, showing a well-defined copper formation varying from 3 to 5 feet in width. I believe it is the intention of the new syndicate to erect furnaces and treat the mineral on the ground, as the class of ore is not rich enough to send to distant smelting works.

At the Sawpit Gully Gold and Silver Mining Co.'s property, which is situated about one and a half mile east of Drake, a good deal of exploratory work has been performed during the year. Shafts have been sunk at different points, and the mine has been proved payable at a depth of over 100 feet, and also proved in length over 300 feet. Drives have been put across the auriferous and argentiferous formation, proving the width to exceed 20 feet.

The ore in bulk is not of a very high percentage, but patches of extremely rich mineral are frequently met with.

It is probable that Mr. Edgar Hall, who is the managing partner in the syndicate, will see his way to advise the erection of reduction works very soon to deal with this large body of auriferous matter.

In the outside parts of this Division there are indications of a revival in quartz-mining. At Lunatic Reefs, distant about 8 miles from Drake, there are several parties engaged in prospecting work on the various reefs in that locality. Messrs. Jordan and party are sinking a shaft on the "Golden Crown" line of reef with a view to cut the underlay of that reef at a depth of 100 feet. On the "Morning Star" line Messrs. Pateman and party have met with a fairly rich patch of gold at no great distance from the surface, and the prospects appear to improve as the sinking proceeds. Barker and party are also prospecting on the old "Lunatic Reef."

At Tooloon, distant about 33 miles from Drake, attention is being directed to quartz-mining, and prospecting is extensively carried on on the numerous quartz-veins in that neighbourhood. A quartz mill has been erected by a Mr. Payne in a very central part of the Tooloon Gold-field for the purpose of crushing parcels of stone for the public, and this has given a strong impetus to this class of mining in that part of the Division.

At Lionsville, in the southern portion of this Division, a good deal of activity is displayed in mining, and the claims on the various reefs are being energetically worked, notably on the "Lion," "Shillamalca," "Garibaldi," "Solferino," "Waterloo," and "Sedan" Reefs.

The scarcity of water in this locality, however, has been a great drawback to mining during the greater part of the year, there not being sufficient for battery purposes. Several parcels of stone have been lying at Bassetti's mill at Solferino for some months past awaiting treatment.

The want of water has also retarded operations on the alluvial fields to a great extent during a long period of the year, and sluicing claims have had to suspend work, and alluvial-mining has, for a considerable portion of the year, been reduced to fossicking, which, in a great measure, accounts for the shortage in the returns of alluvial gold for this year.

The alluvial workings are spread over a very large area of this field, and the largest number of men are employed in alluvial-mining on the old diggings. The principal centres where alluvial-mining is carried on are Tooloon, Mosquito Creek, and Pretty Gully, in the north; Solferino, Cedar Creek, Millera Scrub, McLeod's Creek, Timbarra, and Poverty Point, in the south. There are no complaints of poverty amongst the alluvial miners, and all say that they can make a good living, and in favourable seasons, when they have a reasonable supply of water, can make 25s. to 30s. per week, and in some cases as much as £3 per week.

It is very difficult to arrive at an accurate estimate of the quantity of gold won in this Division during the year, in consequence of a number of the miners sending their gold away privately, particularly the Chinese miners who send parcels of gold to the Chinese merchants in Sydney and other places, of which no account can be got. For the returns of alluvial gold obtained, the Mining Registrar is indebted to the storekeepers who are the purchasers of gold.

The total of gold and other mineral products for the year are as under:—

	oz.	dwt.	grs.	value,	£	s.	d.
Alluvial gold ... ..	2,681	15	1	9,386	2	7	
Quartz gold .....	2,404	11	16	8,416	0	10	
	5,086	6	17				

#### *Centerfield Division.*

The yield of gold during the year has not been so good as formerly on account of the want of water, and miners had to seek employment elsewhere. The men employed on the field are about thirty. Eighteen of them are mining for alluvial and twelve are working for several companies. The yield of the field is about 60 oz., at a value of £3 3s. per oz.

The following parties are at present at work in the Division:—Caponi and party, Dismal Swamp; Wilson, Stevenson, and Co., Buck Reef; A. Fetz and Roberts, Dismal Swamp; Beck and party, for silver, Dismal Swamp.

At Bolivia, Five Bull Creek, Luke Devon and party are prospecting for gold and receive Government aid. They have sunk 75 feet and driven 30 feet with no result at present, but are putting on two more men and a pumping machine, and have excellent prospects.

R. Patterson and party have also Government aid, but have no result at present.

Lambert and party have made slow progress and are waiting to form a company; their property shows indications of gold and silver.

Several prospecting parties have been employed for wolfram and antimony on the Bolivia Range, and they will start work again shortly.

#### CLARENCE AND RICHMOND MINING DISTRICT.

##### *Grafton Division.*

Very little mining of any kind has been done within this Division during the past year. The Walter Scott Gold-mining Company's leases, from which great results were expected, did no work during the year and were cancelled in September for non-payment of rent. A few of the former holders have re-applied for three leases, embracing an area of 59 acres, and as the machinery is already on the ground, capital, it is anticipated, will be forthcoming to further develop this property.

During the year six applications for gold leases have been received and 200 miner's rights issued.

At Yulgilbar the owners of the Rise and Shine Mine have a shaft down 80 feet, and have raised 32 tons of quartz, yielding 78 oz. At Mr. Penrose's Mine 30 tons have been raised, yielding 60 oz.

##### *Coramba (late Nana Creek) Division.*

The anticipations indulged in last year as to the permanency and increased richness of the various reefs in this Division, and the larger employment of experienced miners, have unfortunately not been realised. There is a large decrease in the quantity of gold won, the output being only 5,583 oz., as compared with 11,234 oz. won during 1897. To what cause this is attributable is accounted for by the want of capital, the importation of which is the dream of a large section of the leaseholders, their own limited means not allowing the purchase of the machinery requisite to develop the resources of their holdings; or, as has been pointed out on more than one occasion, the taking up of leases, not singly, but in various parts of the field, by speculative miners, who could never hope to keep them efficiently worked without monetary assistance, but hold in expectation of being able to sell out to syndicates or companies before the crucial test of payment for wages is applied.

The Department has dealt with a very large number of complaints received from the Division for non-fulfilment of the labour conditions, resulting in many cases in cancellations, cautions, or extensions of time. At the present moment the case of one of the largest leaseholders is under review by the Department.

Another reason assigned for the non-progress of the field is that up to the present the reefs in most instances have not increased in richness as lower depths are reached. This, with the influx of water and greater expense of working, account for the cessation of work on many of the smaller holdings.

It is pleasing to be able to say, however, that reports recently received show that in the parishes of Cunglebung, Cowan, Wellington, Bardool, Urania, &c., prospects are looking much brighter, and very good returns are being obtained by those able to crush.

The following is a short account of work done and output from some of the principal mines during the last year:—  
 New Year's Gift, G.L. 441, C. and R., portion 156, 4 acres.—This is situated at Tallewadjah Creek. In it is a shaft 75 feet deep. A tunnel is in from the north-west side of the hill of 200 feet; and from the south-east side another of 140 feet. The reef is to the east on the underlay, and in thickness is about 18 inches. 40 tons quartz at grass. The lessee is Oliver Anderson.

Beacon Gold Mines (Limited), Upper Bucca Bucca.—In the leases are two shafts—The Reward 180 feet deep, and Perseverance 200 feet, which is the deepest level. The lode is 1 foot in width. The dip in the Reward is 50 degrees east, and in that of the Perseverance 33 degrees east, bearing 25 degrees west of north.

Alfred Cadell, Coramba.—His leases are all in and about Coramba, and no work has been done in any of them during the year.

John Pumfrey, Upper Bucca Bucca.—His lease is 546, C. and R., portion 178. There are two shafts, depths 30 feet and 12 feet. The lode is in width 4 feet; its dip north-west, and bearing north-east.

John Nord, Coramba.—The lease is No. 443, C. and R., portion 214, situated at Eleven-tree Creek. The shaft is perpendicular, and in depth 175 feet. The lode is 25 feet wide, its bearing north-west by south-east. A tunnel is in, cutting the shaft at its deepest level—175 feet; its length, 350 feet, 250 feet of which was worked by aid from the Department.

J. Stennett and L. F. Machiavelli, Lower Bucca.—Their lease is 562, C. and R., portion 88. In it is a shaft sunk to a depth of 60 feet. The vein therein is about 6 inches wide, and its bearing north and south.

Wm. Vanderkolk and party, Coramba.—This lease is on W. J. Chapman's conditional purchase No. 61, and consists of 10 acres. A winze has been sunk 35 feet—20 of that under aid. A tunnel has been driven 250 feet. The depth of the deepest level below the surface is 63 feet. The reef is from 8 inches to 2 feet wide; dip, 2 feet in 5. Its bearing north-north-east and south-south-west, and underlies to the east. 41 tons of quartz yielded, at the Coramba Queen battery, 8 oz. 12 dwt.

R. S. Keats and party, Mole Creek, G.L. 487, C. and R., portion 6.—In this is a shaft sunk 70 feet. Depth of deepest level, 110 feet. This was cut by a tunnel put in from the east, a distance of 168 feet. From that level there is a drive north of 25 feet, where green stone shows, and the gold is better than any yet met with. The vein is a foot wide, and on the underlay, its bearing not given. They state that the quartz raised is 112 tons; yield, 116 oz.; value, £437 18s.

D. Pont, Lower Bucca, G.L. 381, C. and R., portion 73.—In this lease of 1 acre a well timbered shaft is down 105 feet. The lode is 2 feet 6 inches in width, and its dip 6 inches to the foot, bearing north and south. He has experienced much trouble from water; in fact, until he procured suitable machinery it was impossible for him to do anything with the mine.

James Denning, Denning and Flintoff, E. Francis.—The party own gold-leases portions 172, 122, 157, all of which are situated at Upper Bucca Bucca and are amalgamated. The depth of the deepest level from the crown of the hill, vertical, is 180 feet. The works are carried on by drives at various levels. The reef is from 1 foot to 7 ft. 6 in. in width; its dip north-east, and bearing north-west. Five hundred tons of quartz have been raised, 350 of which have been crushed, yielding 280 oz. of gold, valued at £880.

E. F. Sharpe and J. J. Morrow, Tallewadjah Creek, G.L. 553, C. and R., portion 118.—The depth of shaft herein is 12 feet, carrying a vein 1 foot in width. Its dip is to the west, and bears north and south. Twenty tons of quartz have been crushed for 42 oz., value £157 10s. G.L. 554, C. and R., portion 119.—The depth of the shaft in this lease is 34 feet, stoping done. The vein is 5 inches wide, dipping to the west, and bears north and south. G.L. 386, C. and R., portion 714.—There is a shaft in this lease of 68 feet; there is also a tunnel, dimensions not given. The vein in the shaft is 8 inches, dipping east, and bearing north and south; 60 tons of quartz raised and crushed for 28 oz., value £105. From G.L. 554 was raised 30 tons of quartz, yielding 18 oz., value £67 10s. The lessees have a battery of their own, at which they crush the quartz obtained from their several properties.

Advance Orara, Upper Orara, G.L. 353, C. and R., portion 1.—This is worked by W. Robinson and three others. The shaft is down 60 feet, and the vein averages 12 inches in width; its bearing, east and west. Gold—64 oz. 14 dwt. has been obtained from 207 tons of quartz, valued at £220.

E. R. Smith, South Grafton, G.L. 549, C. and R., portion 125, Lower Bucca.—In this lease are three shafts, depth 20 feet, 34 feet, 45 feet. The reef is 2 feet wide, dips north, and bears east and west. Twenty-five tons of quartz raised, 10 of which have been crushed for a yield of 3 oz. 15 dwt.; value, £12.

Charles Beagley, Tallewadjah Creek, G.L. 552, C. and R., portion 117, Avery's Creek.—The depth of the shaft in this lease is 28 feet; the vein is 3 inches wide; underlies to the west; its bearing north and south. A crushing of 2½ tons gave 4 oz. 5 dwt.; value, £16 12s.

An important discovery has recently been made about 6 miles from Mole Creek, known as the Kangaroo King. The reef is 3 ft. 6 in. to 4 feet wide; shaft about 30 feet deep. It is 12 dwt. per ton stone—it crushes that. The Caledonian Reef is proving good near Tallewadjah Creek, also the Lilla at Mole Creek. On Kangaroo Creek, W. Shipman has opened a large reef; 8 tons crushed for 13 oz. 5 dwt. There are a number of men fossicking at Kangaroo Creek. Three men are working at Black Bull Creek, and several are prospecting towards the Bobo.

The total quantity of stone raised and treated within the Division during the year was 7,800 tons for a yield of 5,583 oz. A number of parties are receiving aid from the Prospecting Vote, but have not yet been successful in striking anything payable.

#### Dalmorton Division.

The figures of the gold won show an increase on last year's returns of 257 oz., viz., alluvial 35 oz. and quartz reefs 222 oz., which must be considered fairly satisfactory, remembering the many checks there have been upon the mining industry by drought, &c.

The only new find in the Division for the year is that known as "Mosquito Creek," discovered by "Yellow Jack," a noted prospector in this Division. The locality is about 22 miles from Dalmorton, and is comparatively new country; no prospecting has been done there until the finding of this reef by "Yellow Jack." The reef was about 15 inches on the surface, and carried a splendid show of gold. On sinking, it widened to 4 feet at a depth of about 12 feet, and narrowed again in driving, but still carries good gold. A trial crushing of 13 tons, taken as it came, gave a return of 33 dwt. per ton, and about 100 tons is now raised waiting crushing, which has been delayed for want of water, and it is estimated that this 100 tons will yield 30 dwt. per ton. A great deal of interest is taken in the working of this mine, for if it continues to go down there will be a considerable stir in mining in that locality.

Several other small but rich leaders have been found round about this reef, and when rain comes more prospecting will be done.

The Mount Rea Mine, at Mann River, has shut down indefinitely. A lot of money has been spent upon this property for a very poor return, and there is nothing in sight to induce the shareholders to continue the expense at present. The crushings for the year show 700 tons for 208 oz., which is a very poor average, and not nearly sufficient to pay expenses. Most of the reef carrying gold has been worked out, and a considerable amount of prospecting done since failed to discover any more of a payable nature. The plant alone on this mine has cost £4,000, and it is a pity to see it lying idle, and a probability of it becoming utterly useless in its present position.

The Little Dora Mine, Mann River, has been working constantly during the past nine months with fairly good results. 455 tons of stone were crushed for a yield of 566 oz. gold, which may be considered a payable yield. Besides, through judicious management, the mine has been systematically opened up for further operations.

It is said there is a probability of an English company taking this mine for a twelve months trial at a stated price. The great drawback to the efficient working of these Mann River Mines has been the heavy cost of landing goods there (about £6 per ton); but the Government have lately cut a good bridle track from Copmanhurst direction, which is a great advantage to all concerned.

The Crushed Dog Mine at Cungilbung was crushed with its first trial. This is an old mine, but it was thought by the owners that payable stone existed in quantity; but 20 tons only yielded 6 dwt. per ton, and work was at once suspended.

The Old Abercrombie, at Dinner Creek, has again been leased, and a new reef found near the old one which gave a result of 8 oz. 2 dwt. for 3 tons. There is no battery handy to this reef, and the lessees contemplate the purchase of a small battery to treat their own stone.

The old Surprise has also been re-opened at Cungilbung, and a crushing of 10 tons yielded 10 oz. 12 dwt. of gold. This mine will also be worked early in the year, and may yet prove worth the trouble. The

The only work done close to Dalmorton for the year was on the Carbine Mine. A prospecting tunnel was driven 200 feet along the reef, but nothing was found. One hundred and fifty feet of this driving was aided by the Prospecting Vote, and the owner (Mr. Ford) still hopes to continue the drive with the possibility of striking the reef in a payable way. Good gold has been taken out of this mine, and much may still be left.

Mr. H. Martyn's mine at Stockyard Creek has been well prospected and opened up, and the owner considers it a payable mine. He has, therefore, decided to erect machinery thereon to crush the stone.

The Black Slate Mine is still lying idle with all its perfect plant of machinery, tramways, &c.; but it is rumoured that a syndicate has taken it on tribute to start work shortly. Thus, with the exception of the Mount Rea, the prospects of the reefs in this Division are quite as bright as last year, and it is believed that the year 1899 will either put most of them on a sound footing or see them indefinitely abandoned. Capital is the one great thing required at Dalmorton, and, although persistent efforts have been made to get it into this Division, the fact remains that it is still wanting.

Very little new work has been done in alluvial, and, indeed, there seems very little chance of any, for the only place any quantity of gold has been got in the Division is in the bed of a creek or river, and these have been so often worked that very little can remain. Two miners struck a small patch of unworked ground in Jackass Creek recently, and washed some dirt for a yield of 2 oz. to the load, but about 12 or 14 loads will cut it out. Another party had a fair patch on the Mann River Beach, which yielded as high as 1½ oz. to the load, but that also ran out after yielding about 60 oz.; still some fifty to sixty fossickers continue to raise enough to live upon, and may do so for years to come.

#### *Woooolga Division.*

During the past year 188 tons of quartz were crushed for a yield of 227 oz. of gold, valued at £851 5s.; and 96 oz. of alluvial gold was won, valued at £345 12s.

Mining in this Division is in a very languishing condition. A number of the mines have been closed down, and apparently abandoned. Only two mines have been worked during the last five months.

Mr. Peter has removed his battery to Bucca Creek, and a number of miners have left the district. Most of the mines appear to have been abandoned owing to the influx of water into the workings, and the want of capital to erect machinery to contend with it.

At the Louisa Mines aid has been granted to assist the owner, S. G. W. Small, to put down the shaft 100 feet; but slow progress is being made, owing to the influx of water into the shaft. 20 tons of quartz has been raised ready for crushing, which is expected to give a return of 8 dwt. to the ton. The reef at the 52 feet level is 5 feet wide.

At the Golden Area Mines (Thos. McCallum), McCallum and party's main shaft is down 75 feet. 18 tons of stone taken out at this level yielded 32 oz. of smelted gold. This mine has proved payable from the surface.

It is asserted by the prospectors of the district that this field contains many payable reefs, and, if properly tested, would give employment to a large number of men.

#### *Ballina Division.*

Mining in this Division has fallen off considerably, only thirty-two miner's rights having been issued during the year. Very little gold has been won, the returns for labour expended in stripping the terraces being very poor and unsatisfactory—in some cases not providing rations for the men engaged. It is difficult to arrive at the exact quantity of gold won in this Division, as it nearly all passes through the hands of the storekeepers for the purchase of rations.

#### *South Woodburn Division.*

Mining in this Division is at present at a very low ebb. There is, however, some prospect of a revival, a mining agent and civil engineer, named J. S. A. Taylor, having applied for a special lease for gold-mining of 16 acres, at McAulay's Lead, Jerusalem Creek, for the purpose of working the ground abandoned in that locality by means of a large cyanide plant, which, if erected, will undoubtedly give an impetus to mining matters in this Division. There have also been two extended claims applied for for the purpose of working by cyanide.

### COBAR MINING DISTRICT.

#### *Cobar Division.*

The past year has been a very disastrous one, owing to the very severe drought with which the whole of this western portion of the Colony has been stricken, being the most severe drought that the oldest resident of the district has ever experienced. The Warden of the District, Mr. Walterus Brown, who has had twenty-five years' experience in this Western District, has never seen anything approaching it in severity, caused probably by it having been one continuous drought, extending over a period of four years.

This severe drought has been very detrimental to the mining industry, and much mining and prospecting has been deterred by the want of water; but, notwithstanding this stumbling block, the Cobar Mining District has made good progress, and may be fairly looked upon as one of the most important mining districts in the Colony. It is only a few years ago that Cobar was looked upon as dead; but to-day, in spite of all the difficulties that there have been to contend against, the mineral production and population have gradually increased.

The mine of the District—the Great Cobar Company's Mine—is dealt with under the heading of copper.

Besides the big mine, we have, within a distance of about 6 miles of Cobar, several really good gold-mines, viz., Fort Bourke, now called The Cobar Gold-mines (Limited), The Occidental, The Peak, The Berribungie, and other minor mines, such as the Young Australian, Great Western, and many others, also Chesney Copper-mine, all of which show good indications of turning out good, profitable mines.

The Fort Bourke and the Chesney have not done much mining work during the past year, their labour and capital having been devoted to the purchase and erection of extensive machinery.

In this respect large amounts of money have been expended, showing that great faith is placed in the mines by the management and shareholders. This confidence has not been misplaced, and they will in the near future reap their reward.

The Occidental has done good work during the year, and has been a steady-going, self-paying mine from its inception. The management have considerably increased their plant, among the additions being a cyanide plant which is proving a great success, and it is hoped the shareholders may at no very distant date expect to receive regular dividends. This opinion is held by the general public, if the steady increase in the price of shares is any criterion. Getting a little further from Cobar, we come to Drysdale, where the "Mount Drysdale," "Eldorado," and "Old Billagoe" gold mines are situated. These mines during the past year have been doing very little work owing to the scarcity of water, but they are mines with fair prospects before them, and will yet give the shareholders a fair return for their outlay.

About 25 miles in north-westerly direction from Drysdale, at Gundabooka Mountain, some good gold prospects have been found, and six leases have been taken up in the locality, but, though good assays have been obtained, the want of water has prevented any work being done to properly test the ground, which is expected to prove payable.

Coming to Boppy Mountain, we find the Boppy Mines held by the "Anglo Australian Exploration Co., Limited," under the management of Mr. F. H. Granstedt. This company has done remarkably good work under great difficulties. The prospects of the mine are very good and will, in time, repay the company for their plucky enterprise. Here again the want of water has been greatly felt, having been carted some considerable distance for domestic purposes only, and now the source from which the water had been received has given out, and there is every chance of work having to cease in consequence. Owing to the scarcity of water this mine has been plodding along with from fifteen to forty men employed; whereas, if there was a permanent water supply, they would probably be employing about 200, and a considerable amount of other work and prospecting would be carried out in the locality.

Besides the company's leases there are other leases in the locality which would be worked if there was water. Budd's lease in this locality has done good work, but where there is one man working in the locality now there would be ten if there was a permanent water supply.

At Restdown work has been almost at a standstill during the past year, there having been only some ten or twelve men working; again the want of water being the cause.

This is to be regretted, as there have been some good gold prospects from this locality, and if water was available the field would be well tested—thoroughly well prospected—with every prospect of good results. The

The total value of the minerals won in this Division during the year :—

Gold .....	22,254 oz.,	valued at	£78,809
Silver .....	170,704 „	„	14,556
Copper .....	4,424 tons,	„	203,742

These figures would have been largely increased had the season been at all a favourable one.

*Gilgunnia Division.*

There is nothing noteworthy to report concerning this Division. The total quantity of gold won was 503 ozs. There are only twenty-six men at work on the field, a number of them under aid from the Prospecting Vote, who propose testing the reefs at a depth.

ALBERT MINING DISTRICT.

*Milparinka and Tibooburra Divisions.*

There is a very great falling off in the return of gold won during the year 1898, caused by the continued drought that has held throughout this district for the year. No rain of any consequence has fallen since February, 1898. The small falls of a few points since then were of no use for the benefit of the miners.

Gold Leases.—Warratta West is now altogether abandoned, first from want of water even for domestic use; further, the lessees who had taken up the ground as leases had not means wherewith to work them. They tried to float some of them into companies, but, not being successful, the lessees then virtually abandoned them. At present there is no lease being worked upon on that field, nor could they do so for want of water.

Warratta East.—At this locality there are two gold leases in force and one prospecting claim, but in the present waterless state of the country work cannot be carried out.

New Bendigo.—There is only one gold-lease on that field in force, applied for in May last and granted November last. Until there is a fall of rain no work could be carried on. All other claims and leases there are abandoned.

In the Tibooburra Division all the leases granted have been cancelled for non-payment of rent. The reason arises from the same cause—want of means to carry on with.

There is a battery erected at the old Warratta Reefs, but it has now been closed down for many months, for the reason that there was not stone to crush, the leases not being worked.

Alluvial.—There is a very great falling off in this class of mining, as compared with the quantity of gold won on all the alluvial fields in these Divisions in 1897. The Mount Brown and Good Friday fields are almost deserted. The few miners left are now stacking their wash-dirt; from want of water to go on with they cannot wash. In consequence the return of gold actually won shows a decrease. All the puddlers' dams are dry and the machines idle. There are five claims on deep sinking; so far they have not met with good returns. One, Glover and party, is receiving aid to drive at the 250-foot level. They are not raising the mullock until rain falls. These fields are not true alluvial; the finds are in pockets—"marine gold." A pocket very soon cuts out, and there is no guide to the miner as to where he may strike another. At all events there will be much dead work to be done before he does. A true gold lead has never been known on any of the fields, although occasionally beautiful specimens are found.

If there was plenty of water there is much virgin ground not prospected on all the fields; but this dry waterless country will always be a drawback to real vigorous mining.

The total yield of gold won is—

Tibooburra—Alluvial, 818 oz. 14 dwt. ....	£3,274 16 0
„ Quartz 12 oz. ....	48 0 0
Milparinka—Alluvial, 389 oz. ....	1,556 0 0
„ Quartz, nil .....	.....

The regular price paid for gold is £4 per oz.

£4,878 16 0

*Broken Hill District.*

Mining in this Division is confined to the production of silver, which is dealt with under its proper head. The Broken Hill Proprietary Company however saved, in connection with their operations, 1,040 oz. of gold, and the Jubilee Company 27 oz.

The following table will be found a very valuable one, as it gives, in addition to other information, full particulars of the yield of gold and the number of men employed in each Division of the Colony. The statistics are collected as carefully as possible by the Mining Registrars, but they experience a difficulty in many instances in obtaining the correct information.

TABLE showing approximately the number of Miners employed in the Metalliferous Mines, the Quantity of Gold won, the Area of Ground worked, and the Value of Machinery employed, in the Colony of New South Wales, during 1898.

Office.	Alluvial Gold.			Silver.	Copper.	Other.	Tin.		Quantity of Gold.			Price of Gold per oz.		Value of Gold won.	Auriferous ground worked.	Quartz reefs proved to be Auriferous.	Approximate value of Machinery at the Gold-mines.	
	European.	Chinese.	Quartz.				European.	Chinese.	Total.	Alluvial.	Quartz.	Total.	From					To
BATHURST MINING DISTRICT.																		
Bathurst .....	71	13	8		10				102	oz dwt. gr.	oz. dwt. gr.	oz dwt. gr.	s. d.	s. d.	£ s. d.	sq. m.	No.	£
Blayney .....	100		35		100				235	1,226 2 20	50 0 0	1,276 2 20	75 0	76 6	4,785 0 0	200	4	225
Burrage .....	40		10		210				280	163 13 18	30 0 0	163 13 18			567 18 6	5	3	13,000
Canowindra .....	2		63						65	50 0 0	183 2 0	590 0 0	75 0	80 0	2,290 0 0	30	5	1,020
Carcoar .....	20		350						400	883 16 21	883 16 21	883 16 21	70 0	75 0	3,125 16 0		9	1,500
Cowra .....	25		15		10				28	123 4 21	26 10 0	123 4 21			484 2 11	5	1	8,000
Molong .....	10		12						25	26 10 0	26 10 0	26 10 0			100 0 0	20	4	300
Mount McDonad	15	10	312						337	101 0 0	2,378 13 0	2,479 13 0	75 0	77 0	9,336 2 11	10	50	13,555
Newbridge .....	18	2	20						40	36 0 0	655 0 0	691 0 0	75 0	80 0	2,715 17 6	12	7	3,150
Oberon .....	130		30		40				200	397 14 0	50 0 0	447 14 0	65 0	73 0	1,834 6 0	200	12	1,050
O'Connell .....	18				5				23	212 0 0		212 0 0	77 0	80 0	827 12 0	1	.....	370
Orange .....	150	2	900		8		5		1,065	2,500 0 0	25,035 17 12	27,535 17 12	77 0	79 0	93,910 0 0	.....	.....	52,000
Rockley .....	137	10	230		20				397	1,471 0 0	6,366 10 0	7,837 10 0	75 0	81 6	31,286 5 0	25	4	10,020
Sunny Corner .....	93	10	209		7				310	1,307 6 10	1,001 14 20	2,309 1 6	75 0	77 6	7,763 0 0	10	5	16,500
Tronkey .....	265	9	22						297	1,835 2 19	122 0 0	1,957 2 19	76 0	82 0	7,509 18 1	32	8	800
Tuena .....	225	9	32						266	2,492 0 0	189 0 0	2,681 0 0			10,230 18 9	50	26	4,000
Wattle Flat .....	200	20	250						470	.....*	483 3 1	486 3 1			1,834 18 4	.....	.....	1,500
Woodstock .....			15						15	.....*	.....*	.....*			.....*	.....*	.....*	.....*
Wyagdon .....			12						12	.....*	.....*	.....*			.....*	.....*	.....*	.....*
Total ..	1,525	86	2,546	7	393	15			4,572	12,316 19 19	37,581 12 3	49,898 11 22	..	..	179,434 7 4	600	142	127,390

\* Particulars not obtainable.







The Department is indebted to the Deputy Master of the Royal Mint for the following information:—

QUANTITIES of Gold, the produce of New South Wales, received into the Royal Mint, Sydney, during 1897 and 1898, compared.

District.	Division	1897.	1898.	Increase.	Decrease.
		oz.	oz.	oz.	oz.
Bathurst .....	Bathurst .....	1,447·65	1,343·38	..	104·27
	Carcoar .....	1,245·06	368·02	..	877·04
	Orange ..	1,048·26	3,399·66	2,351·40	..
	Trunkey Creek ..	52·03	..	..	52·03
	Tuena ..	30·56	65·17	34·61	..
Tambaroora and Turon ..	Mount M'Donald ..	1,627·84	394·60	..	1,233·24
	Hill End .....	1,828·39	1,219·35	..	609·04
	Tambaroora ..	263·58	..	..	263·58
	Sofala .....	3,727·39	3,585·73	..	141·66
Mudgee .....	Stony Creek .....	1,083·75	..	..	1,083·75
	Mudgee .....	4,626·39	3,479·18	..	1,147·21
	Gulgong ..	2,447·49	1,343·89	..	1,103·60
	Hargraves ..	45·61	..	..	45·61
Lachlan .....	Wellington ..	2,574·51	1,810·13	..	764·38
	Parkes ..	11,117·76	11,835·83	718·07	..
	Foibes ..	27·82	853·72	830·90	..
	Grenfell .....	1,008·23	1,457·52	449·29	..
	Young ..	897·53	623·51	..	274·02
Albert ..	Temora ..	128·45	649·75	521·30	..
	Wilcannia ..	875·48	63·10	..	812·38
	Goulburn ..	1,375·84	538·15	..	837·69
	Braidwood ..	4,042·74	3,862·07	..	190·67
Southern .....	Araluen ..	..	21·78	..	..
	Nerrigundah ..	420·01	526·95	106·94	..
	Adelong ..	455·39	100·77	..	354·62
	Tumut ..	188·58	190·72	2·14	..
	Cootamundra ..	342·25	63·40	..	278·85
	Tumbarumba ..	1,861·26	1,226·50	..	634·76
	Gundagai ..	1,800·49	3,263·27	1,467·78	..
	Cooma ..	801·52	418·48	..	383·04
Peel and Uralla ..	Kiandia ..	29·02	82·36	53·34	..
	Wagga Wagga ..	102·21	33·34	..	68·87
	Armidale ..	18,266·05	14,990·38	..	3,275·67
	Rocky River ..	..	..	..	..
	Nundle ..	..	..	..	..
Hunter and Macleay ..	Tamworth ..	729·96	948·08	218·12	..
	Bingara ..	730·81	538·58	..	192·23
	Copeland ..	188·69	108·86	..	79·83
Clarence and Richmond ..	Grafton ..	2,992·69	2,214·20	..	778·49
New England ..	Tenterfield ..	1,712·74	1,168·94	..	543·80
Mixed ..	Western, Northern, and Southern.	22,747·55	35,948·93	13,201·38	..
Localities unknown ..		108,522·97	110,167·74	1,644·77	..
	Total ..	203,414·55	208,916·04	21,621·82	16,120·33

## SUMMARY.

District	1897	1898.
	oz.	oz.
Bathurst .....	5,451·40	5,570·83
Tambaroora and Turon ..	6,903·11	4,805·08
Mudgee .....	9,694·00	6,633·20
Lachlan .....	13,522·04	15,425·33
Albert ..	875·48	63·10
Southern ..	5,838·59	4,948·95
Tumut and Adelong ..	5,238·47	5,383·84
Peel and Uralla ..	19,726·82	16,477·04
Hunter and Macleay ..	188·69	108·86
Clarence and Richmond ..	2,992·69	2,214·20
New England ..	1,712·74	1,168·94
Mixed—Western, Northern, and Southern ..	22,747·55	35,948·93
Localities unknown ..	108,522·97	110,167·74
	203,414·55	208,916·04

The above Tables show that the quantity received at the Mint during the year exceeded that of 1897 by 5,502 oz.

The system adopted in the past by the Department in arriving at the output of gold for the year has been to add the quantity received at the Royal Mint to that exported through the Customs, deducting, of course, the quantity exported by the Mint which appears in the Customs Return. It having been ascertained, however, that an appreciable quantity of New South Wales gold (other than that included in the Export Returns furnished by the Customs) annually finds its way from outlying districts to the Royal Mint at Melbourne, in order to in part compensate for this leakage it has been decided to in future add,

add, to the result obtained by the foregoing method, the New South Wales gold received at the Melbourne Mint in excess of the quantity accounted for through the Customs. The following figures show how the yield for the year 1898 is arrived at:—

	oz.	£	s.	d.
Gold exported in bars, dust, quartz, and concentrates ... ..	120,505·50	435,346	0	0
Gold received by the Mint, the produce of the Colony... ..	208,916·04	765,793	7	7
	<u>329,421·54</u>	<u>1,201,139</u>	<u>7</u>	<u>7</u>
Less the quantity exported by the Mint through the Customs ... ..	4,761·66	20,141	12	6
	<u>324,659·88</u>	<u>1,180,997</u>	<u>15</u>	<u>1</u>
Add the difference between the New South Wales gold received at the Melbourne Mint and the quantity passed through the Customs ... ..	15,833·00	63,332	0	0
Estimated yield for 1898 ... ..	<u>340,492·88</u>	<u>1,244,329</u>	<u>15</u>	<u>1</u>
The yield for the year 1897 was ... ..	292,217·55	1,088,413	7	9

Towards the beginning of the year, arrangements were completed whereby, since April, the Department was enabled to issue monthly returns of the gold won within the Colony—instead of quarterly—and the figures are forwarded to the Agent-General in London for publication. The following statement gives the yield for the first quarter and for each month thereafter:—

	oz.	£
Quarter ending 31st March ... ..	82,530	303,860
Month ending 30th April ... ..	12,892	47,646
„ 31st May ... ..	20,925	79,206
„ 30th June ... ..	37,376	136,743
„ 31st July ... ..	28,097	101,952
„ 31st August ... ..	15,640	54,677
„ 30th September ... ..	41,777	155,390
„ 31st October ... ..	13,199	43,987
„ 30th November ... ..	33,492	116,024
„ 31st December* ... ..	54,565	204,845
	<u>340,493</u>	<u>1,244,330</u>

The gold received by the Mint during the quarters ending the 31st March, 30th June, 30th September, and the 31st December was, respectively, 45,090 oz., 51,567 oz., 61,433 oz., and 50,826 oz.

RETURNS of Gold for 1898 from Mint and Mining Registrars compared:—

District.	Mint.	Mining Registrars.	Excess.	Deficiency.
	oz.	oz.	oz.	oz.
Bathurst .....	5,570·83	49,898·60	.....	44,327·77
Tambaroora and Turon .....	4,805·08	11,925·37	.....	7,120·29
Mudgee .....	6,633·20	38,672·95	.....	32,039·75
Lachlan .....	15,425·33	66,298·21	.....	50,872·88
Albert .....	63·10	2,286·91	.....	2,223·81
Southern .....	4,948·95	23,508·17	.....	18,559·22
Tumut and Adelong .....	5,383·84	30,580·52	.....	25,196·68
Peel and Uralla .....	16,477·04	38,527·15	.....	22,050·11
Hunter and Macleay .....	108·86	1,525·75	.....	1,416·89
Clarence and Richmond .....	2,214·20	9,019·45	.....	6,805·25
New England .....	1,168·94	5,146·34	.....	3,977·40
Cobar .....	.....	22,758·85	.....	22,758·85
Mixed—North, South, and West .....	35,948·93	.....	35,948·93	.....
Localities unknown .....	110,167·74	.....	110,167·74	.....
	<u>208,916·04</u>	<u>300,148·27</u>	<u>146,116·67</u>	<u>237,348·90</u> <u>146,116·67</u>
The returns from Mining Registrars exceed returns from Mint by .....				91,232·23

The large difference of 91,232 oz. between the returns of the Mining Registrars and the quantity of gold received at the Mint is explained by the fact that a large quantity of our gold is sent out of the Colony in the form of matte and in copper ore and bullion, and, of course, never reaches the Mint.

MINING

\*The quantity and value of New South Wales gold received during the year at the Melbourne Mint, in excess of quantity accounted for through the Customs, are included in the yield given for this month.

## MINING Registrars' Returns of Gold for 1897 and 1898 compared.

District.	1897.	1898	Increase.	Decrease.
	oz.	oz.	oz.	oz.
Bathurst .....	31,936	49,899	17,963	.....
Tambaroora and Turon .....	11,060	11,925	865	.....
Mudgee .....	26,939	38,673	11,734	.....
Lachlan .....	65,207	66,298	1,091	.....
Albert .....	5,129	2,287	.....	2,842
Southern .....	16,521	23,508	6,987	.....
Tumut and Adelong .....	30,665	30,581	.....	84
Peel and Uralla .....	43,392	38,527	.....	4,865
Hunter and Macleay .....	1,394	1,526	132	.....
Clarence and Richmond .....	14,386	9,019	.....	5,367
New England .....	5,535	5,146	.....	389
Cobar .....	27,211	22,759	.....	4,452
	279,375	300,148	38,772	17,999
Less Decrease .....	.....	.....	17,999	.....
Increase in yield for 1898 .....	.....	.....	20,773	.....

The returns sent in by the Mining Registrars are less by 24,512 oz. than the year's production as shown by the Mint and Customs returns. As already pointed out, our Mining Registrars have much difficulty in obtaining correct information from mineowners, and it is abundantly clear that the figures supplied by them are incomplete.

## COMPARATIVE Statement of Average Yields from Alluvial Mines for 1897-98.

1897				1898.			
District	Quantity.	Yield of Gold	Average per load	District.	Quantity.	Yield of Gold.	Average per load.
	loads	oz	oz dwt gr		loads.	oz	oz dwt gr.
Bathurst .. .	5,534	3,112 9	0 11 6	Bathurst . . .	4,344	1,612 0	0 7 10
Mudgee .. .	1,984	248 0	0 2 12	Mudgee .. .	16,165	2,490 0	0 3 2
Lachlan .. .	9,552	1,314 0	0 2 18	Lachlan .. .	5,215	1,120 0	0 4 7
Southern .. .	4,000	1,000 0	0 5 0	Southern .. .	580	73 5	0 2 13
Tumut and Adelong .. .	122,460	2,041 0	0 0 8	Tumut and Adelong .. .	2,260	189 5	0 1 16
Peel and Uralla .. .	2,000	29 2	0 0 7	Peel and Uralla .. .	.....	.....	.....
Hunter and Macleay .. .	.....	.....	.....	Hunter and Macleay .. .	2,810	170 5	0 1 5
	145,530	7,745 1	0 1 15		31,374	5,655 5	0 3 15

Note.—The above Table only shows the yield where the quantity of stuff treated is ascertainable.

It can be seen at a glance that the above Table is far from complete, which, without full and correct data, is of little service for the sake of comparison. It is admitted that it is not an easy matter for the miners working alluvial ground to keep a correct record of their operations all the year round; but if they would do so, the information would be of much use to the mining community.

## COMPARATIVE Statement of Average Yields from Quartz-mines for 1897-98.

District.	1897.			District.	1898.		
	Quantity.	Yield of Gold	Average per ton.		Quantity.	Yield of Gold	Average per ton.
	tons	oz	oz dwt. gr.		tons.	oz	oz. dwt. gr.
Bathurst . . .	17,605	15,323 5	0 17 8	Bathurst .. .	17,185	25,811 0	1 10 1
Tambaroora and Turon . . .	5,500	3,890 0	0 14 3	Tambaroora and Turon .. .	4,434	2,986 9	0 13 11
Mudgee .. .	24,761	16,143 0	0 13 0	Mudgee .. .	49,914	25,598 0	0 10 6
Lachlan .. .	44,997	47,957 0	1 1 7	Lachlan .. .	29,789	28,984 2	0 19 11
Albert .. .	.....	.....	.....	Albert .. .	43	27 0	0 12 19
Southern .. .	15,500	6,895 5	0 8 21	Southern .. .	15,118	7,107 5	0 9 10
Tumut and Adelong .. .	13,468	11,615 5	0 17 6	Tumut and Adelong .. .	15,949*	16,621 8	1 0 20
Peel and Uralla .. .	48,235	35,421 6	0 14 6	Peel and Uralla .. .	46,200	28,728 5	0 12 10
Hunter and Macleay .. .	1,740	1,009 7	0 11 13	Hunter and Macleay .. .	928	425 5	0 9 4
Clarence and Richmond .. .	11,200	12,980 5	1 3 4	Clarence and Richmond .. .	9,251	6,771 1	0 14 15
New England .. .	4,865	4,500 0	0 18 11	New England .. .	.....	.....	.....
Cobar .. .	1,750	450 0	0 5 3	Cobar .. .	.....	.....	.....
	189,671	156,186 3	0 16 11		188,811	143,061 5	0 15 4

\* Exclusive of 71 tons of exceptionally rich stone, obtained near Yass, which yielded 15 oz to the ton.

Note.—This Table only shows the yield of gold where the quantity of stone treated is ascertainable.

The above Table, showing the average yield of stone from our quartz-mines, is fairly complete; but still there is much room for improvement. There is less difficulty in keeping a record of the stone crushed from a quartz-mine than the quantity of wash-dirt treated from an alluvial claim, still our mine and battery

battery owners show no anxiety to assist the Department in this respect. Until they do so, and get rid of the opinion that the public have no right to know the result of their operations, the Table cannot be improved on, which, if completed, would be of great benefit to the miners themselves.

The number of miners employed in gold-mining during the year was as follows —

	1897.	1898.
Alluvial .....	8,028	7,439
„ (Chinese) .....	1,002	864
Quartz .....	12,256	11,616
	<u>21,286</u>	<u>19,919</u>

The above figures show a reduction of 1,367 men employed in the gold-mining industry in the Colony, the reduction being, no doubt, due to the severe drought which affected our mineral fields during the greater part of the year, and drove large numbers of miners to seek other occupation. In any case, the class of miners termed “fossickers” fluctuate greatly in their numbers.

Dividing the total quantity of gold won by the number of men employed, it shows that each man won, on an average, 17·09 oz., valued at £62 9s. 1d. A large number of the men were no doubt engaged prospecting, or carrying out deadwork; so the average earnings can only be a rough approximation of the total earnings of each man. Still, the figures are sufficient to show that, with energy, a living is still to be made on the gold-fields of the Colony, with the ever present prospect of ultimately striking something sufficiently rich to provide him with a competence for life.

#### COAL.

As anticipated in the Report of the Department for 1897, the past year has been a record one so far as output is concerned, the quantity raised being 4,706,251 tons, or 322,660 tons in excess of the output for 1897. There is a substantial increase in our exports to intercolonial ports, but a slight reduction in our foreign exports. A very large increase is noticeable under the heading of “Home Consumption,” no doubt due to the large quantities used at the immense smelting works now in full swing at Dapto and Cockle Creek.

The Sydney Harbour Collieries Company are carrying on sinking vigorously at Balmain. A full description of the operations was given in the last report. It will be some time yet before the coal is reached, which lies some 3,000 feet from the surface.

At the 31st December, 1898, there were 91 coal and 4 shale mines under inspection, which is an increase of 4 coal mines and a decrease of 1 shale mine as compared with 1897.

#### QUANTITY and Value of Coal raised from the opening of the Coal-seams to 1857, inclusive.

Year.	Quantity.	Average per ton.	Value.	Year.	Quantity.	Average per ton.	Value.
Prior to		£ s. d.	£			£ s. d.	£
1829	50,000	0 10 0·00	25,000	1844	23,118	0 10 8·34	12,363
1829	780	0 10 1·23	394	1845	22,324	0 7 10·27	8,769
1830	4,000	0 9 0·00	1,800	1846	38,965	0 7 0·46	13,714
1831	5,000	0 8 0·00	2,000	1847	40,732	0 6 9·01	13,750
1832	7,143	0 7 0·00	2,500	1848	45,447	0 6 3·38	14,275
1833	6,812	0 7 6·73	2,575	1849	48,516	0 6 0·45	14,647
1834	8,490	0 8 10·00	3,750	1850	71,216	0 6 6·77	23,375
1835	12,392	0 8 10·19	5,483	1851	67,610	0 7 6·51	25,546
1836	12,646	0 9 1·06	5,747	1852	67,404	0 10 11·33	36,885
1837	16,083	0 9 8·81	7,828	1853	96,809	0 16 1·51	78,059
1838	17,220	0 9 9·05	8,399	1854	116,642	1 0 5·63	119,380
1839	21,283	0 9 9·73	10,441	1855	137,076	0 12 11·96	89,082
1840	30,256	0 10 10·86	16,498	1856	189,960	0 12 4·06	117,906
1841	34,841	0 12 0·00	20,905	1857	210,434	0 14 0·97	148,158
1842	39,900	0 12 0·00	23,940				
1843	25,862	0 12 6·54	16,222		1,468,961	0 11 10·72	869,391

TABLE showing the Quantities and Average Value per ton of Coal exported to Intercolonial and Foreign Ports respectively, the Quantity of Coal consumed in this Colony, and the Average Price per ton of the total output of the Collieries, from 1858 to 1898 inclusive.

Year.	Exports to Intercolonial Ports.			Exports to Foreign Ports.			Total Exports.			Home consumption.	Total Output and Value.		
	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.		Quantity.	Average per ton.	Value.
	tons.	£ s. d.	£	tons.	£ s. d.	£	tons.	£ s. d.	£	tons.	tons.	£ s. d.	£ s. d.
1858	101,488	0 15 1-67	76,824	12,039	1 0 1-85	12,132	113,527	0 15 8-05	88,956	102,870	216,397	0 14 11-84	162,162 0 0
1859	129,586	0 14 6-67	94,312	44,349	0 17 5-27	38,672	173,935	0 15 3-49	132,984	134,278	308,213	0 13 3-14	204,371 0 0
1860	140,183	0 14 10-85	104,471	98,694	0 16 11-10	79,290	233,877	0 15 8-57	183,761	134,985	368,862	0 12 3-36	226,493 0 0
1861	157,278	0 15 2-25	119,433	50,502	0 16 5-37	41,532	207,780	0 15 5-92	160,965	134,287	342,067	0 12 9-52	218,820 0 0
1862	195,427	0 15 0-55	147,019	113,355	0 17 4-34	98,403	308,782	0 15 10-75	245,422	167,740	476,522	0 12 9-73	305,234 0 0
1863	213,909	0 13 8-40	146,532	84,129	0 17 6-10	73,649	298,038	0 14 9-30	220,181	135,851	433,889	0 10 10-66	236,230 0 0
1864	283,539	0 10 3-74	146,199	88,927	0 14 10-90	66,289	372,466	0 11 4-91	212,488	176,546	549,012	0 9 10-10	270,171 0 0
1865	292,664	0 9 11-83	146,129	90,304	0 15 0-79	68,029	382,968	0 11 2-20	214,158	202,557	585,525	0 9 4-43	274,308 0 0
1866	344,194	0 9 2-98	159,175	196,711	0 14 4-53	141,413	540,905	0 11 1-37	300,588	233,333	774,238	0 8 4-44	324,049 0 0
1867	312,101	0 9 4-35	146,111	161,256	0 13 3-47	107,148	478,357	0 10 8-40	253,259	296,655	770,012	0 8 10-79	342,655 0 0
1868	329,052	0 9 5-76	155,975	218,984	0 12 5-29	136,226	548,036	0 10 7-96	292,201	406,195	954,231	0 8 9-08	417,809 0 0
1869	340,466	0 8 9-07	149,059	255,087	0 11 8-31	149,136	595,553	0 10 0-16	298,195	324,221	919,774	0 7 6-32	346,146 0 0
1870	335,564	0 8 6-02	142,656	242,825	0 10 3-57	125,025	578,389	0 9 3-07	267,681	290,175	868,564	0 7 3-54	316,836 0 0
1871	378,801	0 8 6-01	162,470	180,538	0 10 1-22	94,220	565,429	0 9 0-95	256,690	333,355	898,784	0 7 0-47	316,240 0 0
1872	394,052	0 8 8-11	170,947	275,058	0 9 11 4-6	136,914	669,110	0 9 2-42	367,861	343,316	1,012,426	0 7 9-92	396,198 0 0
1873	425,937	0 12 9-32	272,110	347,142	0 14 7-59	253,979	773,079	0 13 7-32	520,089	419,783	1,192,862	0 11 1-94	665,747 0 0
1874	467,583	0 13 8-30	320,119	405,442	0 15 4-76	312,128	873,025	0 14 5-81	632,247	431,587	1,304,612	0 12 1-37	790,224 0 0
1875	513,853	0 13 7-77	354,074	408,154	0 15 6-64	317,409	927,007	0 14 5-84	671,483	402,722	1,329,729	0 12 3-89	819,429 17 2
1876	542,952	0 13 8-45	372,045	225,865	0 15 6-45	253,166	868,817	0 14 4-70	625,211	451,101	1,319,913	0 12 2-06	803,300 5 6
1877	563,757	0 13 8-64	386,740	351,970	0 14 10-81	262,237	915,727	0 14 2-08	648,977	528,544	1,444,271	0 11 10-74	858,998 8 2
1878	623,323	0 13 8-77	427,954	383,097	0 14 7-69	230,452	1,006,420	0 14 0-93	708,406	569,077	1,575,497	0 11 8-23	920,936 7 4
1879	621,087	0 13 6-75	421,198	376,962	0 14 6-13	273,509	998,049	0 13 11-05	694,707	585,332	1,583,381	0 12 0-12	950,878 18 3
1880	550,672	0 11 2-67	309,004	202,684	0 11 5-70	116,295	753,356	0 11 3-48	425,299	712,824	1,466,180	0 8 6-36	615,336 11 7
1881	657,135	0 7 9-34	255,572	372,700	0 8 8-29	161,958	1,029,844	0 8 1-30	417,530	739,753	1,769,597	0 6 9-55	603,248 5 8
1882	760,226	0 9 9-54	372,334	501,319	0 10 11-50	274,699	1,261,545	0 10 3-09	647,033	847,737	2,109,282	0 8 11-97	943,965 0 0
1883	855,704	0 10 5-75	448,356	656,741	0 11 7-34	381,306	1,512,445	0 10 11-65	829,662	1,009,012	2,521,457	0 9 6-40	1,201,941 12 11
1884	994,087	0 10 8-66	532,938	696,676	0 11 5-14	398,107	1,690,763	0 11 0-15	931,045	1,058,346	2,749,109	0 9 5-71	1,303,076 19 11
1885	991,924	0 10 7-13	525,443	764,432	0 11 6-52	441,220	1,756,356	0 11 0-09	966,663	1,122,507	2,878,863	0 9 3-72	1,340,212 13 7
1886	1,027,775	0 10 7-22	544,824	708,090	0 11 4-31	402,178	1,735,365	0 10 10-93	947,002	1,094,310	2,830,175	0 9 2-53	1,303,164 4 1
1887	1,077,270	0 10 5-89	565,084	713,172	0 11 1-03	395,455	1,790,442	0 10 8-75	960,539	1,132,055	2,922,497	0 9 2-57	1,346,440 2 7
1888	1,039,764	0 10 10-25	564,293	884,108	0 11 3-77	500,179	1,923,372	0 11 0-78	1,064,472	1,279,572	3,203,444	0 9 1-02	1,455,198 4 1
1889	1,310,228	0 10 4-24	678,200	1,077,474	0 11 1-88	601,071	2,387,702	0 10 8-58	1,279,271	1,267,930	3,655,632	0 8 11-20	1,632,848 15 6
1890	1,149,544	0 10 6-96	608,108	672,330	0 11 3-31	379,065	1,821,874	0 10 10-04	987,173	1,239,002	3,060,876	0 8 4-29	1,279,088 19 5
1891	1,397,256	0 10 0-30	700,380	847,473	0 10 10-43	460,595	2,244,729	0 10 4-12	1,160,965	1,793,200	4,037,929	0 8 7-58	1,742,795 12 6
1892	1,318,008	0 8 10-89	587,016	873,697	0 10 1-24	441,379	2,191,705	0 9 4-61	1,028,395	1,589,263	3,780,968	0 7 8-82	1,462,388 9 4
1893	1,160,238	0 8 6-05	493,372	674,852	0 9 6-35	321,557	1,835,090	0 8 10-57	814,920	1,443,238	3,278,328	0 7 1-78	1,171,722 4 6
1894	1,175,972	0 7 1-73	419,751	950,053	0 8 1-26	385,018	2,125,125	0 7 6-88	804,760	1,546,951	3,672,076	0 6 3-53	1,155,573 7 10
1895	1,196,504	0 6 9-69	407,271	969,726	0 7 6-75	366,683	2,166,320	0 7 1-74	773,954	1,572,359	3,738,589	0 5 10-31	1,095,327 1 0
1896	1,371,796	0 7 0-34	482,096	1,103,111	0 7 6-98	418,168	2,474,907	0 7 3-30	960,264	1,434,610	3,909,517	0 5 9-08	1,125,280 16 7
1897	1,498,992	0 6 11-49	521,462	1,197,681	0 7 2-20	430,592	2,696,623	0 7 0-73	952,054	1,686,968	4,383,591	0 5 7-34	1,230,041 1 1
1898	1,629,072	0 6 9-19	551,083	1,162,724	0 7 0-96	411,585	2,791,796	0 6 10-76	962,068	1,914,455	4,706,251	0 5 4-86	1,271,832 0 0
	28,873,153	0 9 9-93	14,188,139	19,741,392	0 10 8-96	10,608,068	48,614,545	0 10 2-04	24,796,207	31,288,602	79,003,147	0 8 4-48	33,451,813 18 7

COMPARATIVE Statement of Output of Coal in the Northern, Western, and Southern Districts, for the last nine years, showing any increase or decrease as compared with previous years.

	1890.			1891.			1892.		
	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.
	tons	cwt. qr.	£ s. d.	tons	cwt. qr.	£ s. d.	tons	cwt. qr.	£ s. d.
Output, Northern District .....	2,120,046	6 1	995,931 2 6	2,853,251	13 1	1,354,028 12 8	2,611,731	13 0	1,102,694 14 5
Increase as compared with previous year	.....	.....	.....	733,205	7 0	358,097 10 2	.....	.....	.....
Decrease do do .....	504,300	16 3	265,293 13 11	.....	.....	.....	241,520	0 1	251,333 18 3
Output, Western District .....	343,232	3 2	65,995 3 0	346,804	13 0	74,104 17 10	236,363	1 0	57,414 13 8
Increase as compared with previous year	13,519	0 2	.....	3,572	9 2	8,109 14 10	.....	.....	.....
Decrease do do .....	.....	.....	15,463 18 1	.....	.....	.....	110,441	12 0	16,689 4 2
Output, Southern District .....	597,598	0 0	217,162 13 11	837,873	0 0	314,662 2 0	932,873	0 1	302,279 1 3
Increase as compared with previous year	.....	.....	.....	240,275	0 0	97,499 8 1	95,000	0 1	.....
Decrease do do .....	103,974	0 0	73,002 4 1	.....	.....	.....	.....	.....	12,383 0 9

	1893.			1894.			1895.		
	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.
	tons	cwt. qr.	£ s. d.	tons	cwt. qr.	£ s. d.	tons	cwt. qr.	£ s. d.
Output, Northern District .....	2,203,480	10 0	880,218 4 3	2,605,142	13 1	883,174 14 7	2,631,221	11 0	813,227 15 6
Increase as compared with previous year	.....	.....	.....	401,662	3 1	2,956 10 4	26,078	17 3	.....
Decrease do do .....	408,251	3 0	222,476 10 2	.....	.....	.....	.....	.....	69,946 19 1
Output, Western District .....	190,377	19 1	43,241 14 5	199,869	12 0	45,463 0 7	190,864	14 1	40,260 15 3
Increase as compared with previous year	.....	.....	.....	9,491	12 3	2,221 6 2	.....	.....	.....
Decrease do do .....	45,985	1 3	14,172 19 3	.....	.....	.....	9,004	17 3	5,202 5 4
Output, Southern District .....	884,469	18 0	248,262 5 10	867,063	19 0	226,935 12 8	916,502	15 0	241,838 10 3
Increase as compared with previous year	.....	.....	.....	.....	.....	.....	49,438	16 0	14,902 17 7
Decrease do do .....	48,403	2 1	54,016 15 5	17,405	19 0	21,326 13 2	.....	.....	.....

	1896.			1897.			1898.		
	Quantity.		Value.	Quantity.		Value.	Quantity.		Value.
	tons	cwt. qr.	£ s. d.	tons	cwt. qr.	£ s. d.	tons	cwt. qr.	£ s. d.
Output, Northern District .....	2,623,015	14 2	802,956 1 0	3,176,868	19 3	938,774 4 8	3,355,600	0 0	957,505 17 4
Increase as compared with previous year	.....	.....	.....	553,853	5 1	135,818 3 8	178,731	0 1	18,731 12 8
Decrease do do .....	8,205	16 2	10,271 14 6	.....	.....	.....	.....	.....	.....
Output, Western District .....	278,124	8 0	56,638 1 8	287,860	14 0	58,709 1 2	282,284	0 0	59,639 7 11
Increase as compared with previous year	87,259	13 3	16,377 6 5	9,736	6 0	2,070 19 6	.....	.....	930 6 9
Decrease do do .....	.....	.....	.....	.....	.....	.....	5,576	14 0	.....
Output, Southern and South-western Districts.	1,008,376	10 0	265,686 13 11	918,862	2 0	232,557 15 3	1,073,745	0 0	262,184 5 9
Increase as compared with previous year	91,873	15 0	23,848 3 8	.....	.....	.....	154,882	18 0	29,626 10 6
Decrease do do .....	.....	.....	.....	89,514	8 0	33,128 18 8	.....	.....	.....

The average price of Coal in the several districts was as follows:—

	1897.		1898.		
	s.	d.	s.	d.	s. d.
Northern .....	5	10·92	5	8·43	a decrease of 0 2·44 per ton.
Western .....	4	0·94	4	2·71	an increase of 0 1·77 „
Southern and South-western ...	5	0·74	4	10·60	a decrease of 0 2·14 „

OUTPUT



OUTPUT OF COAL.

Colliery	District	Persons Employed						Total number of Persons	Quantity	Value	
		Under Ground			Above Ground						
		Boys under 16	Males above 16	Total	Boys under 14	Boys of 14, and under 16	Males above 16				Total
<i>Northern District.</i>											
Australian (No 2 Pit)	Newcastle		70	70			13	13	83	Tons	£ s d
Agricultural } New Winning	"	2	485	487		1	97	98	585	50,335	14,012 8 9
Burwood	Lambton	1	281	282	...		72	72	354	327,200	96,729 18 9
Brown's	Newcastle	15	328	343	...	7	103	110	453	172,801	51,008 0 0
Bayley's Rewald	Lambton	1	2	3			1	1	4	700	180 0 0
Bloomfield	East Matland	2	11	13		1	2	3	16	3,000	900 0 0
Co-operative	Newcastle	37	263	300		5	78	87	383	200,120	59,706 0 0
Centenary	Gunnedah	...	20	20		1	6	7	27	15,000	6,000 0 0
Cardiff	Cardiff	3	16	19	...	1	3	3	22	1,507	263 14 6
Duckenfield	Minmi	9	262	271		14	76	90	361	157,150	48,399 0 0
Dudley	Dudley	1	249	250		3	39	42	292	28,196	6,693 12 0
Dulwich	Singleton		9	9			2	2	11	4,216	1,240 0 0
East Greta	West Matland	15	221	236	...	6	45	51	287	121,656	27,159 0 0
Ebbw Vale	New Lambton	2	24	26			2	2	23	16,523	4,130 15 0
Electric	North Lambton		1	1				1	1	30	7 10 0
Elemore	Wallsend		48	48			6	6	54	26,441	4,335 17 8
Granbalang	Singleton		3	3		3	2	5	8	1,340	670 0 0
Greta	Greta	7	154	161	...	2	34	36	197	54,111	16,286 4 6
Gunnedah	Gunnedah		17	17			1	1	18	6,931	1,646 2 3
Hetton	Carrington	4	353	359		3	48	51	410	187,661	52,113 0 0
Hillside	Waratah	1	6	7			1	1	8	2,300	600 0 0
Ingahee	East Matland		3	3			1	1	4	1,000	200 0 0
Jenkin's	Lambton		1	1		...		1	1	196	49 0 0
Johnson's	Wallsend		1	1			1	1	2	300	60 0 0
Kayugh	Muswellbrook		1	1			1	1	2	850	239 0 0
Lambton	Lambton	1	172	173		3	32	35	208	105,219	32,602 0 0
Lambton No 2 (late Durham)	"		6	6			30	30	36	1,064	266 0 0
Killingworth	West Wall-end		20	20		2	13	15	35	1,600	480 0 0
Louis Vale	East Matland		1	1			2	2	3	80	18 0 0
Marshall's	"		1	1			1	1	2	410	105 0 0
Marylands	Plattsburg	1	34	35			12	12	47	31,595	7,108 17 6
Morris s	Lambton		2	2			1	1	3	252	53 18 6
Morrissett	Lake Macquarie		6	6				6	6	4,117	962 0 0
Newcastle Coal Com-pany	Newcastle	3	344	347		12	78	90	437	362,823	108,185 11 0
New Lambton	"	1	311	312		2	53	55	367	7,559	2,256 17 6
New Anvil Creek	New Lambton	3	37	40		1	13	14	54	21	5 5 0
New Park	West Matland		1	1			1	1	1	21	5 5 0
New Park No 2	Singleton	1	17	18		5	19	24	42	7,286	2,079 0 0
Northern Extended	"		18	18		1	13	14	33	11,740	2,935 0 0
Northumberland	Newcastle	7	45	52		1	6	7	59	35,378	7,960 0 0
Oakvale	Fassifern		15	15			8	8	23	8,093	2,545 0 0
Pacific	Singleton	1	4	5					5	599	194 15 6
Quarry	Teralba	2	135	137		3	27	30	167	108,691	23,464 0 0
Roschill	Waratah		2	2			1	1	3	244	67 2 0
Roseda'e	New Lambton		1	1			1	1	2	22	5 10 0
Seaham	Singleton		8	8			2	2	10	2,714	872 0 0
Shortland's	West Wall end	8	215	223		5	43	48	271	146,973	44,981 0 0
Side	Adamstown	2	5	7		1	1	1	8	4,204	648 2 4
South Greta	Waratah		1	1	...		1	1	2	390	70 12 0
South Hetton	Farley	3	35	38		1	12	13	51	22,809	6,495 15 4
South Wallsend	Toronto		2	2					2	340	85 0 0
Stockton	Cardiff	...	35	35	...		6	6	41	6,252	1,279 18 3
Stanfordgreta	Stockton	3	254	257		1	65	66	323	136,003	40,703 3 0
Thornley	West Matland		6	6			4	4	10		
Wallah	East Matland		2	2			2	2	4	1,089	117 19 6
Wallsend	Swansea	3	177	180		2	39	41	221	101,943	26,057 18 6
West Wallsend	Wallsend	17	586	603	...	2	105	107	710	321,173	80,293 5 0
Waratah	West Wallsend	7	272	279		10	40	50	329	127,150	38,145 0 0
Wickham and Bullock Island	Charlestown	1	163	164		1	42	43	207	76,610	22,983 0 0
Wright's	Carrington	4	276	280			44	44	324	169,760	52,478 13 0
	Waratah		1	1				1	1	130	32 10 0
Sydney Harbour Collieries	Balmain		39	39			71	71	110	...	...
Totals	.....	168	6,079	6,247	.	99	1,421	1,520	7,767	3,355,690	957,505 17 4
<i>Western District</i>											
Black Diamond	Wallerawang		3	3			1	1	4	263	80 12 0
Carlos Gap	Capertee		1	1				1	1	66	13 0 0
Coerwill	Bowenfels		2	2			2	2	4	1,670	309 3 0
Cullen Bullen	Cullen Bullen		40	40			12	12	52	26,913	5,387 0 0
Eskbank	Eskbank	...	46	46			5	5	51	34,036	6,807 4 0
" Old Tunnel	"		11	11			1	1	12	5,400	1,160 0 0
Folly	Lidsdale		1	1			1	1	2	314	66 9 9
Hermtage	Lithgow		50	50			4	4	54	20,862	4,794 18 3
Irondale	Piper's Flat		2	2			1	1	3	1,550	310 0 0
Ivanhoe	"		6	6	...	2		2	8	4,907	981 0 0
Lithgow Valley	Lithgow		43	43			5	5	48	49,125	10,138 9 8
Oakey Park	"		33	33			10	10	43	33,101	7,097 19 9
Retort	Hartley Vale		6	6			1	1	7	5,800	870 0 0
South Bowenfels	Bowentels		2	2				2	2	150	45 3 0
Vale	Lithgow		30	30			20	20	50	29,303	6,960 0 0
Vale of Clwydd	"	1	40	41		1	6	7	48	32,519	6,493 18 6
Zig Zag	"	2	30	32			3	3	35	36,300	8,104 10 0
Totals	...	3	346	349		3	72	75	424	282,284	59,639 7 11

Colliery.	District.	Persons Employed.								Quantity.	Value
		Under Ground.			Above Ground.						
		Boys under 16.	Males above 16.	Total.	Boys under 14.	Boys of 14, and under 16.	Males above 16.	Total.	Total number of Persons.		
<i>Southern and South Western District.</i>											
Bulli .....	Bulli .....	6	156	162	...	1	99	100	262	Tons. 120,510	£ s. d. 36,153 0 0
Bellambi .....	Bellambi .....	1	63	64	...	...	15	15	79	38,972	8,636 12 6
Coal Cliff .....	Coal Cliff .....	...	20	20	...	...	12	12	32	10,986	2,005 16 0
Corrimal .....	Corrimal .....	11	212	223	...	3	62	65	288	140,073	31,500 7 6
Collins .....	Bundanoon .....	...	10	10	...	...	4	4	14	3,800	1,451 7 0
Mount Pleasant .....	Wollongong .....	5	115	120	...	3	41	47	167	75,513	16,718 0 0
Mount Kembla .....	Wollongong .....	6	216	222	...	4	68	72	294	171,153	36,211 0 0
Metropolitan .....	Helensburg .....	16	262	278	...	1	53	54	332	195,233	50,047 2 3
Osborne-Wallsend .....	Wollongong .....	2	149	151	...	8	26	34	185	72,937	18,091 0 6
South Bulli .....	Bellambi .....	16	213	229	...	8	50	58	317	184,933	40,600 0 0
South Clifton .....	Clifton .....	1	67	68	...	...	9	9	77	50,071	11,122 0 0
Bulli Pass .....	Bulli .....	1	18	19	...	...	1	1	20	4,136	1,551 0 0
Totals .....	.....	65	1,531	1,596	...	23	443	471	2,067	1,068,367	254,687 5 9
<i>Western and South Western Districts (Shale).</i>											
New South Wales Shale and Oil Company .....	Hartley Vale .....	...	30	30	...	...	10	10	40	8,453	2,841 0 0
Australian Kerosene Oil and Mineral Company .....	New Hartley .....	3	50	53	...	1	31	32	85	6,650	9,975 0 0
	Genowlan .....	3	33	36	...	1	9	10	46	9,217	11,521 0 0
	Joadja .....	2	76	78	...	...	12	12	90	5,378	7,497 0 0
Totals .....	.....	8	189	197	...	2	62	64	261	29,698	31,834 0 0

There were 10,519 men employed in and about the New South Wales Coal and Shale mines during 1898 as compared with 9,979 during 1897.

There were nine accidents which caused the deaths of 25 persons, and there were 107 accidents which caused more or less serious injury to 110 persons. This is unfortunately an increase on the number during the year 1897, in which there were 16 fatal and 63 non-fatal accidents.

The following table is intended to show that the safety of our coal-mines can bear favourable comparison with the coal-mines in the United Kingdom.

SUMMARY of persons employed, number of fatal accidents (deaths), and ratio of the number of persons employed, and the number of fatal accidents in and about the "United Kingdom" and "New South Wales" Coal-mines, since 1874.

Year.	United Kingdom.				New South Wales.			
	Persons employed.	Lives lost by accident.	Persons employed per life lost.	Death-rate from accidents per 1,000 persons employed.	Persons employed.	Lives lost by accident.	Persons employed per life lost.	Death-rate from accidents per 1,000 persons employed.
1874	538,829	1,056	510	1.960	.....	5	.....	.....
1875	535,845	1,244	431	2.322	3,308	8	413	2.418
1876	514,532	933	551	1.813	4,084	4	1,021	0.979
1877	494,391	1,208	409	2.443	4,657	7	665	1.503
1878	475,329	1,413	336	2.972	4,792	8	599	1.669
1879	476,810	973	490	2.041	5,035	5	1,007	0.993
1880	484,933	1,318	368	2.718	4,676	8	584	1.711
1881	495,477	951	519	1.925	4,297	2	2,148	0.465
1882	503,987	1,126	448	2.234	4,647	12	387	2.582
1883	514,933	1,054	489	2.047	5,481	15	365	2.737
1884	520,376	942	552	1.810	6,227	14	445	2.248
1885	520,632	1,150	453	2.209	7,097	11	645	1.550
1886	519,970	953	546	1.833	7,847	29	271	3.696*
1887	526,277	995	529	1.891	7,998	94	85	11.753+
1888	534,935	888	602	1.660	9,301	15	620	1.613
1889	563,735	1,064	530	1.887	10,277	41	251	3.986†
1890	613,233	1,160	529	1.892	10,469	13	805	1.242
1891	648,450	979	662	1.510	10,820	21	515	1.941
1892	664,300	982	676	1.478	10,514	8	1,314	0.761
1893	683,008	1,060	644	1.552	10,023	13	771	1.296
1894	705,240	1,127	626	1.598	9,131	7	1,304	0.767
1895	700,284	1,042	672	1.488	9,022	10	902	1.108
1896	692,684	1,025	676	1.480	9,233	24	385	2.599
1897	695,213	930	748	1.338	9,626	16	602	1.662
1898	.....	.....	.....	.....	10,519	25	421	2.377

\* Excessive number of falls of coal and Lithgow disaster caused this high death-rate.

† Bulli catastrophe and excessive falls of coal caused this high death-rate.

‡ Hamilton pit crush, excessive falls of coal, and over-winding of four men at South Burwood sinking pit caused this high death-rate.

## COKE.

The coke-making industry continues to make steady and permanent progress in this Colony. This is doubtless owing to the greater care exercised in its manufacture, and by the employment of a better class of kiln and appliances for cleaning the coal. The improved quality of our coke is quickly driving the imported article out of the market.

TABLE showing the quantity and Value of Coke made in the Colony of New South Wales.

Year.	Quantity.				Total Value.
	Northern District.		Southern and Western Districts.		
	tons	cwt.	tons	cwt.	£ s. d.
1890	15,886	2	15,211	0	41,147 3 7
1891	9,474	2	20,836	5	34,473 5 10
1892	5,245	0	2,654	0	8,852 8 6
1893	12,262	0	5,596	0	20,233 2 0
1894	13,602	5	20,855	19	33,209 5 7
1895	11,326	8	16,304	0	24,683 5 0
1896	10,398	10	15,953	0	21,850 16 3
1897	21,012	0	43,190	0	45,391 18 0
1898	34,422	0	47,800	0	64,134 17 0
Totals .....	133,628	7	188,400	4	293,976 1 9

The following table shows the quantity and value of Kerosene Shale produced during the years 1865 to 1898 :—

Year.	Quantity.	Average price per ton.	Total Value.	Year.	Quantity.	Average price per ton.	Total Value.
	tons.	£ s. d.	£ s. d.		tons.	£ s. d.	£ s. d.
1865	570	4 2 5.47	2,350 0 0	1883	49,250	1 16 10.77	90,861 10 0
1866	2,770	2 18 10.48	8,150 0 0	1884	31,618	2 5 7.86	72,176 0 0
1867	4,079	3 14 9.21	15,249 0 0	1885	27,462	2 8 11.62	67,239 0 0
1868	16,952	2 17 7.11	48,816 0 0	1886	43,563	2 5 10.79	99,976 0 0
1869	7,500	2 10 0.00	18,750 0 0	1887	40,010	2 3 10.43	87,761 0 0
1870	8,580	3 4 3.18	27,570 0 0	1888	34,869	2 2 2.66	73,612 0 0
1871	14,700	2 6 3.91	34,050 0 0	1889	40,561	1 18 3.55	77,666 15 0
1872	11,040	2 11 11.91	28,700 0 0	1890	56,010	1 17 2.07	104,103 7 6
1873	17,850	2 16 6.55	50,475 0 0	1891	40,349	1 18 8.77	78,160 0 0
1874	12,100	2 5 1.48	27,300 0 0	1892	74,197	1 16 8.16	136,079 6 0
1875	6,197	2 10 2.22	15,500 0 0	1893	55,660	1 16 4.44	101,220 10 0
1876	15,998	3 0 0.00	47,994 0 0	1894	21,171	1 10 0.28	31,781 5 0
1877	18,963	2 9 0.81	46,524 0 0	1895	59,426	1 5 3.78	75,218 8 8
1878	24,371	2 6 11.40	57,211 0 0	1896	31,839	1 1 5.81	34,201 18 0
1879	32,519	2 1 1.96	66,930 10 0	1897	34,090	1 3 9.91	40,611 15 0
1880	19,201	2 6 7.03	44,724 15 0	1898	29,689	1 1 5.34	31,834 0 0
1881	27,894	1 9 2.59	40,748 0 0				
1882	48,065	1 15 0.00	84,114 0 0		959,113	1 18 11.35	1,867,659 0 2

The shale-mining industry does not show any improvement during the year; and although a large amount of prospecting work was done in search of this mineral, no new discoveries of any importance were reported. At the present time shale-mining is confined to Hartley, New Hartley, Joadja, and Genowlan, which gives employment to 261 men.

## SILVER AND LEAD.

QUANTITY and Value of Silver, and Silver-lead, and Ore exported.

Year.	Silver.		Silver-lead and Ore.				Total Value.
	Quantity.	Value.	Quantity.		Value.		
			Ore.	Silver-lead.			
To end of	oz.	£ s. d.	tons cwt. qr.	tons cwt.	£ s. d.	£	
1881	726,779.14	178,405 0 0	191 13 0	.....	5,025 0 0	183,430	
1882	38,618.00	9,024 0 0	11 19 0	.....	360 0 0	9,384	
1883	77,065.90	16,488 0 0	105 17 0	.....	1,025 0 0	18,113	
1884	93,660.25	19,780 0 0	4,663 1 0	.....	123,174 0 0	142,954	
1885	794,173.80	159,187 0 0	2,095 16 0	190 8	107,626 0 0	266,813	
1886	1,015,433.10	197,544 0 0	4,802 2 0	.....	294,485 0 0	492,029	
1887	177,307.75	92,458 0 0	12,523 3 2	.....	541,952 0 0	574,410	
1888	375,063.70	66,665 0 0	11,733 7 0	18,102 5	1,075,737 0 0	1,142,405	
1889	416,895.35	72,001 0 0	46,965 9 0	34,579 17	1,899,197 0 0	1,971,198	
1890	496,552.80	95,410 0 0	89,719 15 0	41,319 18	2,667,144 0 0	2,702,554	
1891	729,590.05	134,850 0 0	92,383 11 0	55,896 3	3,484,739 0 0	3,619,589	
1892	350,661.50	56,884 0 0	87,504 15 0	45,850 4	2,420,952 0 0	2,477,836	
1893	531,972.00	78,131 0 0	155,859 1 0	58,401 3	2,953,589 0 0	3,031,720	
1894	846,822.00	94,150 0 0	137,813 8 0	42,513 2	2,195,339 0 0	2,289,489	
1895	550,142.00	81,853 0 0	190,192 19 0	29,687 7	1,560,813 0 0	1,642,671	
1896	202,789.00	26,518 0 0	267,363 1 0	19,573 4	1,758,933 0 0	1,785,451	
1897	150,065.00	16,711 0 0	270,913 14 0	18,105 7	1,681,528 0 0	1,698,239	
1898	533,059.00	59,278 0 0	383,460 4 0	10,108 13	1,644,777 0 0	1,704,055	
Totals .....	8,106,590.34	1,395,345 0 0	1,763,319 15 2	373,627 11	24,416,995 0 0	25,812,340	

NOTE.—It was found necessary to adjust this Table up to the end of 1898. The bulk of the silver produced in New South Wales is exported in the form of silver-lead.

Despite

Despite the continued low price of silver it is satisfactory to note that the result of the past year's operations shows an increase on the preceding year. The famous mines at Broken Hill continue to produce the bulk of the silver won in the Colony; and the continued improvement the companies are making in their plant for the more effective treatment of their ores is increasing the output as well as reducing the cost of production.

The following notes on the progress of the silver-mining industry in the various Divisions may prove interesting:—

THE ALBERT MINING DISTRICT.

*Broken Hill Division.*

The year 1898 has been one of steady prosperity for this Division. Although the Proprietary Company transferred their smelting operations to Port Pirie in April, and the Tarrawingee flux quarries thereupon ceased work, there has been an increase in the number of men employed on the mines, the average number employed during the year being 6,000. The returns from the mines compare very favourably with previous years, and the gross value of the product shows an advance on 1897.

The total value of the product of the field for the year is estimated to be—

		Value.
Ore .....	393,829 tons	£1,662,021
Concentrates .....	160,242 "	1,543,197
Silver-lead .....	2,977 "	117,176
Roasted sulphides .....	68 "	59,726
Lead carbonate .....	1,072 "	31,571
Undressed slimes .....	4,190 "	22,772
Roasted sulphides (copper) .....	18 "	940
Copper ore .....	43 "	146
Ironstone flux .....	132 "	132
Limestone flux .....	9,253 "	5,783
Gold .....	1,067 oz.	4,264
		£3,447,728

The value of the output from the Broken Hill Proprietary Company's Mine was £1,293,896 6s. 9d., made up as follows:—

		Gross Value of Contained Metals.	
		£	s. d.
Silver-lead bullion .....	2,976 tons	117,144	2 3
Containing lead .....	2,955 "		
Assaying 234·91 oz. silver per ton .....	.....		
Roasted sulphides .....	68 tons	59,726	9 6
Assaying 7,807 oz. silver per ton .....	.....		
Copper matte .....	Nil		
Ore .....	152,627 tons	669,974	1 3
Assaying 14·37 % lead, 22·35 oz. silver per ton .....	.....		
Gold contained in bullion .....	589 oz.	2,356	0 0
Gold contained in roasted sulphides .....	451 "	1,804	0 0
Copper contained in roasted sulphides .....	18 tons	939	12 0
Zinc concentrates .....	2,828 gross tons	23,692	16 9
Assaying 34·69 % zinc, 11·89 % pb., 13·40 oz. ag. per ton .....	.....		
Lead concentrates .....	38,762 gross tons	363,915	18 0
Assaying 11·06 % zinc, 55·68 % pb., 24·19 oz. ag. per ton .....	.....		
Undressed slimes .....	4,190 gross tons	22,772	5 0
Assaying 20·11 % zinc, 26·49 % pb., 23·44 oz. ag. per ton .....	.....		
Lead carbonate, &c. (bye-product from leaching plant) .....	1,072 gross tons	31,571	2 0
Assaying 47 % pb., 207 oz. ag. per ton .....	.....		
		£1,293,896	6 9

The Broken Hill Proprietary Block 14 Company (Limited) employ over 700 men. They raised 160,313 tons of ore gross value of which was estimated to be £349,841. The Block 10 Company had 860 men at work, and raised 124,214 tons of ore, which is valued at £524,804. The Sulphide Corporation (Limited) employ 820 men, and raised 181,990 tons, valued at over £410,000. The Broken Hill South Company have 450 men at work; they raised during the year 85,185 tons, valued at £239,985. The Junction Company employ 397 men, and raised 87,136 tons of ore, valued at £195,280. The British Broken Hill had about 500 men at work during the year, and raised 93,310 tons of ore, valued at £266,091. The Junction North Company employ 250 men, and the 33,297 tons of ore raised by them was estimated to be worth £126,259. The North Broken Hill Silver-mining Company employ about 175 men on an average during the year; they raised 32,107 tons of ore, worth £74,589. These are the principal mines at work on the field.

The total quantity of silver produced during the year is estimated to be 12,222,309 oz., which is a slight decrease on the quantity won during 1897.

The population of the Police District of Broken Hill at the end of the year was 27,493, an increase of 1,327 for the year.

BATHURST MINING DISTRICT.

*Mitchell Division.*

The Sunny Corner Silver-mining Company have seven men at work in their mine, which has been idle for some considerable time. It was reported to the Department that this property should be held under gold lease, as it was payably auriferous. Mr. E. F. Pittman, Government Geologist, visited the mine, and carefully examined and sampled the deposit, with the result that he declared it not to be so. Mr. Pittman's report on the result of his examination is appended.

NEW ENGLAND MINING DISTRICT.

*Fairfield (Drake) Division.*

The well known White Rock Silver-mine at Drake, where from seventy to 100 men were at work, and from which so much was expected after its many failures, unfortunately closed down, as results were not satisfactory; the machinery and plant used at this mine, said to have cost at least £60,000, is now idle, just when it was thought that the management had by additional plant overcome all difficulties, and were about to receive back some of the great expenditure that has taken place. It is believed this company contemplated completing the plant with a view of treating ores from other mines in the locality, and so fill a very great want, but so far as is known nothing has been done towards this most desired end.

The total value of the silver won throughout this Division during the year was only £270.

*Emmaville*

*Emmaville Division.*

Webbs', or the Little Plant, is the principal silver-mine in this Division; it is about 9 miles from Emmaville, and employ sixty men and boys. The main shaft is down 650 feet, the lode at that depth being about 4 feet, and very rich.

The output of concentrates for the eleven months of the year was about 850 tons.

Mount Galena, the Consol's Silver Prince, and other mines have been worked at intervals during the year, but there does not appear to have been a great amount of silver obtained from them. The ore was sent away for treatment, so that it is impossible to get any result. Total quantity sent away during year, 936 tons 10 cwt. The total quantity of silver produced in this Division during the year is estimated to be 234,000 oz., valued at £27,300.

*Wilson's Downfall Division.*

Wilson's Downfall is situated about 30 miles north of Tenterfield, and close to the border. There were 69 tons of ore raised, which yielded 16,509 oz. of silver, valued at £1,829. This was all obtained from the mines at Rivertree by eight parties of silver-miners. All the low-grade ore is thrown over the tips, only that which will pay for sending away for treatment, labour, &c., being saved and sent to Cockle Creek and Illawarra,—Cockle Creek being preferred as giving the best results. Mr. C. T. McDonald's mine, M 76, continues to look well. The ore he has been sending for treatment, mostly to Cockle Creek, averages 200 oz. per ton from a lode of 3 feet.

The discovery made by Messrs. Peoples and party proved to be but a pocket, and is now abandoned.

Messrs. Coalson & Co. have been prospecting at the head of Cullen's Creek for silver ore and other minerals, but they have not come across anything good enough to send away for treatment. In prospecting during the past year they have spent over £300. Messrs. Barnett and party have also been prospecting in the same locality with about equal results, having spent over £190 in the work.

Principally the silver ore won in Rivertree has been taken from the old abandoned mines, and in some cases the old workings have been shamefully abused.

*Tenterfield Division.*

There are only about forty miners engaged in this portion of the district altogether, and most of them are about Boonoo Boonoo, 15 miles north of the town of Tenterfield, some fossicking for alluvial gold and the remainder engaged at the silver reefs. Messrs. Baker and Conlon, at Basket Swamp, at a depth of 50 feet, are turning out very nice looking stone containing a high percentage of native silver, the vein at present being 1 foot wide, and the returns of stuff sent away for treatment are said to be satisfactory; the return sent in by the proprietors showing 17 tons treated for 3,659 oz. of silver, realising £422 17s. At Bolivia and Sandy Flat gold-mining is practically at a standstill, but a show of wolfram at Bolivia is receiving attention, and may be found to be worth working at present value.

## PEEL AND URALLA MINING DISTRICT.

*Hillgrove Division.*

The Ruby Silver-mine at Rockvale, which is still held by the New Zealand Mines Trust (Limited), has been explored, by sinking shafts and winzes, totalling in depth 846 feet, and by driving levels covering 1,500 feet, crosscutting 197 feet, and by rising from levels 64 feet, making a total of work done 2,607 feet. The main shaft has been sunk to a depth of 306 feet, and there are six other shafts ranging from 60 to 128 feet deep. The deepest level is 300 feet; the lode averages 2 feet 6 inches. There has not been any ore raised except what has come out of the above enumerated workings, and with the exception of about 30 tons, which has been sent to different smelting works for experimental purposes, none of the ore has been classified or prepared for treatment. A parcel of 558 tons of very low-grade ore has been sent to the Phoenix Battery for the purpose of making some concentrating experiments, and up to date no returns are on record. Until recently between forty and sixty men were employed; at the present time only about twenty are at work.

*Tingha Division.*

There were 9,018 oz. of silver won in this Division, and about 33 tons of lead, valued at about £1,094. Operations are being carried on by the Conrad Silver and Lead Mining Company, at Bora Creek, where the company employ fifty-three men. The prospects of this company are considered very bright; they have proved the lode to a depth of 100 feet, from which level they sent away 66 tons for treatment, which yielded 138 oz. of silver per ton and 50 per cent. lead. Concentrating machinery is now being erected, and the company have a large quantity of ore at grass awaiting its completion. This lode can be traced for some considerable distance on the surface, and further developments are likely to take place.

## THE SOUTHERN MINING DISTRICT.

*Picton Division.*

In February, 1898, two parties, Messrs. Webb and Mackie and J. V. Bartlett, applied for authorities to enter on a conditional lease owned by Harold C. Manning, to mine for silver. This conditional lease is situated about 10 miles from the Wollondilly River, about 40 miles from Picton, and about 43 from Camden. Both the parties referred to have been actively engaged mining on the areas they applied for. Webb and Mackie have had treated about 60 tons, which returned them 3,420 oz. silver, averaging 2s. 3d. per oz.; 20 tons of lead, averaging £12 15s. per ton; and 6 oz. gold, averaging £3 17s. 6d.; or a total value of about £660. An average of eight men have been employed. J. V. Bartlett has raised and sent a large quantity of ore, reputed to be richer than that of Webb and Mackie's. In October a fresh stir took place, and four other applications were made, chiefly for 40-acre blocks, on the same lease. Later on eight other applications were lodged, and at present 302 acres of this lease are held under authorities to enter. Work is progressing well on all the areas, and about sixty men are employed there in mining. On an adjoining conditional lease two areas, to the extent of 80 acres, are held under authorities to enter, and are worked by eight men. Besides those mentioned, there are 120 acres now applied for awaiting allotment. Altogether there are about eighty men at work on the field. On Crown lands a number of claims have been pegged, and are being worked as mineral prospecting areas. A large company is now being formed to work the mines systematically.

*Burroua Division.*

Massey and party at Rye Park are still working the Wallah Wallah Silver-mine, and are sending ore to Dapto. Scarcity of water has, however, retarded their operations and has also considerably hampered further prospecting in the locality. There are several silver-bearing lodes being tested in this locality, which have a fairly promising appearance. The advent of capital to this field to open them up is now a necessity.

*Captain's Flat Division.*

The Lake George Mines (Ltd.) at Captain's Flat own the principal mine in this Division, which produces gold, silver, copper, and lead. The number of men employed during the year was 294, and the quantity of silver produced was about 140,000 oz. The mine unfortunately closed down for a time during the year, but is again in full work, the ore being taken from the higher levels, and the working expenses materially reduced. The mine is equipped with up-to-date machinery, and is now in a position to treat a large quantity of ore.

*Pambula Division.*

A little silver is being obtained by the Jinger Mineral Proprietary Company in connection with their bismuth-mining operations, but the figures are not available.

The district is being well tested both with and without Government aid. No discovery worth noting has been made up to the present.

*Cooma Division.*

A considerable area of land has been taken up in the vicinity of Buckley's Crossing to mine for silver and lead, and at Dartmoor for silver, copper, and lead. Work is being pushed on vigorously with the object of proving the deposit at depth.

## COBAR MINING DISTRICT.

*Cobar Division.*

The mines at the Peaks are still producing silver in fair quantities, the quantity won during the year being 170,704 oz. This quantity will be increased probably during the coming year.

*Bobadah Division.*

The mining industry in this Division is of comparatively recent date, and the difficulty to advantageously treat the ore has been the cause of such little progress being made with mining in the district.

Recently, however, Mr. Weidemann, General Manager for the Overflow Silver-mining Company, has succeeded in obtaining very high percentages of gold from the gossan formation in their property. With proper machinery, which he asserts will not be expensive, he promises to give very handsome returns.

If affairs go well with this mine, there can be scarcely a doubt but that in the near future this Division will be studded with a great number of mines. So far as prospects and indications are concerned, there is a vast area of country similar to that held by the Overflow Silver-mining Company, (Limited).

## COPPER-MINING.

TABLE showing the quantity and value of Copper exported from New South Wales, from 1858 to 1898.

Year.	Ingots.		Ore and Regulus.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons cwt.	£	tons cwt.	£	tons cwt.	£
1858			58 0	1,400	58 0	1,400
1859	30 0	578			30 0	578
1860			43 0	1,535	43 0	1,535
1861			144 0	3,390	144 0	3,390
1862			213 0	5,742	213 0	5,742
1863	23 0	1,680	114 0	420	137 0	2,100
1864	54 0	5,230			54 0	5,230
1865	247 0	15,820	22 0	545	269 0	16,365
1866	255 0	18,905	23 0	1,885	278 0	20,790
1867	393 0	30,189	0 2	5	393 2	30,194
1868	644 0	23,297	172 10	4,000	816 10	27,297
1869	1,980 0	74,605	104 0	2,070	2,084 0	76,675
1870	994 0	65,671	6 0	60	1,000 0	65,731
1871	1,350 0	87,579	94 0	1,297	1,444 0	88,876
1872	1,035 0	92,736	417 0	13,152	1,452 0	105,888
1873	2,795 0	237,412	51 0	1,690	2,346 0	239,102
1874	3,638 0	311,519	522 0	13,621	4,160 0	325,140
1875	3,520 0	297,334	157 0	4,356	3,677 0	301,690
1876	3,106 0	243,142	169 0	6,836	3,275 0	249,978
1877	4,153 0	307,181	360 0	17,045	4,513 0	324,226
1878	4,983 0	337,409	236 0	7,749	5,219 0	345,158
1879	4,106 15	256,437	36 7	915	4,143 2	257,352
1880	5,262 10	359,260	131 18½	4,799	5,394 8½	364,059
1881	5,361 0	350,087	132 16	4,975	5,493 16	355,062
1882	4,865 3	321,887	93 1	2,840	4,958 4	324,727
1883	8,872 17	574,497	84 10	2,704	8,957 7	577,201
1884	7,286 6	415,601	18 18	578	7,305 4	416,179
1885	5,745 5	264,905	0 15	15	5,746 0	264,920
1886	3,968 18	166,429	57 18	1,236	4,026 16	167,665
1887	4,463 19	195,752	299 8	3,350	4,763 7	199,102
1888	3,786 1	272,110	113 6	2,924	3,899 7	275,034
1889	3,983 16	203,319	198 4	3,322	4,182 0	206,641
1890	3,165 9	163,537	580 9	9,774	3,745 18	173,311
1891	3,860 3	191,878	665 8	13,215	4,525 11	205,093
1892	3,535 0	160,473	1,299 4	27,233	4,834 4	187,706
1893	1,051 0	44,235	1,016 0	14,191	2,067 0	58,426
1894	1,556 11	61,034	580 6	12,447	2,136 17	73,481
1895	2,793 3	119,300	1,058 0	21,585	3,851 3	140,885
1896	4,453 0	200,236	14 17	75	4,467 17	200,311
1897	6,756 3	299,829	166 5	851	6,922 8	300,680
1898	5,653 19	280,048	178 9	839	5,832 8	280,887
Totals.....	119,726 18	7,051,141	9,631 11½	214,666	129,358 9½	7,265,807

Includes copper refined from New South Wales and imported ores.

A memoir, dealing with the copper-deposits of the Colony, is now being prepared by Mr. Geological-Surveyor Carne, F.G.S., and will be ready for issue about the middle of 1899. The whole of the known copper-deposits of the Colony will be carefully located and described. The following notes briefly give the progress of copper-mining in the various Divisions of the Colony where copper is being mined for:—

## NEW ENGLAND DISTRICT.

*Drake Division.*

The returns show an output of some 17½ tons of copper. Some few months ago it was thought that a very much larger quantity would have been won; it all came from Drake where several of the mines previously worked for gold were closed, because as they went down the lode became so impregnated with copper that the usual battery-saving appliances in use failed to extract the gold, but now the ore is being sent to the reduction works at Dapto, and notwithstanding the cost of carriage by road and rail is giving good returns, and from present appearances the yield of copper for next year will be a fair item in the annual report.

PEEL



## PEEL AND URALLA MINING DISTRICT.

*Barraba Division.*

The Cornish Copper Mine at Gulf Creek has had suspension of the labour conditions for the whole of the year. It is reported that work will be resumed shortly to the satisfaction of many, as a considerable number of men are employed by the company in working the mine.

In the same locality Mr. William Uren has erected a cyanide plant for the purpose of treating the surface of the land for gold. If this process prove to be payable, it is intended to sink and prove the land at a depth. Towards the end of the year, a considerable amount of capital has, it is thought, been attracted to the district, and mining matters generally may be expected to improve.

The Inverell Copper Prospecting Company was testing some land for copper, about 2½ miles south of Bundarra, during the year, but after eight months' work operations were suspended—temporarily, it is said.

*Bingara Division.*

More attention is being directed to the copper lodes of this rich mineral district. A copper property has been taken up by a company, and the lode has been found in settled country, although it is adjacent to the serpentine. There are several very promising lodes lying between Bingara and the Gulf Creek Copper Mine, a distance of 10 miles south, or trending generally southerly, which are well worth the attention of prospectors.

*Hillgrove Division.*

Very little work has been done at Hall's Peak. The mine known as the "Sunnyside" was under offer to a Melbourne company early in the year, but a sale did not take place, and through want of capital little has been done since.

*Dungowan.*

Nothing has been done in this Division in copper-mining during the past year. Assays from two mines in this locality have on several occasions been made, and found highly encouraging, but for some cause unknown the mines, though deserving of a fair test, still remain unworked.

## SOUTHERN MINING DISTRICT.

*Burrowa Division.*

In this Division the same difficulty has been experienced, want of water preventing any continuous prospecting. Considering the season, it is surprising the amount of work done. Although the country abounds in copper indications no new discoveries have been made. There are one or two lodes being worked by small parties of miners, who make good wages by sending the ore to the smelting works at Dapto, but the deposits are not important enough to attract capitalists.

At Frogmore, the two copper mines which in years past were profitably worked are still lying idle; being on private lands, and not open to the miner, they cannot be interfered with. Several parties are prospecting for copper in the vicinity of these old mines with very encouraging outlook; nothing can be done unless these old works are started again.

There is no doubt that the long continued drought has had much to do with the unsatisfactory state of mining in this district, and until copious rain falls there is no chance of improvement.

*Nelligen Division.*

Very good indications of copper are being met with on the Sugar-loaf Mountain, where a party of three have been prospecting for some time. As yet only prospecting work has been done in search of a defined lode.

*Captain's Flat Division.*

The Lake George Mines (Limited), the principal copper-mine in the Southern Mining District, produced, in addition to large quantities of gold, silver, and lead, 722 tons of refined copper, which is a large increase on the yield for 1897.

## COBAR MINING DISTRICT.

*Cobar Division.*

The principal mine on the field is, of course, the Great Cobar Copper-mine, employing about 700 men, which, some four or five years ago, was looked upon as done and non-payable; now it may be fairly reckoned among the foremost copper-mines of the world. The success of this great mine has caused the prosperity of the whole field, as it has encouraged other mines to be worked, and the expenditure of a large amount of capital, not only in the development of other mines but in the erecting and establishment of large business places in the town. The success of this mine, and, in consequence, the prosperity of the whole district, is due to the able and judicious management of the Messrs. Longworth Brothers, who undertook the management some four or five years ago on behalf of a syndicate, who, pinning their faith to the Messrs. Longworth, took over the mine to work on tribute, thereby making their own fortunes, and establishing Cobar as one of the most wealthy mining fields in the Colony. The total quantity of copper won during the year in the district was 4,424 tons, valued at £203,742, as compared with 2,461½ tons, valued at £108,306, won the previous year.

*The Nymagee, Bobadah, and Mount Hope Divisions.*

At Nymagee two mines, both copper, viz., "The Nymagee and Nymagee North Mines," are owned and worked by "The Great Cobar Copper-mining Syndicate." Both these mines have been regularly and consistently worked during the year, with good results. The "Nymagee Mine" has been very fortunate, as things go, with regard to water. They have been obliged to shut down two or three times, but on every occasion sufficient rain has fallen within a few weeks to enable them to again blow the furnace in.

About 38 miles from Nymagee, in a south-easterly direction, we come to Bobadah. Here is situated that much-talked-of and most unfortunate mine belonging to The Overflow Silver-mining Company, which is virtually a gold-mine, but has indication of developing into a copper-mine. This mine has been regularly worked, and a large amount of money has been expended on it, but up to the present all the shareholders have had out of it is notices to pay calls. This mine has always shown remarkably good prospects, but somehow or other the management has not, up to the present, succeeded in making it pay. That it is a good mine is firmly believed. The management and shareholders have always been, and still are, very sanguine about it, and from the way they have persevered with it and lavished money upon it, they certainly deserve some day to have their most sanguine expectations realised. There are several other leases in the same locality, but no work of any consequence has been done except at the big mine. The only other mine worthy of mention is the "Girilambone Copper Mine." During the year there has been no very great amount of work done upon it. It has been plodding along under difficulties, building up hope upon hope, but at present it is at a standstill. Again the cry, "No water." Besides these mines mentioned, there is a considerable amount of work and prospecting being carried on in different portions of the district which would be more than doubled if water were available.

On the whole, the Cobar Mining District is in a very prosperous condition, and with a bright future in front of it. At present it is only in its infancy, and with a few years of good seasons and plenty of water, it will proceed with rapid strides and double its population in a very short space of time.

## THE LACHLAN MINING DISTRICT,

*Forbes Division.*

At Eurow, which is situated 16 miles east of Forbes, near Eugowra, two copper-mines are working—one, called the "Eurow Copper-mine," has been recently floated in Melbourne. The main shaft is 80 feet deep, and a drive has been put in on the lode 30 feet north and 25 feet south. The lode was discovered near the surface and followed down to the depth already stated. Forty-six tons of ore was raised and gave a return per ton of 18 per cent. of copper, 2 dwt. of gold, and 4 oz. of silver. To the 35 feet level the lode contains carbonates of copper and red oxide; below this depth the sulphides come in, and at the 80-foot level this ore is of good quality. The lode is 4 to 6 feet wide in the bottom of the shaft, and the ore occurs in bunches. What is known as the "Vychan" mine adjoins the "Eurow" on the north. The main shaft is sunk 109 feet. Two parcels of ore, carbonates, gave 20 per cent. copper, 3 dwt. 12 grains of gold, and 4 oz. of silver. These mines are far from being proved, but it is probable that a payable lode will be discovered. *Condobolin*

*Condobolin Division.*

The principal copper mines in this Division are the Anaconda and the Big Ben Mines, situated about 29 miles from Condobolin, on the Melrose Mountains. The mines have very fair prospects, and development work is being vigorously carried out. The Prospecting Board have recommended aid to several parties throughout this Division to prove promising copper lodes.

## MUDGEE MINING DISTRICT.

*Leadville Division.*

The Mount Stewart Mine is now being prospected for copper, and three shifts of four men have been constantly employed for the past few months. A few parties are also prospecting in the vicinity of Cudgong for copper, but little success has so far attended their efforts.

## BATHURST MINING DISTRICT.

*Bathurst Division.*

There are several parties still at work in this Division prospecting for copper lodes, principally on private property. A large amount of work has been done, but so far they have not struck anything payable.

*Oberon Division.*

In Bouchier's Tuglow Mine, about 29 miles from Oberon, a rich copper lode has been discovered, which has been sunk on for 50 feet. The lode is 5 feet wide. Thirty-four tons of ore were raised and sent away for treatment, the return giving upwards of £271. The copper, it is stated, contained nearly an ounce of gold per ton. Mr. Bouchier informs me that he had discovered another promising outcrop of copper in the same locality, but whether on Crown or private land he declined to say.

The proprietors of the Black Bullock Mountain Mine, 4 miles from Oberon, are sending 160 tons of ore to Dapto for treatment.

Over forty men are now employed prospecting for copper lodes in this Division.

*Rockley Division.*

Quite a revival has taken place in copper-mining in this Division, an English company having purchased the Cow Flat Copper-mine from Gannon and Quinn. A large number of men will shortly be employed upon this and the adjoining properties. About 4 miles south Mr. McGregor has twenty men employed prospecting for copper on account of Messrs. Jamison and Wallace, of Melbourne. The manager states that the prospects are very encouraging. This is situated on Church and School Estate, about 280 acres being leased.

*O'Connell Division.*

Messrs. Rea and party, in the parish of Jocelyn, and Wilson and Hunter, at Wiseman's Creek, have a fair show of copper ore. They are down over 100 feet, and are sending ore away for a bulk test.

*Burrage Division.*

The mining in this Division is almost exclusively confined to copper, the chief mine being that owned by Mr. Lewis Lloyd, where about 300 men and boys are working on and in connection with this mine. The total output of copper ore during the year was 8,518 tons, and when reduced is valued at £36,310. The lowest level is 930 feet, and the lode is from 8 to 12 feet wide.

Mr. Hockey's mineral conditional purchase has been sold on terms, and is now being prospected by the purchasers. The shaft is 100 feet deep, and is being slabbled to the surface. They do not expect to strike the Burrage lode until a depth of 400 feet is attained, though from indications they think that they may strike another branch of the lode at any moment.

Mr. Hackney's mineral conditional purchase, adjoining Lloyd's property, has also been sold conditionally, the purchasers being The Mount Lyell Company, of Tasmania. This property is also being prospected, and rich ore has been cut in the shaft at 25 feet, and on Martin's selection, which adjoins this property, very rich ore has also been discovered by the same party, who are in treaty for the purchase of a small portion of this selection where the copper has been found. About twenty men are employed prospecting these two properties.

*Blayney Division.*

At the present time this Division is being thoroughly tested for copper, both by private enterprise and with the help of the Prospecting Vote. Ore to the value of about £1,500 has been sent away for treatment. Some work was done in the Annandale Copper Mine during the year, but it is understood that arrangements have now been completed to open it up systematically.

Nearly 100 men are at work around Blayney in search of copper lodes.

*Orange Division.*

At Byng the North Karangara Gold and Copper Mining Company are busily engaged erecting plant for the treatment of their ore. This lode is from 6 to 16 feet wide, and it is expected that the Company, which is a Melbourne one, will soon be in a position to employ a large number of men.

## ALBERT MINING DISTRICT.

*Broken Hill Division.*

The only companies producing copper in this Division are the Broken Hill Proprietary Silver-mining Company and the Diamond Jubilee Mining Company. The former Company saved in connection with their silver-mining operations 18 tons of roasted sulphides, valued at £939 12s. The Diamond Jubilee Company raised a little ore, but work is confined principally to prospecting the property.

The advance in the price of copper has led to the taking up of several abandoned leases in the neighbourhood of Eurowie.

*Wilcannia Division.*

Two mineral leases, for the purpose of mining for copper, were applied for by Messrs. Connell and Lucas, on the 15th September last. The leases are on Grasmere Holding. Prospecting work will be started early in the year.

*White Cliffs Division.*

The copper deposits on the old Nuntherungie silver and copper field are receiving attention from prospectors and speculators. Preparations are being made to thoroughly test some of the deposits immediately water and grass are available.

*Milparinka Division.*

Early in the year a prospecting protection area, of 80 acres was taken up with a view to carrying on work in search of copper in the vicinity of the Kooningberry Ranges. A lode was traced, and a bulk sample of about 6 cwt. was sent to Broken Hill to be tested. The result proved very satisfactory, the ore yielding about 45 per cent. of copper. A pretty strong syndicate has been formed to work the ground, and two areas of 40 acres each have been taken up under lease.

## TIN MINING.

TABLE showing the quantity and value of Tin exported from the Colony of New South Wales, since the opening of the Tin-fields in 1872.

Year.	Ingots.				Ore.				Total.			
	Quantity.		Value.		Quantity.		Value.		Quantity.		Value.	
	tons	cwt.	£	s. d.	tons	cwt.	£	s. d.	tons	cwt.	£	s. d.
1872	47	0	6,482	0 0	849	0	41,337	0 0	896	0	47,819	0 0
1873	911	0	107,795	0 0	3,660	0	226,641	0 0	4,571	0	334,436	0 0
1874	4,101	0	366,189	0 0	2,118	0	118,133	0 0	6,219	0	484,322	0 0
1875	6,058	0	475,168	0 0	2,022	0	86,143	0 0	8,080	0	561,311	0 0
1876	5,449	0	379,318	0 0	1,509	0	60,320	0 0	6,953	0	439,638	0 0
1877	7,230	0	477,952	0 0	824	0	30,588	0 0	8,054	0	508,540	0 0
1878	6,085	0	362,072	0 0	1,125	0	33,750	0 0	7,210	0	395,822	0 0
1879	5,107	2	343,075	0 0	813	15	29,274	0 0	5,920	17	372,349	0 0
1880	5,476	6	440,615	0 0	682	6	30,722	9 0	6,158	12	471,337	9 0
1881	7,590	17½	686,511	0 0	609	6	37,492	0 0	8,200	3½	724,003	0 0
1882	8,059	0	800,571	0 0	611	0	32,890	0 0	8,670	0	833,461	0 0
1883	8,680	1	802,867	0 0	445	4	21,685	0 0	9,125	5	824,552	0 0
1884	6,315	16	506,726	0 0	349	13	14,861	0 0	6,665	9	521,587	0 0
1885	4,657	18	390,458	0 0	534	18	25,168	0 0	5,192	16	415,626	0 0
1886	4,640	18	449,303	0 0	326	18	18,350	0 0	4,967	16	467,653	0 0
1887	4,669	8	509,009	0 0	291	13	16,411	0 0	4,961	1	525,420	0 0
1888	4,562	2	569,182	0 0	247	8	13,314	0 0	4,809	10	582,496	0 0
1889	4,408	13	403,111	0 0	241	15	12,060	0 0	4,650	8	415,171	0 0
1890	3,409	11	317,117	0 0	259	4	12,724	0 0	3,668	15	329,841	0 0
1891	2,941	5½	261,769	0 0	203	5	9,643	0 0	3,144	10½	271,412	0 0
1892	3,253	0	301,541	0 0	239	2	12,573	0 0	3,492	2	314,114	0 0
1893	2,636	17	223,139	0 0	148	1	6,604	0 0	2,784	18	229,743	0 0
1894	2,611	5	179,445	0 0	190	7	7,752	0 0	2,801	12	187,197	0 0
1895	2,199	11	136,080	0 0	77	4	2,543	0 0	2,276	15	138,623	0 0
1896	1,710	4	99,212	0 0	96	19	2,905	0 0	1,807	3	102,117	0 0
1897	1,140	13	70,128	0 0	14	2	56	0 0	1,154	15	70,688	0 0
1898	893	17	60,565	0 0	1	4	35	0 0	895	1	60,600	0 0
Totals..	114,845	5	9,725,400	0 0	18,490	4	904,478	9 0	133,335	9	10,629,878	9 0

Includes tin refined both from New South Wales and imported ores.

As will be seen from the foregoing table our annual export of tin shows a very marked decrease as compared with past years. This is, no doubt, due to the partial exhaustion of the shallow alluvial deposits in the Tingha District which, for many years, provided profitable employment for hundreds of men; the unusual scarcity of water, and the low price obtainable for the metal during the year, have also had their effect. The substantial advance in price has, however, stimulated tin-mining to a large degree; some miles of Cope's Creek (Inverell), have been applied for—for the purpose of dredging for tin—and a large area of abandoned ground has also been applied for. The deep leads supposed to exist in the Deepwater District, at Nine-mile, and at Kangaroo Flat, in the Emmaville District, are likely now to be tested.

Syndicates have taken up the land, and the Department has promised to afford liberal assistance in the event of work being started at an early date. Several attempts have been made by parties of working miners to test this deep, wet ground, but the costly nature of the work was beyond their means.

The following notes give a fair idea of the progress of the tin-mining industry in the several districts during the past year:—

## PEEL AND URALLA MINING DISTRICT.

*Bendemeer Division.*

In this Division the drought has caused alluvial mining to be almost abandoned, and prevented prospecting.

Tin-mining.—The result from tin-mining is small, but holds its own with the win of the previous year, and has been a source of more profit to the miners engaged in it than to the miners in this locality employed in gold-mining.

*Glen Innes Division.*

It is questionable if tin mining in this Division during the past year has been profitably carried on, owing to the operations of the miners being hampered through the great scarcity of water for mining purposes. At the end of the year the number of men employed in this work had diminished to about thirty.

*Tingha Division.*

The output of tin ore for the year ending 31st December, 1898, in this Division amounted to 400 tons, at a local value of £16,800 sterling, there also being about 1,000 loads of tin washdirt stacked on the field waiting for water.

The output of silver and lead during the year amounted to 9,018 oz. of silver and 33 tons of lead, of a value of £1,094 sterling. There is also 1,100 tons of ore awaiting completion of concentrating works. There has also been obtained in this Division 14,920 carats of diamonds, of a local value of £5,625. About 2,000 loads of good diamond wash has been stacked, awaiting a supply of water.

The European and Chinese mining population has slightly increased during the last twelve months, there being 360 Europeans and 120 Chinese miners in the Division. The principal mines employing labour are the Elmore Valley Tin-mining Co., who employ sixty-five miners, the Inverell Diamond-fields Mining Co., who employ about sixty men, and the Australian Diamond-fields (Ltd.), who employ about forty men.

*Emmaville*

*Emmaville Division.*

Mining in this Division has been greatly retarded throughout the year, but more particularly for the last three months. Many men on alluvial tin, cart it a great distance for the purpose of washing and dressing it for market. This is done by poor men, who are unable to get the necessaries of life without cash or its equivalent. As a result of the dry weather the yield will be a great deal below what it would have been in an ordinary season.

During the year a company was formed to work the ground at Kangaroo Flat adjoining the properties of the Messrs. Hall. The ground is deep and wet. Several parties have tried it during the last twenty years but were unable to make any progress owing to the water.

A shaft has been put down 150 feet and the drive is in 100 feet, a 14-horse power engine being employed to keep the water down. The land adjoining that now being worked yielded some hundreds of tons of good tin ore. Should this deep ground prove payable, together with the price which tin is now bringing, mining will go ahead in this Division in 1899.

Rose Valley Company wound up during the year and abandoned the ground, it being of such a treacherous nature and so expensive to work that the whole of the money obtained for the tin sold was swallowed up in expenses. Tin at the time was selling at £32 per ton where it now brings £51.

A tunnel has been put in at the Two-mile by R. Wilson and party a distance of 200 feet. They expect to cut the wash in another 150 feet. More than usual industry is required to make anything more than a living among the old workings.

The Graveyard, Y Water Holes, Glen Creek, The Gulf, Paradise, The Grampians, Vegetable Creek, and Ruby Hill have their attractions but very few of those working on the places named make more than wages.

The lode known as the Ottery has been worked continuously throughout the year. This mine is situated at Tent Hill where extensive crushing and smelting works have been erected. About sixty men and boys are regularly employed. The output of tin for the year was 161 tons 4 cwt. 3 qrs. 3 lb., valued at £6,210 11s. 9d. The value of the machinery is £2,000, and the lode appears to be improving.

The Great Britain Tin Mine, situate at Emmaville, employs about thirty men throughout the year, the output being about 50 tons, value about £2,000. A dam to hold 3,000,000 gallons of water is being constructed on this property, and when full will ensure the continuous working of this mine.

The Rothschild has also worked continuously throughout the year, the output being 4 tons 11 cwt.

At Kangaroo Flat about twenty men are employed by the Messrs. Hall, also about seven at the Grampians by the same persons. The output of tin for the year was about 328 tons.

*Hillgrove Division.*

A Hillgrove syndicate sent two experienced tin miners, Messrs. Merritt and Murray, to prospect for lode tin near Guy Fawkes, which is situated 26 miles from Hillgrove. They discovered tin almost anywhere in the locality, but not in payable quantities. The country rock which occurs in this locality is of granite, closely abutting on trap rock, and some 2 miles away the basalt commences.

The syndicate, with the limited means at their disposal, did not attempt to pierce the basalt, but from the indications they obtained, are confident that tin exists beneath the basalt. This country is well worth testing. It resembles in appearance the country found near Stanthorpe (Queensland), Ruby Creek and Herding-yard Creek (New South Wales).

## NEW ENGLAND MINING DISTRICT.

*Deepwater Division.*

Tin was the only metal won in this Division during the year, all the silver-mines at Castlerag and other places in the District remaining idle. The tin industry was crippled by the low price ruling, and want of water when the price did rise, as it did, from £32 to £51 per ton. There is not much energy shown here. Any great increase in the yield for next year is not expected.

The total quantity of tin ore won in the Division was 150 tons, of an average value of £35 per ton, or a total value of £5,250.

*Wilson's Downfall.*

Wilson's Downfall is about 30 miles north of Tenterfield, and close to the Border, where mining is carried on principally for tin and silver, and the year's return shows an increase in the yield of both metals. The silver is nearly all from Rivertree, 19 miles east of the Downfall, and here again all the ore has to be sent to Dapto or Cockle Creek for treatment, with a consequent loss of profits, and all but high-grade ore has to be discarded. The quantity of tin given as won, viz., 65 tons, valued at £2,275, is certainly below the actual quantity won, as the holdings are scattered over a very large area and are held in small areas under mineral licenses, so it is almost impossible to get the exact returns of metal got. The low price of tin and dry weather also considerably retarded the work, many claims having to stop work altogether for want of water.

## HUNTER-MACLEAY MINING DISTRICTS.

*Kempsey Division.*

The Jubilee Tin-mining Company has suspended work with the object, it is said, of amalgamating with the adjoining claims, and placing them on the market for sale. This mine has been working for six years past, with varying results. The tin is of such a fine nature that it is found troublesome to save. Improved machinery would no doubt overcome this difficulty. A few men were employed in the Gundle Mine, and about 160 tons of ore were raised but not treated. About 405 tons of ore, valued at £572, were raised in this Division during the year.

## IRON.

A considerable amount of iron ore has been raised from the ore deposits situated in the Marulan, Goulburn, Bredalbane, Mittagong, and Carcoar Districts, and despatched to the smelting works at Dapto and Cockle Creek where it has been used as a flux. This new industry is giving employment to a large number of men. Parcels of iron oxide have also been despatched from the Fitzroy and other ironstone deposits in the Mittagong District to the various gas-works of the Colony. The oxide is used in purifying the gas.

Mr. Geological-Surveyor Jaquet is now engaged in surveying and testing the various ironstone deposits in the Colony. He has already completed his examination of the beds of ore occurring in the Williams River and Port Stephens Districts, and mapped the majority of the deposits occurring along the Southern railway line. The memoir, embodying the result of this work, will be published as soon as the requisite surveys, &c., are completed.

No definite action has yet been taken to establish iron-works in this Colony, although the question is still receiving the serious consideration of capitalists.

Mr. Sandford, at Lithgow, still continues to turn out large quantities of finished iron from scrap, and during the year his output was 5,200 tons, the estimated value of which was £42,250, which is a very large increase on his previous years operations. About 200 men and boys are employed in and about these works.

#### ANTIMONY.

At the Hillgrove Antimony Mining Company no work has been done, but a party of six men started tributing there about the middle of December.

The market price of this metal is not sufficiently high at the present time to induce extensive operations. Although the ore is plentiful in this Division, the total quantity raised during the year was only 25 tons, valued at £416. Prospecting for antimony is being carried on at Bellinger, where some very promising lodes have been discovered. The total quantity exported from the Colony in 1898 was 82 tons, valued at £916, a decrease of £2,696 on that exported in 1897.

#### BISMUTH.

The total quantity of this metal exported during the year was 29 tons, valued at £4,615, or an increase in value of £3,815 on the previous year. The bulk of the year's product was raised by the Jingera Mineral Proprietary Company, whose mine is situated in the parishes of Wyndham and Gnupa, in the Pambula District. The bismuth is found associated with silver, but details of the company's operations for the year were not available. No work has been done during the year at the bismuth mine situated at Kingsgate, in the Glen Innes District. Prospecting for bismuth is being carried on in the vicinity of Nimitybelle. It may prove of interest to the mining community to know that the output of this metal throughout the world is controlled by a "ring." Mr. J. A. Watt, late Geological Surveyor of this Department, drew the Minister's attention to the fact. Mr. Watt says:—

Through the courtesy of Mr. W. H. Yates, the Australian representative of the Bismuth Association, I am enabled to give some particulars in regard to the so-called "ring," which regulates the output of nearly all the bismuth-producing mines of the world.

In my report entitled "Notes on the Occurrence of Bismuth Ores in New South Wales," published as No. 4 of the Mineral Resources, and on page 3, I stated that "the limited demand for the metal, and the manipulation of the market by a "ring," are factors that have greatly retarded the development of our bismuth deposits."

Mr. Yates explains that while the above statement is quite correct, it should be explained that the existence of the so-called "ring," known as the Bismuth Association, is an absolute necessity for the maintenance of the price of the metal at a figure remunerative to the mine-owners. The necessity for this mutual arrangement is owing to the available supplies being so considerably in excess of the demand.

The Bismuth Association consists of the producers of the metal, viz., Johnston, Matthey, & Co. (Limited), and the Saxon Government, and the producers of ore in the different parts of the world. In accordance with the arrangement with the Association, each mine is permitted to anticipate in the annual sales to a fixed extent, according to its producing capacity. At the present time 20 tons per annum is the amount allotted to the Australian mines, including Mount Biggendon and Eukalunda Mines, Queensland, and Kingsgate and Jingera Mines, New South Wales.

The Association pay for the bismuth contents of the ore at the selling price of refined bismuth to the trade, less charges for treatment, &c.

The arrangement, as it exists at present, was arrived at in January, 1897. Immediately previous to this date the metal was selling for 3s. per pound, the mine-owners selling in the open market. At the conclusion of the arrangement the price of the refined metal rose to 5s. per pound, at which figure it has remained.

Under the existing agreement, ore delivered at the works would yield approximately, after deducting all expenses, the following returns:—

Ore containing (by assay) 10 per cent. metallic bismuth	£30 per ton.
"                    "          15                    "          "	50          "
"                    "          20                    "          "	70          "
"                    "          30                    "          "	110         "
"                    "          40                    "          "	150         "
"                    "          50                    "          "	200         "

#### PLATINUM.

Platinum mining in New South Wales is still confined to the Fifield District, the yield for the year being 1,250 oz., valued at £2,062. The miners working for gold obtain the metal in the auriferous wash-dirt. The year's yield is 716 oz. less than the quantity won during 1897, the drought being responsible for the decrease.

Beach mining in the Ballina District, where platinum was found associated with the gold in considerable quantity, is now a thing of the past. A special lease of abandoned ground at Macaulay's Lead, Jerusalem Creek, has been applied for, the intention of the applicants being to try the ground by the cyanide process. Should this prove successful our output of platinum will be largely increased, as an effort will be made to save any platinum met with in the concentrates.

#### CHROMIUM.

## CHROMIUM.

There is no improvement to report in the Chrome Mining industry during the past year the total quantity exported being only 2,111 tons, valued at £6,301, as compared with 3,379 tons, valued at £10,269, the exports for 1897. The industry is confined to the Gundagai District, the principal mine being owned by Messrs. Quilter, Bros., who raised during the past twelve months 1,924 tons, valued at £4,760. With an increase in the value of the ore large quantities would be sent away from the Gundagai District where the ore abounds.

## COBALT.

The only districts in the Colony where cobalt is being mined for at the present time is at Port Macquarie. Messrs. Telfesten and Wyburn, the owners of the mine, have opened up a very promising deposit, and have sent 20 tons to London to test that market. The returns are not yet to hand, but they anticipate that it will realise about £20 per ton.

## WOLFRAM, SCHEELITE, &amp;c.

Small parcels of wolfram were obtained during the year in the vicinity of Deepwater and Emma-ville, about 9 tons in all, valued at £280, but although there appears to be a better demand and price for this metal, and prospecting work is still being carried on for further deposits, there are no indications that the output is likely to be increased to any extent in the near future. About 1½ tons of scheelite, valued at about £30, was got in the old Hopetoun Mine at Hillgrove. It appeared as a small chute, but soon pinched out.

## PLUMBAGO.

The plumbago deposits at Wilson's Downfall have not been worked during the year. A syndicate has, however, been formed to test the ground at a depth, and the Department has granted assistance to carry out the work.

## DIAMONDS.

There can be no doubt that, sooner or later, as our diamantiferous areas become more thoroughly exploited and developed, and with the advent of more favourable seasons, the diamond-mining industry in this Colony is destined to become one of magnitude and importance.

The occurrence of diamonds in New South Wales was recorded by Stutchbury (on the Turon River), and by Hargraves (at Reedy Creek, near Bathurst) as early as 1851. In 1859 the Rev. W. B. Clarke reported their occurrence at Burrendong and at Pyramul Creek, while a year later he also stated them to have been found at Calabash and at Suttor's Bar, Macquarie River. Since then diamonds, in single specimens, have been recorded in many widely separated portions of New South Wales, and have likewise been found in Victoria—chiefly Gippsland, while the late Dr. J. J. Bleasdale stated them to have been discovered also at the Echunga diggings in South Australia.

In 1867 they were found to occur at the Cudgegong River (Mudgee), at which place, during that year, between 3,000 and 4,000 diamonds were won from the claims of the Australian Diamond Mining Co., Messrs. Scott and Allen, and Messrs. Cooney and party. In 1872-73 a somewhat extensive rush took place to Bingera, where a large number of mineral leases were applied for, and it was anticipated that diamond-washing would become a permanent and payable industry. Unfortunately, however, the stones being small and the Sydney jewellers declining to buy, there was no outlet, and the work was suddenly abandoned. In 1881 the Bingera field was visited and examined by Mr. Geological-Surveyor E. F. Pittman (now Government Geologist), and the result of his investigations was furnished in a report by him, published in the Annual Report for that year. Following this report renewed interest and attention seems to have been paid to that locality, and since 1883 mining, of a more or less desultory and spasmodic character, has been conducted there—the great scarcity of water experienced in the district having greatly retarded operations both in that and later years. In 1883-84 diamonds were found in the Tingha Division, near the Big River, Auburn Vale, and here also the industry has since been prosecuted in a more or less languished condition.



Owing to the great difficulty experienced by miners in finding a ready market for their diamonds, in 1886 advantage was taken of the exhibit of New South Wales diamonds at the Colonial and Indian Exhibition (a collection of which had been purchased by the Government, in 1885, for that purpose) to obtain, through the kindness and courtesy of the Agent-General, some information concerning the prospect of a market in London for the products of our mines. The exhibit referred to having been carefully examined by Messrs. Thos. Davies, F.G.S., and R. Etheridge, jun. (and several of the gems having been cut and polished by Messrs. Ford and Wright, of London), a lengthy and interesting report was furnished by them. In bringing this to a termination the following conclusions, among others, were specially emphasised:—1. That the diamonds of New South Wales in their physical characters are more nearly allied to those of Brazil than any other country. 2. They have been largely sold in London as such. 3. As regards colour, they differ practically but little from those of other fields. 4. The general absence of “cleavage” and “macles” is a point in their favour. And 5. That the greater hardness of the New South Wales gems would probably raise the cost of cutting, but this would be compensated for by their extra “brilliancy.” Indeed, as a matter of fact, in brilliancy and refractive power the New South Wales gems surpass the African, and one of those cut in London, by the firm above alluded to, was stated to have been as fine a brilliant as it was possible to obtain in any part of the world.

The principal diamantiferous deposits in this Colony occur in outliers of Tertiary river drifts and cement representing old river accumulations, of more than one geological age, lying at various distances from present river channels, and once forming portions of widespread and continuous deposits resting on the bedrock of the country. They also occur in the more recent drifts derived from them.

There has been great diversity of opinion as to their origin and true matrix, and several theories have been advanced, but the question still remains in abeyance. The late Mr. Norman Taylor believed them to have been chemically formed in the older Tertiary drifts; and, in support of this view, adduced what at first sight might appear very cogent reasons. The late Mr. C. S. Wilkinson held the same view at one time; but after an extended examination of the various diamantiferous deposits in the Northern District, he suggested that if the Tertiary drifts be not the original matrix of the diamond, possibly its source may be in the metamorphosed Carboniferous or Devonian beds, where they have been intruded by granite or porphyry. Professor David came to the conclusion that the Cope's Creek diamonds were probably derived from the tourmaline granite. It is, however, now believed that their source will ultimately be traced to volcanic “pipes” analogous to those found in the celebrated Kimberly Field of South Africa. Whether or not this solution of the conundrum will prove correct, time alone can determine—certainly up to the present there is no evidence of any such “pipe” having yet been found. But, as pointed out a few years ago by the present Government Geologist, Mr. E. F. Pittman, even presuming the existence of such “pipes,” the probabilities are, unfortunately for the prospector, that their ancient surface outcrops lie effectually concealed beneath the basalt flows, which, to such a considerable extent, cover the diamantiferous areas.

In 1894, in consequence of statements which had been made to the effect that such a volcanic “pipe” had been discovered at Bingera, Mr. Geological-Surveyor Stonier was instructed to make an inspection and report. Mr. Stonier spent several months in examining the field, but found no evidence to warrant the statements made. Again, so recently as June, 1897, in compliance with a petition from the residents of Bingera for a specific report upon a volcanic “pipe” alleged to have been discovered in the Australian Diamond Company's Mine, Mr. Geological-Surveyor J. B. Jaquet was deputed to inspect and report upon the so-called “pipe.” Samples of the rock, stated to be volcanic breccia, had previously been forwarded to the Department by Mr. Wingate, the manager of the mine, and, upon examination, the Government Geologist had pronounced them to be of sedimentary origin. The result of Mr. Jaquet's examination, locally, was to completely bear out the opinion which had been expressed by the Government Geologist. The so-called breccia proved to be Carboniferous claystone, which is the prevailing rock underlying the diamantiferous river drifts of Bingera; nor was anything found by him to suggest the presence of a volcanic pipe upon the property.

The diamonds found in this Colony generally average from 5 to 6 to the carat, although gems of 2-2½ carats are occasionally found, and one of 5½ carats has been recorded. The number obtained per load varies very greatly; the Round Mount Co. (Cope's Creek, Inverell) in 1886 washed 722 loads for 2,685 carats—from 6 loads obtaining the exceptional yield of 1,080 diamonds, weighing 296 carats, which probably establishes a record so far as our fields are concerned.

Very great difficulty is experienced in procuring accurate and reliable information as to the quantity and value of the gems which, up to the present, have been won, especially as regards to the earlier

earlier years of the industry. The following table, compiled from such information as is available, can only be regarded as an approximation, and is believed to considerably understate the actual output.

Year.	Diamonds.	Carats.	Value.	Year.	Diamonds.	Carats.	Value.
1867-85.....	12,000	2,856	£ s. d. 2,952 0 0	1893 .....	.....	15,000	£ s. d. 15,375 0 0
1886 .....	23,000	5,151	5,151 0 0	1894 .....	.....	1,772‡	858 13 6
1887 .....	205	42†	26 5 0	1895 .....	4,100	1,313‡¶	492 7 0
1888**.....	.....	.....	.....	1896 .....	.....	8,000	2,625 0 0
1889 .....	.....	2,195‡†	878 5 0	1897 .....	.....	9,189	3,250 0 0
1890 .....	.....	731‡	335 0 0	1898 .....	.....	16,493	6,059 13 6
1891 .....	.....	1,200	1,050 0 0	Totals ...	.....	64,400‡	£39,522 4 0
1892 .....	2,285	457‡§	469 0 0				

\* Estimated. † Result only of 19½ loads washed in January (Cope's Creek). ‡ Output of Malacca Co. (Inverell) only. § From "Monte Christo" mine (Bingera) alone. || Output from Bingera only. ¶ From Boggy Camp (Tingha) only. \*\* No information obtainable.

It is a significant fact that, in spite of the severe drought with its attendant drawbacks, the output for this year is, in quantity though not in value, the largest recorded since the opening of the industry. The Boggy Camp Diamond and Tin Field yielded 14,920 carats of diamonds during the year, valued at £5,625, the gems being associated with tin in considerable quantities. This field has been considerably developed during the year, but work was greatly hampered through the scarcity of water. There are indications that the field will now be thoroughly tested, as foreign capital has been attracted to it. The next diamond field of importance is situated about 6 miles from Bingera. This field has been practically idle during the year, owing to the water difficulty, the only work being done by Capt. Rogers in the "Monte Christo" Mine, from which 1,573 carats were won, valued at £434. As soon as rain falls, work will be started by several large companies, and work should then prove highly successful, judging from the returns from the "Monte Christo."

Considerable interest has lately been centered in these fields, and as some indication of the progress of the Northern District, generally, it may be mentioned that a local "Mining Exchange" has recently been opened at Inverell—the only one established in any part of the Colony outside the capital, with the exception of Broken Hill. Indeed, at the present moment there are not wanting signs of a tendency towards what is termed a "boom." The Department is, however, not in possession of any new facts which would seem to warrant this, and the general interests of the district would, it is thought, be much better served by a steady and progressive development of its undoubted resources.

#### EMERALDS.

The emerald mine near Emmaville, which was worked for some time during the year, has now obtained suspension of the labour conditions. A great amount of work has been done on this mine, and some £5,000 has been expended on it.

#### OPAL.

The opal-mining industry is still confined to White Cliffs, situated in the Wilcannia District.

Prospecting operations are now spread over a very large area of country, and it is thought that opal will yet be found to exist in the country extending to the Mount Browne Gold-field.

The total value of the output for this year is estimated at £80,000, but, as pointed out by Mr. Warden Fletcher, whose report on the field is appended, much difficulty is experienced in procuring reliable returns.

Mr. Warden Fletcher in his report states:—

The principal mining interest in this Division centres in the progress and development of the White Cliffs Opal Field. There can be no doubt that this progress has been of an eminently satisfactory character. Though the area of country worked may not be greater, yet the work done is of a more thorough nature, and the output of opal has been largely increased. The town itself has extended considerably, and is beginning to show the characteristics of a settled population. A large number of people appear to have made their home at White Cliffs, and at every Land Court a large number of improvement purchase applications are made.

The area of opal-bearing country available for serious mining operations would seem to be limited to a narrow belt of country, running from south-west to north-east, in length over 10 miles, by from 1 to 2 miles in width, the main field lying about midway, though opal no doubt is to be found outside these limits.

The discovery of opal on this field dates back to about 1889; but the field was not really started till 1893, at which time only about thirty miners were engaged in digging for opal. It was in April of this year that the tribute system was first adopted.

Since

Since the first inception of this opal field, the tenure of land has undergone several changes. Land was originally taken up in leases of from 20 to 80 acres. It was felt, however, that leases of this extent would soon exhaust the available country, and create a monopoly. It was, therefore, decided, on 29th March, 1894, that no more leases should be granted, and that the field must be worked under mineral license, a regulation which was afterwards modified on 3rd July, 1895, when it was decided that no leases "of any size" should be granted, which was interpreted to mean that no more than 4 acres should be allowed to be taken up. Finally, these decisions were superseded by the Regulations of 28th May, 1896, under which the field is at present being worked. By these regulations miners are allowed to take up, for the purpose of winning opal, only 100 feet by 100 feet. There still remain in force about twenty of the original leases, and of these seven are held by the White Cliffs Opal Mining Company (Ltd.), commonly called the English Company. The area of this company's blocks amounts to 300 acres.

On these leases the system in vogue is the tribute system, which, at present, appears to work satisfactorily. On the English Company's leases, which are not amalgamated, at the present time about 350 tributors are employed, who are allowed 75 per cent. of the value of the find, the miner finding tools, &c., and that is the rate almost universally adopted. This increased percentage is found to have produced a great increase in the value of the opal handed in by the tributors. When the tributors' percentage was only 50 per cent., comparatively little opal appeared to be found; but directly the percentage was increased to 75 per cent., the value of opal handed in by the tributors increased in an extraordinary manner. For a considerable time prior to the middle of this year, the company had adopted what was known as the open cut system, the men being employed on wages, from which great results were expected; but the results were far from satisfactory, and about six months since the company abandoned this open cut, and fell back on the 75 per cent. tribute system, with the results above indicated.

On other parts of the field not taken up in leases, or where leases have been abandoned, a very large amount of work is being done on 100 feet by 100 feet blocks, and a large amount of opal obtained. On one part of the field known as Quin's Block, these workings are packed very close together, and are being carried to much greater depths. In some the shafts have been carried to a depth of 60 feet, and good opal is founded at a depth of 40 feet, and even 50 feet.

The results of the mining operations are exceedingly uncertain, and success seems to depend in a great measure on what is commonly known as luck.

The output of opal during the present year is very hard to estimate. The Warden last year put the estimate at £75,000, and it is certainly more than that for the present year. In some quarters it is estimated at £150,000, and from calculations made the output for 1898 is undoubtedly not less than £80,000. By far the greater part of this large output is sold locally to buyers on the field. The present population of White Cliffs is probably about 1,250, of whom about 700 at least are miners.

The permanency of the field would seem to depend in a very great measure on the durability of the market for opal as a gem. There seems to be a practically unlimited supply of the opal itself—at all events enough to last for many years—and there is only wanted to secure the permanent prosperity of White Cliffs that the price of the gem should be maintained in the European market. Opal at the present time in the rough brings on the field all kinds of prices from 5s. to £10 an oz., but it may of course in special instances go to £20 an oz. and more.

The town itself is very badly situated, lying in a gully running east and west between rising ground, which in wet weather makes the main street a watercourse, and puts much of the business part of the town under water. In spite of this disadvantage, much activity and energy are shown, and the area of the town is steadily extending. Most of the town and suburban land is held under business license, and during the last six months a steady increase has taken place in the number of Improvement Purchase applications, a very large number of the inhabitants evidently intending to make a permanent home there. Besides the town proper there is a large mining population camped in tents, workings, &c., on the blocks themselves, chiefly on what is known as the Table-land.

The water supply is the cause of the gravest anxiety. The average rainfall is about 7 inches, and even this small average is hardly likely to be received this year, reckoning from last June. No rain has fallen for months; the rain-water is nearly exhausted, and the town is practically dependent on the Government Tank, about 2 miles from the centre of the town, and on one or two private tanks. The outlook is very serious.

Last year White Cliffs suffered greatly from an outbreak of typhoid fever, in a great measure attributable to the wretched sanitary conditions on the blocks. It is feared that, unless rain shortly comes, there will occur a further outbreak. Representations have been made to the Department of Health with a view to having a sanitary area proclaimed, and it is hoped that this will be shortly done. The necessity of this course is shown by the fact that the Government Tank itself is affected by the drainage from the watershed of one part of the field.

The extension of the telegraph to White Cliffs has taken place during the last six months, and there are constant movements in the direction of building churches, enlarging the school, post office, &c.

The Parnanga Opal-field, some few miles from White Cliffs, has not gone ahead. At present there are only three or four men working there. The want of water appears to be the difficulty.

#### MARBLE.

Although the Colony abounds with numerous deposits of marble, nearly all of commercial value, very little effort is being made to open them up. In the Orange and Bathurst Districts, especially, beautiful stone is obtainable. The only quarry in active operation is that at Calula, owned by Mr. T. J. Robinson, of Orange. Machinery has been erected to dress and polish the stone. Specimens from the various districts are on view at the Mining Museum attached to this Department.

#### LIMESTONE.

The removal of the Broken Hill Proprietary Company's smelters to Port Pirie has had a marked effect on the operations at the Tarrawingee limestone flux quarries, near Broken Hill, as the quantity raised during the year was only 9,253 tons, valued at £5,783, as compared with 67,590 tons, valued at £41,798, the output for 1897, a decrease in value of £36,015. Mr. W. W. O'Neill is still raising limestone at Myall Lakes, and sent away about 200 tons during the year. Preparations are being made to increase the output, and a tramway is being laid down from the quarry to the waters of the lake. A large quantity of limestone is likely to be required in the near future at the Cackle Creek Smelting Works. The Lime Works at Cullen Bullen are still doing a large business in prepared lime and cement.

#### ALUNITE.

The alum mine is still being worked at Bullahdelah, and the company during the year exported to their works at Runcorn, England, about 3,000 tons of alunite for treatment. This is a large increase on the quantity sent away in 1897, which was only 724 tons.

#### FIRECLAY.

## FIRECLAY.

Fireclay of excellent quality is found on the Lower Myall River. A special lease is worked intermittently, but it is thought if the business was gone into systematically, a large and profitable industry would be the result.

Pigment clay of good quality has also been found in this locality, but the deposit has not yet been sufficiently proved to form an opinion as to its extent.

Total value of mineral products to the end of 1897, as per summary in the Annual		£	s.	d.
Report for that year	...	123,053,111	19	9
Reduction in adjusted value of silver	...	£119,216	0	0
Increase in adjusted value of gold	...	£61,496	2	0
Added value of diamonds raised to end of 1897 (not previously taken into account)	...	33,462	10	6
		94,958	12	6
		24,257	7	6
Reduced value of mineral products to the end of 1897...	...	£123,028,854	12	3
Total value of mineral products for the year 1898	...	4,866,997	16	7
General total to end of 1898	...	£127,895,852	8	10

## SUMMARY showing the Mineral Products of the Colony to the end of 1898.

	Quantity.	Value.		Total Values.	
		£	s. d.	£	s. d.
Quantity and value of coal raised prior to 1st January, 1898.....	76,665,857·00 tons	33,049,372	18 7		
Quantity and value of coal raised in 1898 .....	4,706,251·00 ,,	1,271,832	11 0		
Totals .....	81,372,108·00 tons	34,321,205	9 7	34,321,205	9 7
Quantity and value of shale raised prior to 1st January, 1898.....	929,425·13 tons	1,835,825	0 2		
Quantity and value of shale raised in 1898.....	29,689·00 ,,	31,834	0 0		
Totals .....	959,114·13 tons	1,867,659	0 2	1,867,659	0 2
Quantity and value of coke made prior to 1st January, 1898.....	239,806·60 tons	229,841	4 9		
Quantity and value of coke made in 1898 .....	82,222·00 ,,	64,134	17 0		
Totals .....	322,028·60 tons	293,976	1 9	293,976	1 9
*Quantity and value of gold won prior to 1st January, 1898.....	12,026,233 oz.	44,549,867	10 4		
Quantity and value of gold won in 1898 .....	340,493 ,,	1,244,329	15 1		
Totals .....	12,366,726 oz.	45,794,197	5 5	45,794,197	5 5
*Quantity and value of silver, silver lead, and ore exported prior to 1st January, 1898.....	Ingots ..... 7,573,531·34 oz. } Silver lead ..... 363,718·90 tons } Ore ..... 1,374,859·57 ,, }	24,108,285	0 0		
Quantity and value of silver, silver lead, and ore exported in 1898 .....	Ingots ..... 533,059·00 oz. ... } Silver lead ..... 10,108·65 tons... } Ore ..... 388,460·20 ,, ... }	59,278	0 0		
Totals .....	.....	25,812,340	0 0	25,812,340	0 0
Quantity and value of copper exported prior to 1st January, 1898 .....	Ingots ..... 114,072·95 tons } Ore and regulus ... 9,453·13 ,, }	6,984,920	0 0		
Quantity and value of copper exported in 1898 .....	Ingots ..... 5,653·95 ,, ... } Ore and regulus ... 178·45 ,, ... }	280,048	0 0		
Totals .....	.....	7,265,807	0 0	7,265,807	0 0
Quantity and value of tin exported prior to 1st January, 1898 .....	Ingots ..... 113,951·40 tons } Ore and regulus ... 18,489·00 ,, }	10,569,278	9 0		
Quantity and value of tin exported in 1898.....	Ingots ..... 893·85 ,, ... } Ore and regulus ... 1·20 ,, ... }	60,565	0 0		
Totals .....	.....	10,629,878	9 0	10,629,878	9 0
Quantity and value of iron† made prior to 1st January, 1898.....	64,116·60 tons	508,892	0 0		
Quantity and value of iron made in 1898.....	5,200·00 ,,	42,250	0 0		
Totals .....	69,316·60 tons	551,142	0 0	551,142	0 0

	Quantity.	Value.	Total Values.
		£ s. d.	£ s. d.
Quantity and value of antimony exported prior to 1st January, 1898 .....	10,580·25 tons	187,011 8 6	
Quantity and value of antimony exported in 1898.....	82·35 „	916 0 0	
Totals .....	10,662·60 tons	187,927 8 6	187,927 8 6
Quantity and value of lead (pig) exported prior to 1st January, 1898 .....	1,442·60 tons	16,368 0 0	
Quantity and value of lead (pig) exported in 1898 .....	1,718·00 „	19,282 0 0	
Totals .....	3,160·60 tons	35,650 0 0	35,650 0 0
Quantity and value of bismuth exported prior to 1st January, 1898 .....	226·75 tons	39,011 14 0	
Quantity and value of bismuth exported in 1898.....	29·35 „	4,615 0 0	
Totals .....	256·10 tons	43,626 14 0	43,626 14 0
Quantity and value of oxide of iron and pig-iron exported prior to 1st January, 1898 .....	4,076·90 tons	7,397 0 0	
Quantity and value of oxide of iron and pig-iron exported in 1898 .....	391·95 „	832 0 0	
Totals .....	4,468·85 tons	8,229 0 0	8,229 0 0
Quantity and value of zinc-spelter exported prior to 1st January, 1898 .....	29,822·25 tons	34,731 0 0	
Quantity and value of zinc-spelter exported in 1898 .....	38,941·30 „	28,941 0 0	
Totals .....	68,763·55 tons	63,672 0 0	63,672 0 0
Quantity and value of limestone flux raised prior to 1st January, 1898.....	700,194·80 tons	544,927 9 11	
Quantity and value of limestone flux raised in 1898 .....	9,253·00 „	5,783 0 0	
Totals .....	709,447·80 tons	550,710 9 11	550,710 9 11
Quantity and value of alunite exported prior to 1st January, 1898 .....	6,356·10 tons	24,520 0 0	
Quantity and value of alunite exported in 1898.....	2,941·00 „	8,823 0 0	
Totals .....	9,297·10 tons	33,343 0 0	33,343 0 0
Quantity and value of manganese ore exported prior to 1st January, 1898.....	270·85 tons	766 0 0	
Quantity and value of manganese ore exported in 1898 .....	1·00 „	5 0 0	
Totals .....	271·85 tons	771 0 0	771 0 0
Quantity and value of opal raised prior to 1st January, 1898.....	.....	161,599 6 6	
Quantity and value of opal raised in 1898 .....	.....	80,000 0 0	
Totals .....	.....	241,599 6 6	241,599 6 6
*Quantity and value of diamonds raised prior to 1st January, 1898.....	47,907 $\frac{1}{2}$ carats	33,462 10 6	
Quantity and value of diamonds raised in 1898.....	16,493 „	6,059 13 6	
Totals .....	64,400 $\frac{1}{2}$ carats	39,522 4 0	39,522 4 0
Quantity and value of cobalt exported prior to 1st January, 1898 .....	111·15 tons	1,921 0 0	
Quantity and value of cobalt exported in 1898.....	116·85 „	560 0 0	
Totals .....	228·00 tons	2,481 0 0	2,481 0 0

	Quantity.	Value.	Total Values.
		£ s. d.	£ s. d.
Quantity and value of fire-clay exported prior to 1st January, 1898.....	150·35 tons	365 0 0	
Quantity and value of fire-clay exported in 1898.....	14·35 „	32 0 0	
Totals .....	164·70 tons	397 0 0	397 0 0
Quantity and value of lime exported prior to 1st January, 1898.....	1,262·00 tons	2,473 0 0	
Quantity and value of lime exported in 1898.....	.....	.....	
Totals .....	1,262·00 tons	2,473 0 0	2,473 0 0
Quantity and value of marble exported prior to 1st January, 1898 .....	643 pkgs.	2,657 0 0	
Quantity and value of marble exported in 1898.....	.....	.....	
Totals .....	643 pkgs.	2,657 0 0	2,657 0 0
Quantity and value of building stone exported prior to 1st January, 1898.....	8,063 No.	8,898 0 0	
Quantity and value of building stone exported in 1898 .....	1,459 „	842 0 0	
Totals .....	9,522 No.	9,740 0 0	9,740 0 0
Quantity and value of ballast stone exported prior to 1st January, 1898 .....	975 tons	1,155 0 0	
Quantity and value of ballast stone exported in 1898 .....	.....	.....	
Totals .....	975 tons	1,155 0 0	1,155 0 0
Quantity and value of grindstones exported prior to 1st January, 1898.....	473 No.	314 0 0	
Quantity and value of grindstones exported in 1898 .....	.....	.....	
Totals .....	473 No.	314 0 0	314 0 0
Quantity and value of slates exported prior to 1st January, 1898 .....	31,234 No.	351 0 0	
Quantity and value of slates exported in 1898.....	.....	.....	
Totals .....	31,234 No.	351 0 0	351 0 0
Quantity and value of chrome exported prior to 1st January, 1898 .....	14,495·05 tons	46,933 0 0	
Quantity and value of chrome exported in 1898.....	2,110·90 „	6,301 0 0	
Totals .....	16,605·95 tons	53,234 0 0	53,234 0 0
Quantity and value of platinum raised prior to 1st January, 1898 .....	4,404·00 oz.	6,428 0 0	
Quantity and value of platinum raised in 1898.....	1,250·00 „	2,062 0 0	
Totals .....	5,654·00 „	8,490 0 0	8,490 0 0
Value of sundry unclassified minerals exported prior to 1st January, 1898 .....	.....	71,283 0 0	
Value of sundry unclassified minerals exported in 1898 .....	.....	2,021 0	
Totals .....	.....	73,304 0 0	73,304 0 0
* General Total.....	.....	.....	£127,895,852 8 10

\* The readjustment of the gold and silver tables to the end of 1898 reduces our mineral products by £57,719 18s. 0d. ; but the taking into account (not hitherto done) of the diamonds raised, to a large extent sets off this difference and leaves a net reduction of £24,257 7s. 6d. in the total value of our mineral products. † Rolled scrap iron.





District and Division.	Quartz													Alluvial																			
	Steam engines employed in winding, crushing, &c		Crushing machines	Stamp heads	Whims and pulleys	Water wheels	Pumps	Whips	Huntingdon mills	Frue vanners	Berdan pans	Concentrators	Drills and boring machines	Air compressors	Chlorination plants	Cyanide plants	Electric light plants	Dynamios	Steam-engines employed in winding, pumping, &c		Pudding machines	Whims and pulleys	Whips	Percussion tables	Pumps	Water wheels.							
	No	Aggre gate horse power																	No	Aggre gate horse power													
<b>LACHLAN DISTRICT—</b>																																	
Alectown . . . . .	3	88	1	15	1	1	2													1													
Barmedman . . . . .	1	8	1	8																													
Condobolin . . . . .	6	30	2	20	2	2																					5						
Fifield . . . . .	1	10	1	5																													
Forbes . . . . .	1	30	2	20	3																												
Frogmoor . . . . .	4	30	2	20	3	5	1																				18		6				
Gren'ell . . . . .	3	200	1	20	6	1															1						5		1				
Gundagai . . . . .	3	200	1	20	6	1															2						9		4	2			
Murrumburrah . . . . .	3	31	3	22	8																												
Narrandera . . . . .	5	70	4	43	3																							1					
Parke . . . . .	1	40	1	10																													
Rcefton . . . . .	3	25	3	20																								4					
Temora . . . . .	7	110	3	20	9		15	1								2	3																
Wyalong . . . . .	1	12	1	10												1																	
Yalgogrin . . . . .	1	12	1	10												1																	
<b>NEW ENGLAND DISTRICT—</b>																																	
Deepwater . . . . .	1	12	1	5																													
Drake . . . . .	3	22	3	15	2					1																							
Emmaville . . . . .	1	20	1	15						2																							
<b>MUDGEES DISTRICT—</b>																																	
Cobbora . . . . .	1	8	1	8																	2					4							
Gulgong . . . . .	5	66	4	28	1		1																				40		1				
Hargraves . . . . .	1	12	1	10	2																							4					
Mudgee . . . . .	10	100	4	95	4		2	1		1	1	1	1		3																		
Peak Hill . . . . .	6	94	1	2	2		1			1				1																			
Wellington . . . . .	4	43	3	15	4		1	2																									
Windyer . . . . .																																	
<b>PEEL AND URALLA DISTRICT—</b>																																	
Barraba . . . . .	2	20	3	25	1																												
Bingara . . . . .	2	25	2	24																													
Glen Innes . . . . .	1	15	2	17	1																												
Hillgrove . . . . .	14	459	6	160		5		1	17		4				2	1	1																
Metz (late Hillgrove West) . . . . .	6	160	2	60					9		5					1																	
Moonan Brook . . . . .	1	24	3	19	2																												
Nowendoc . . . . .			1	10	1																												
Nundle . . . . .	2	30	3	24	1																												
Stewart's Brook . . . . .	3	40	2	20	2											1																	
Swamp Oak . . . . .	4	65	4	35	3		5																										
Tingha . . . . .																					6					52	3	2		2			
<b>TUMUT AND ADELONG DISTRICT—</b>																																	
Adelong . . . . .	7	82	1	40	6		1	1	16					2	1	1																	
Albury . . . . .	1	8														1																	
Bungendore and Bywong . . . . .	3	16	1	5																													
Cooma . . . . .	1	20	1	13																													
Corowa . . . . .																					3					274		2		3			
Germanton . . . . .																																	
Gundaroo . . . . .	1	8	1	3																													
Junee . . . . .	1	12	1	10				1																				1					
Kiandra . . . . .	2	15	1	10																													
Nimitybelle . . . . .	2	16	2	10																													
Tamberumba . . . . .	2	20	2	13	2																												
Walbundrie . . . . .	1	25	1	8																								20					
Yass . . . . .	1	10	1	5	5																												
<b>SOUTHERN DISTRICT—</b>																																	
Aialuen . . . . .																					8					150			19	7			
Bateman's Bay . . . . .	2	16	1	10	1		1																										
Cobargo . . . . .																												30					
Little River . . . . .																																	
Major's Creek . . . . .	4	138			2				3	3	6																17						
Moruya . . . . .	1	14	1	5												1																	
Nelligen . . . . .	1	12	1	5																													
Nerriga . . . . .																					1					8				1			
Nerigundah . . . . .	3	27	3	20																													
Pambula . . . . .	9	123	5	44	3	3	7									2																	
Wingona . . . . .	5	258	6	52	2	2				1	1	1									2				100					1			
Wolumla . . . . .	3	24	1	5					2																								
<b>TOTAL</b>																																	
No.	5,575	160	1733	121	16	67	32	13	66	3	20	11	8	4	35	4	5	33	729	71	10	12	2	47	15								

In concluding my last report I ventured to predict that the year 1898 would see an expansion in the mining industry in New South Wales. This has taken place, more especially in gold-mining, and in face of a drought which has seriously hampered all classes of mining. The interest evinced in gold-dredging, which has affected the whole of the Colony, promises to add considerably in the future to our gold yield. The extensive adoption of the cyanide and other new processes in the treatment of our refractory ores will also have a good effect. The immense deposits of low-grade ores in this Colony are well worth the attention of investors, as it has been clearly proved that, with economical and scientific treatment, they can be made to return handsome profits.

I have the honor to be,

Sir,

Your obedient Servant,

A handwritten signature in cursive script, reading "W. C. Lachlan". The signature is written in black ink and is underlined with a long, sweeping flourish that extends to the left and right.

Under Secretary for Mines and Agriculture.

Department of Mines and Agriculture,  
April 3rd, 1899.

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CHIEF INSPECTOR OF MINES AND SUPERINTENDENT OF  
DIAMOND DRILLS' REPORT.

Sir,

In submitting my annual report for the year 1898 I have again the honor to perform a pleasing duty in acknowledging, with thanks, the assistance given me by the Wardens, Coroners, Inspectors of Mines, and Mining Registrars, in reporting to me, at the earliest opportunity, any mining accidents occurring in, or in connection with, the Metalliferous Mines of their respective districts.

During the past year I visited and travelled on official duties in the districts of Cooma, Adaminaby, Lobb's Hole, Kiandra, Buckley's Crossing, Lower Potong, Queanbeyan, Gundaroo, Bungendore, Gundagai, Adelong, Cootamundra, Stuart Town, Macquarie River, Orange, Cobar, Rydal, Sunny Corner, Lithgow, and Bull's Creek near Jenolan Caves.

A new system was, at the latter part of the year, adopted in connection with the offices of the Inspectors of Mines, inasmuch that, instead of all the Inspectors of Mines having their headquarters in Sydney, definite districts have been fixed, namely:—The Senior Inspector of Mines is now stationed at Cobar; an Inspector has also been stationed in the Adelong and Southern Districts, in the Orange and Western Districts, and in the Hillgrove and Northern Districts. The Broken Hill District has had a Resident Inspector of Mines since 1890.

I am able to acknowledge, with pleasure, the great assistance given me in the various duties of my office by the Inspectors of Mines and the clerks of my Branch. A keen interest has always been taken by them, not only in everything appertaining to the Chief Inspector of Mines Branch, but they have always shown a great willingness to do everything possible in the interest of the whole Department.

There has been a steady increase both in the work of the inspection of mines and in clerical work.

The papers registered in the Chief Inspector of Mines and Diamond Drill Branch during the year were 3,420; letters written, 2,479; papers to and from Records numbered 1,231. The number of fossickers assisted with free railway passes was 601, as against 982 during 1897.

The diamond-drill work has been confined to Junction Point, in Mandurama District, Sunny Corner; Tarro, in Hexham District; and Funafuti Island, one of the Ellice Group.

At the Junction Point 157 feet were bored for the Lyndhurst Gold-field Company.

The Sunny Corner boring operations were carried on with a view of prospecting, and, if possible, discovering the continuation of the rich deposits of gold and silver ores which were formerly worked in the Sunny Corner Mine. So far a total of 763 ft. 4 in. were bored on two different sites, including a shaft of 20 feet, without any promising results.

At Tarro, in the Hexham District, 405 ft. 6 in. were bored in the Coal Measures, seeking for a payable seam of coal. The total bored on the island of Funafuti during the year is 416 ft. 6 in.

Now that the Funafuti boring operations have been completed, as far as the Department of Mines is concerned, I will give a *précis* of the case, for future reference if required. In my annual report of 1896 and 1897 I drew special attention to these boring operations, but as they were at that time not completed, it would have been futile to say more than was then stated by me.

The proposal to forward a diamond drill to bore on one of the islands in the Ellice Group was first brought forward by Professor Anderson Stuart in 1892, who approached the Honorable Thomas Slattery, then Minister for Mines, on the subject, on behalf of the Royal Society of London. Mr. Harrie Wood, Under Secretary for Mines, who took a great interest in the proposal, at once recommended, with the approval of Mr. Slattery, that the use of a diamond drill should be granted for the purpose named above. However, nothing more was heard of the matter for some years; in fact, it was generally thought that nothing further would be done. In 1896, Professor Anderson Stuart, of the Sydney University, in company with Professor David, also of the Sydney University, interviewed the Hon. Sydney Smith, who was then Minister, as to the use of a diamond drill, and after several interviews, the request was granted. However, authentic information could not be obtained by me as to the exact time

time a diamond drill was likely to be required; nor as to the strata likely to be met with in the boring operations. At last a hurried notice was given me that the British Government had, in furtherance of science, selected H.M.S. "Penguin" to take the whole of the diamond-drill plant (about 30 tons), the scientific staff, and the foreman and assistants selected by me to work the drill, from Sydney to Funafuti Island. Professor Sollas, F.R.S., LL.D., had been selected by the Royal Society of London to take charge of the scientific part of the expedition; the practical part, that of the boring operations, I was responsible for. However, the time allowed me for preparing, from the time of the arrival of Professor Sollas, 18th April, 1896, and the departure of H.M.S. "Penguin," was totally inadequate; hence the many new appliances required could not be obtained, although the drill was equipped with all the appliances used in the most difficult boring in New South Wales. The want of knowledge as to what really was expected of the diamond drill to pierce through had a great deal to do with the partial failure of the first expedition, which left Sydney on 1st May, 1896, and returned on 22nd August, 1896.

The second expedition started from Sydney 1st June, 1897, and returned 18th December, 1897, and was under the leadership of Professor David, B.A., F.G.S. The scientific members of the expedition as well as those who were supplied by the Department of Mines to work the drill, all left in good spirits, and with a determination to do their best to make the enterprise a success. They reached the island of Funafuti in safety, and started to work; but after the bore had reached the depth of 698 feet work was stopped. Unfortunately Professor David was obliged to leave the island earlier than the rest, having to take up his duties in the University of Sydney, and very little work was afterwards accomplished. I have already given a full description of the second expedition in the Annual Report of 1897.

The third expedition started on 1st June, 1898, and returned on 8th January, 1899. A Mr. Fink accompanied the expedition, representing the former scientific leader, Professor David, and the societies concerned. The 698 feet bore was recommenced by clearing it of *débris*, and fixing tubing as required, and it was then put down to the total depth of 1,114 ft. 6 in. The original intention was to bore about 600 feet only. In the upper part of the bore-hole the strata consisted of honey-combed corals, with sand mixed throughout, and constantly varied. The drill would be at times in cavernous coral rock, the boring of which caused a violent jarring, leading to frequent breakages of the machinery and great fracturing of diamonds. Then it would suddenly pass into a bed of quicksand or coral rubble; and again, without a moment's warning, into a bed of rather dense limestone. Owing to the above strata, it became necessary to line the bore with the best artesian tubing. But the tubing could not be driven down without first resorting to the process of under-reaming, after which the artesian tubing had to be driven down with a heavy wooden "monkey." Special steel shoes were made in Sydney to screw on the bottom of said tubing. In the latter part of the bore, for the last 300 feet, the strata became a very dense and hard limestone; so much so, that the grinding down of diamonds and fracturing of same was very considerable. However, the second and third expeditions have been successful, and I have no hesitation in saying that a large amount of the success is due to the Department of Mines. The action of the Government in this matter must redound to the credit of the Colony. Already New South Wales has been honored and extensively advertised, not only by the Royal Society, London, and kindred societies, but by the whole scientific world, for furthering the cause of science. Taking the whole case from beginning to completion, the results obtained cannot be considered otherwise than satisfactory.

I also have the honor in submitting herewith thirteen (13) Tables marked from A to M.

*Table A.*—Showing fatal, serious, and minor accidents during 1898, which may be regarded as true mining accidents.

*Table B.*—Showing fatal, serious, and minor accidents on surface as distinguished from true mining accidents, during 1898.

*Table C.*—Number of men employed in the Metalliferous Mines in New South Wales and value of machinery at the end of the year 1898; also percentage of persons killed and injured.

*Table D.*—Fatal accidents on and under surface (exclusive of Broken Hill) during 1898, with verdicts of Coroners' Juries or Magisterial Inquiries.

*Table E.*—Fatal accidents, both on and under surface, Broken Hill District, during 1898.

*Table F.*—Fatal accidents, under surface, Broken Hill District, during the year 1898.

*Table G.*—Minor accidents, under surface, in the Broken Hill District, during the year 1898.

*Table H.*—Fatal accidents, on surface, in Broken Hill District, during the year 1898.

*Table I.*—Serious accidents, under surface, in Broken Hill District, during the year 1898.

*Table J.*—Serious accidents, on surface, in Broken Hill District, during 1898.

*Table K.*—Minor accidents, on surface, in Broken Hill District, during the year 1898.

*Table L.*—A comparison of accidents recorded during the years 1896, 1897, and 1898.

*Table M.*—Lead-poisoning returns from Broken Hill mines for the years 1895, 1896, 1897, and 1898; also returns from other parts of the Colony which, however, are nil.

In perusing Table L, it will be seen by a strange coincidence that during the last three years the total number of fatal accidents is 35 each year; 16 of these fatal accidents in 1898 occurred in the Broken Hill mines, and 3 occurred on the surface in connection with said mines. By the accompanying tables it will be seen that the total number of accidents from all causes as reported during the year is 147, of which 35 were

were fatal, 27 serious, and 85 minor. Out of this total of 147 accidents in the whole of the metalliferous mining in New South Wales, 119 can only be considered as true mining accidents; and 28 were surface accidents, which, although noted in this Colony, are overlooked in other colonies. Again, in the case of minor accidents, it will be seen by the table dealing with such accidents that some of them are very trifling, as the injured person could go to work the same day, or within a few days.

Looking through the list of verdicts given by Coroners' Juries or Magisterial Inquiries, it will be seen that the majority of accidents could have been avoided by the injured persons. Frequently these accidents occur by the injured person's want of forethought or practical knowledge of the work he has undertaken to accomplish. There can be no two opinions on the matter that in the largest and most extensive mining operations a large number of persons present themselves as miners, and are engaged as such, with very little, if any, knowledge of actual practical mining. Such persons not only become a source of danger to themselves but also to others, hence it should be the recognised duty of every *bonâ fide* miner to report the non-competency of such persons to the management. No good manager of any mine will wilfully encourage an incompetent person, as by such action he may not only cause incidental injury to the life and limb of persons employed in or about the mine under his charge, but he may also cause great and unnecessary expenditure to his company or employer. Generally speaking, those who have even the slightest pretence to the name of mining manager do everything possible that skill, ability, practical knowledge, and even money can devise to prevent accidents, as one accident in a mine generally costs far more than the cost of a preventative, if such can be provided.

It can, however, not be denied that as long as mining operations are carried on, so long will there be mining accidents, even under the most careful mining managers. Remarks have been made and circulated by interested persons that the fatal accidents in our Metalliferous Mines are more frequent than those in the other colonies. Broken Hill Mining District is also frequently cited as a place where mining accidents (especially fatal ones) occur more frequently than in similar mining districts in other colonies. My argument has been, and is still, that there is not another mining district in the whole of the Australian Colonies where there are carried on on such wide, extensive mining operations as has been, and is now, carried on at Broken Hill. Miners and others interested in mining, who have not seen the underground workings of the Broken Hill mines, cannot form the slightest idea of their magnitude. Say, within about 1 mile in length by a half ( $\frac{1}{2}$ ) mile in width, there are 6,003 persons employed. The whole district employed at the end of 1898 no less than 6,842 persons. Out of these, about five-eighths ( $\frac{5}{8}$ ) may be put down as *bonâ fide* miners, as good as can be found in any part of the world, but the remaining three-eighths must be set down as doubtful. This deficiency in the supply of *bonâ fide* practical miners may, perhaps, principally be caused by the severe hot climate and the great distance from other mining centres, and consequent cost in case of removals necessitated by slackness of work.

For the sake of comparison in the mining accidents occurring in the Colony of Victoria and New South Wales, I recommended that a letter be written to the Honorable the Minister for Mines of Victoria, requesting the following information:—

Question 1.—The number of men employed on the mines in the Bendigo District, and the fatal and serious accidents of said district, during the year 1898?

Question 2.—The number of men employed in the Ballarat District, and the fatal and serious accidents, during the year 1898?

Question 3.—The total number of persons employed in the Victorian mines, and the total number of fatal and serious accidents, during the year 1898?

Answer 1.—The reply received is as follows:—Number of men employed in the Bendigo District, 4,911; No. of accidents, 52; No. of men killed, 14; No. of men injured, 46.

Answer 2.—No. of men employed in the Ballarat District, 6,561; No. of accidents, 28; No. of men killed, 13; No. of men injured, 17.

Answer 3.—Total number of men employed in the Victorian mines, 32,095; No. of accidents, 131; No. of men killed, 44; No. of men injured, 98.

Thus it will be seen that in the Colony of Victoria, where there were 32,095 persons employed in the mines, the fatal accidents reached 44; and of injured or serious accidents, 98. Whereas the persons employed in the Metalliferous Mines of New South Wales for the same period was 30,311 (or 1,784 miners less than were employed in Victoria), and the fatal accidents in connection with the mines in New South Wales reached a total of 35, or 9 fatal accidents less than in Victoria, and out of these 35 only 31 can be considered as true mining accidents. Again, as stated above, although the total number of accidents for the year reach 147, of which 35 were fatal, 27 serious, and 85 minor, 119 out of the total can only be considered as true mining accidents, and 28 as surface accidents, such as are not noted in the other Australian Colonies as mining accidents; and as for the minor accidents, some represent such injury that the injured party can go to work the same day; hence such accidents, although noted in the Annual Report, are nevertheless hardly worth noting.

In the Broken Hill District, where at the end of 1898 no less than 6,842 persons were employed in mining, 16 fatal true mining accidents and 3 fatal surface accidents occurred; whereas in the Bendigo District (Victoria), where 4,911 persons were employed in mining, 14 fatal accidents were recorded, and in the Ballarat District (Victoria), which employed 6,511 persons in mining, 13 persons were killed.

By



By the courtesy of the Honorable the Minister of Mines of Victoria, I am enabled to give the above comparison of the mining accidents which occurred in the Colony of Victoria and New South Wales during the year of 1893. It shows that notwithstanding it is generally conceded by those interested in mining that the Victorian miner is certainly equal, if not superior, to any miner from other parts of the Australian Colonies,—and the workings in some of our silver and copper, and even a few of our gold-mines are more extensive, and hence more dangerous to work in than the generality of the Victorian mines,—no matter how careful a mining manager may be, and how strictly an Inspector of Mines may carry out his duties, as long as there is mining carried on so long will mining accidents occur. It is, however, the smaller mines which are frequently guilty of gross carelessness. The managers of larger mines have reputations to lose, and they therefore do their utmost to prevent mining accidents in their respective mines; this any observer will notice on any of the larger mines in New South Wales, where he will find numbers of different notices and rules for the guidance of persons employed in or about said mines, for the purpose of preventing accidents, and I may be allowed to state that few, if any, of the mining managers in New South Wales are careless in preventing accidents in their respective mines; but, on the contrary, they do everything in their power for the prevention of such accidents. Notwithstanding the severe drought during the year 1898, there were only 918 persons less employed in the Metalliferous Mines than in 1897, and this in view of the fact that some of our crushing batteries and ore-production works were compelled to stand idle for months on account of said drought. This proves, beyond doubt, that the developments of our mineral deposits are steadily progressing, and are of such a vast extent and permanency that even a severe drought can check but little of their progress.

I have, &c.,

W. H. J. SLEE,  
Chief Inspector of Mines.

The Under Secretary for Mines and Agriculture.

TABLE A.

Showing Fatal, Serious, and Minor Accidents during 1898, which may be regarded as True Mining Accidents.

No	Date	Name of mine	Locality	Person killed	Person seriously injured	Minor accidents	Occupation	Nature and cause of injury or death
1	7 Jan	Lake George	Captain's Flat			Thos Corn sh	Miner	Premature explosion—lacerated chest
2	8 "	B H North	Broken Hill	Jas Sinclair			"	Explosion of unburnt charge while drilling in old socket
3	8 "	"	"			Jos Brannigan	"	Explosion of unburnt charge—injured face
4	8 "	Central	"	Wm N Byrne			"	Fall of rock—crushed to death
5	8 "	"	"			Hy Heyer	"	" slightly injured
6	11 "	British	"			J Hocking	"	" cuts on head and face
7	13 "	B H Proprietary	"		.....	C Pedler	"	" shock to spine and sprained ankle
8	15 "	Central	"			W Bennet	"	Fell down ladderway—injured internally
9	17 "	Junction	"			Wm Murley	"	Stone fell—injured foot
10	24 "	White Cliffs Opal mine	White Cliffs		Wm Thomas		"	Fell down shaft—broken leg
11	26 "	Graham G M	Yalgorn	Louis Sharkey			"	" fatal injuries
12	2 Feb	Perseverance	Wyalong	John Stanford			"	Premature explosion—fatal injuries
13	16 "	Girilambone Copper	Girilambone			— Uren	"	Struck by cage
14	17 "	Great Cobar Copper	Cobar			Thos New	"	Slipped and sprained ankle
15	18 "	"	"			A McLachlan	"	" received flesh wound
16	19 "	Mystery Claim	Araluen			Wm Mundy	Alluvial miner	Timber broke and injured nose
17	19 "	Myalls United	Tomingley			Wm Quinn	Miner	Struck by falling stone—cut head
18	21 "	Block 10	Broken Hill			R Hawkins	"	Fell and bruised hip and cut head
19	23 "	Nymagee Copper	Nymagee			E Simpson	"	Fell down shaft—injured arm and leg
20	28 "	British	Broken Hill	Jas Cunliffe			"	Fall of rock—fatally injured
21	28 "	"	"	John F Curtin			"	"
22	28 "	"	"	John Coff			"	"
23	28 "	"	"	Thos Burns			Trucker	"
24	28 "	"	"			Walter Tremlett	"	" slightly injured
25	3 Mar	Nymagee Copper	Nymagee	Geo Tregaskis			Miner	" fatally injured
26	4 "	Block 14	Broken Hill		Thos Henderson		"	Fell and injured ribs and back
27	10 "	Ruby Silver	Rockvale		Jas Bullen		"	Fell while escaping from blast—injured legs
28	19 "	Central	Broken Hill		Wm Guynan		"	Stone rolled over and fractured ankle
29	22 "	"	"		J T Hicks		"	" broke leg
30	29 "	Block 14	"			A Manley	"	Struck by flying stone—injury to head
31	1 Apl	Girilambone Copper	Girilambone	Ed Trestrail			"	Fall of rock—fatally injured
32	1 "	"	Girilambone	Geo F Kelly			"	"
33	13 "	Central	Broken Hill	R M James			"	Fall of ore—fatally injured
34	14 "	"	"	H A Gotting			"	"
35	22 "	Great Cobar	Cobar		Richard Lanyon		"	Fell down pass—fractured skull, &c
36	22 "	Lake George	Captain's Flat			Ed Thompson	"	Struck by cage—scalp wound
37	26 "	Junction	Broken Hill	John Arthu			Trucker	Fall of ore—fatally injured
38	27 "	Central	"		Thos Evans		"	Fell and injured pelvis
39	28 "	"	"			Robt Lane	"	Fall of ore—scalp wound and injury to leg
40	2 May	Lake George	Captain's Flat		Peter Knight		Miner	Premature explosion—fractured both arms
41	5 "	Central	Broken Hill		Ed Taylor		"	Fell off stage—broken leg
42	4 "	Great Peak	Cobar		C Chapomiere		Trucker	Fell down shaft—broke both arms
43	6 "	Mount Rea	Mann River			Jas Truscott	Miner	Premature explosion—cuts about head
44	7 "	Central	Broken Hill			Jas Graham	"	Found injured in cage
45	9 "	Block 12	"			John Whilland	"	Fall of stone—injury to foot
46	10 "	B H Proprietary	"			M Jordan	"	" injured leg
47	11 "	Block 11	"		Jos Armanim		"	Jambed by rock—internal injuries
48	19 "	"	"			Jos Currie	Miner	Fall of stone—injured head
49	19 "	Central	"			Jos Berriman	"	Fell, and cut head slightly
50	21 "	Block 13	"			C Voumard	"	Struck by flying stone—injured leg
51	31 "	Block 10	"			G Day	Trucker	Jambed foot and twisted knee joint.
52	6 June	Spring Creek	Bungonia	W R Pearce			Miner	Fall of earth—fatally injured
53	6 "	Bora Silver	Bora Creek			Frederick Wells	"	Jambed by fall of rock
54	9 "	Cooney Proprietary	Hillgrove	Robt Hudson			Engincer	Fell down gorge while lowering machinery
55	11 "	Central	Broken Hill			John Paul	Miner	Stone fell and injured foot
56	14 "	Excelsior	Nundle			John Treloar	"	Fall of stone—and injured leg
57	17 "	B H Proprietary	Broken Hill			Michael Chford	"	Stone rolled down heap—injured foot
58	17 "	Kangaroo	Grong Grong	Thos Arthur			"	Fell down shaft—fatally injured
59	20 "	Nymagee Copper	Nymagee			Thos Cavanagh	"	Fell and sustained shock
60	23 "	Rowley's	Hill End			Wm Burns	"	Fall of rock—injured internally
61	28 "	Klondyke	Glen Elgan			Wm Gordon	"	Premature explosion—slight injury to face
62	28 "	Ennis	Hazelgrove		Joseph Ennis		"	Fall of rock
63	1 July	Phoenix	Rockvale		William Johns		"	Explosion of unburnt charge while drilling in old socket
64	1 "	"	"			Thos Asquith	"	"
65	1 "	"	"			Alex Cleghorn	"	"
66	3 "	Mt Apsley	Perth			William Howes	"	Whim collapsed—fell down shaft
67	6 "	Eldorado	Tuera		James Boyle		"	Fell down shaft—broken wrist
68	7 "	Central	Broken Hill			Harry Downs	"	Burned by explosion
69	7 "	British	"		James Butler		"	Fall of earth—broken leg
70	7 "	"	"	W J Tonkin			"	" fatally injured
71	25 "	Block 10	"		W B Manuel		"	Fell down shaft—injured ankles and feet.
72	5 Aug	B H Proprietary	"	Ed Shummin			"	Fall of mullock—fatally injured
73	5 "	"	"			Ed Quilliam	"	" bruised, &c
74	8 "	Hinchcliff's Claim	Major's Creek			H Hinchcliff	Fossicker	Fall of earth—bruised, &c
75	11 "	Great Cobar	Cobar			J J Smith	Miner	Fell down pass—shock to system
76	12 "	Myalls United	Tomingley	Chas Buckley			"	Smothered in pass by run of mullock
77	16 "	Inverell Diamond	Boggy Camp			Ed Topper	"	Struck on head by lowering bucket
78	19 "	Central	Broken Hill			Geo Gooley	"	Received blow from striker's hammer
79	23 "	Block 11	"			Wm J Bailey	"	Fell through opening—bruised shoulder
80	23 "	" 12	"	A Armstrong			"	Fall of earth—fatally injured
81	23 "	" 12	"	Wm Wigley			Trucker	"
82	23 "	Great Cobar	Cobar	Jas Goldie			Miner	Fell down shaft—fatally injured
83	27 "	B H Proprietary	Broken Hill			G S Marshall	"	Fell off stage—bruised hip
84	29 "	Glynn's Claim	Batlow			Patrick Glynn	"	Fall of ground—broken collar bone.
85	2 Sept	Great Britain	Wyalong			J Rivers	"	" various injuries
86	3 "	B H Proprietary	Broken Hill			A Lawson	"	Injured by cage—shock to system
87	7 "	Standard G M	Stewart's Brook			J Cooley	"	Struck by falling stone—scalp wound
88	14 "	Eleanora	Hillgrove	Thos McRae			Machinery attendant	Caught in belting fatally injured
89	19 "	B H Proprietary	Broken Hill			A Scummel	Miner	Fall of ore—slight abrasions
90	19 "	"	"			R Heaft	"	" slight bruises
91	21 "	Central	"			F Lichman	"	Strained back lifting cap piece
92	21 "	Star of the West	Newbridge			Wm Harris	"	Fall of stone—cut head
93	22 "	Block 10	Broken Hill	Richard Bryar			"	Fall of ore—fatally injured
94	26 "	B H Proprietary	"			James Moore	"	Fell into hole—bruised back
95	26 "	"	"			Michael Tonkin	"	Struck by falling stone—crushed foot
96	30 "	Central	"			D Rawlands	"	" bruised ankle.
97	1 Oct	Perkins	Adelong		Samuel Lamprell		"	Struck by cage—fractured back
98	14 "	Girilambone Copper	Girilambone	A J Roach			"	Fell down shaft—fatally injured
99	19 "	Niangala	Niangala			Fdk Simpson	"	Fell off rope—shock to system
100	21 "	B H South	Broken Hill			D Martin	"	Fell while climbing—broke collar bone.
101	27 "	B H North	"			Wm Andrews	"	Struck by falling stone—scalp wound
102	27 "	Chesney	Cobar	John Hamel			Platman	Knocked down shaft of tank—fatally injured
103	29 "	Barnedman	Barnedman	F Vecerna			Miner	Fall of earth—fatally injured

No	Date	Name of mine	Locality	Person killed	Person seriously injured	Minor accidents	Occupation	Nature and cause of injury or death
104	4 Nov	B H Proprietary	Broken Hill			Walter Downes	Trucker	Struck by flying stone—cuts on face
105	12 "	Central	"			Walter Boehm	Miner	Struck by flying stone—cuts on face
106	15 "	White Cliff Opal mine	White Cliff	C R Smith				Struck by falling stone—falls through opening—
107	19 "	Central	Broken Hill			M Nagle	"	injured head
108	19 "	B H Proprietary	"			M Tonkin	"	Smothered by fall of earth
109	22 "	Central	"			M Kearns	"	Stone fell and severed finger, also scalp
110	22 "	B H South	"	C L Andrew			"	wound
111	24 "	B H Proprietary	"	Ed Madden			"	Struck by falling stone—injury to hips
112	26 "	Annandale C M	Blayney		Thos Williams		"	Stone fell and broke a finger
113	2 Dec	Block 11	Broken Hill			Ed Hitch	Trucker	Fell down shoot—fatally injured
114	7 "	Junction North	"			Tas Blight	Miner	Fall of ore—fatally injured
115	9 "	Mt Stewart	Leadville			Thos Anglin	"	Struck by falling timber—broken leg
116	17 "	Weirs	Caloola			J H Parker	"	Truck overturned—crushed chest
117	17 "	Lake George	Captain s Flat		Andrew Anderson		"	Struck by falling stone while on ladder
118	22 "	British	Broken Hill			Thos Tonkin	"	Thrown out of bucket—bruised
119	30 "	Great Blayney	Blayney			Thos Perks	"	Fell from ladder—internal injuries
								Rock rolled and broke leg
								Stone fell and severed toe
								Fell from ladder—injured ankle

SUMMARY

Total mining accidents during 1898—Fatal, 31 serious 19, minor, 69—as follow —Fatal—9 gold, quartz, 16 silver, 5 copper, 1 opal, serious—4 gold, quartz, 9 silver 5 copper, 1 opal, minor—12 gold, quartz, 3 gold, alluvial, 43 silver, 10 copper, 1 diamond Total, 119

TABLE B.

Showing Fatal, Serious, and Minor Accidents on Surface as distinguished from true Mining Accidents, during 1898.

No	Date	Name of mine	Locality	Person killed	Person seriously injured	Minor accidents	Occupation	Nature or cause of injury or death
1	4 Mar	B H Proprietary	Broken Hill		A Palmer		Trucker	Struck by truck—leg broken
2	23 Apl	"	"			Chas Bevan	"	Truck fell on leg
3	23 May	Central	"	Wm J Bray			"	Jammed by railway truck in concentra-
4	21 June	B H Proprietary	"			John Irwin	Engine driver	Caught in machinery— injured hand
5	6 July	"	"			M Brady	Finnaceman	Slipped and injured back
6	6 "	"	"		Thos Jones		Mach nery attendant	Caught in belting—injured feet
7	19 "	Block 11	"		Wm Howe		Surface hand	Jammed by truck—broken leg
8	23 "	Saddl <sup>r</sup> Reef Syndicate	Hargraves			P Crimmons	Carpenter	Fell from brace—injured wrist and thigh
9	12 Aug	Block 11	Broken Hill			Jos Jones	Miner	Fell—shock to system
10	12 "	B H Proprietary	"		John Skewes		Machine fitter	Fell into ore bin—fractured ribs &c
11	5 Sept	"	"			John Buckle	Mill hand	Remounting bearing—splashed by
12	6 "	"	"		A Pade		Carpenter	molten metal
13	6 "	"	"			George Davis	"	Caught in belting—arm broken
14	18 "	"	"			Wm Fawcett	Mill hand	Cut in ankle while adzing
15	20 "	Junction Railway	"	Thos Noonan			Trucker	Crushed foot
16	21 Oct	Block 11	"			Wm Smith	Quarry man	Loading trucks, and crushed between
17	22 "	Central	"			D McGowan	Mill hand	buffers
18	26 "	B H Proprietary	"		H Price		"	Barring down stone—bruised thigh
19	26 "	"	"			G Baker	Quarry man	Fell on floor—injured foot
20	29 "	Central	"			Wm Tyries	Mill hand	Caught in shafting—fractured arm and
21	8 Nov	Block 10	"		E Copten		Surface hand	leg
22	21 "	B H Proprietary	"			Peter Cameron	Mill hand	Stone fell, inflicting scalp wound
23	22 "	"	"			Wm McCarthy	Trucker	Riding on truck—fell and injured arm
24	26 "	"	"			Thos Watts	"	and hip
25	5 Dec	Gibraltar Con	Adelong	Henry Dav			Carpenter	Injured internally by fall of lullings
26	9 "	B H Proprietary	Broken Hill		Sam Barrv		Trucker	Injured hand by a passing truck
27	17 "	Nymagee Copper	Broken Hill			S Christopher	Sawyer	Jammed by truck— injured leg
28	20 "	Block 11	Broken Hill	Michael Davis			Trucker	Burned by hot ore while loading truck
								Caught in belting in battery house
								Struck by handle of crab winch
								Injured hand by circular saw
								Struck by falling stone in open cut

SUMMARY

Total surface accidents recorded during 1898—Fatal, 4, serious, 8, minor, 16, total, 23—as follow —Fatal—1 gold, quartz, 3 silver, serious, 8 silver; minor, gold, quartz, 14 silver, 1 copper

TABLE C.

NUMBER of Men employed in Metalliferous Mines in New South Wales, and value of Machinery, at 31st December, 1898, also percentage of persons killed and injured

Mining Districts	Alluvial Gold		Quartz Gold	Silver	Copper	Tin		Other	Total	Value of Machinery
	Euro pean	Chinese				Euro pean	Chinese			
Albert ... ..	108	10	13	6,003	8	..	..	700	6,842	£ 497,425 0 0
Bathurst ... ..	1,525	86	2,546	7	393	..	..	15	4,572	143,390 0 0
Clarence and Richmond ... ..	121	.	361	..	..	..	..	..	482	35,960 0 0
Cobar .. ..	.	.	800	30	915	..	..	..	1,745	118,630 0 0
Hunter and Macleay ... ..	76	..	150	1	..	24	..	29	280	14,150 0 0
Lachlan .. ..	937	3	3,163	.	85	..	..	20	4,203	128,405 0 0
Mudgee ... ..	1,142	107	854	..	166	..	..	..	2,269	84,380 0 0
New England ... ..	194	176	120	129	10	465	227	10	1,331	69,524 0 0
Peel and Uralla ... ..	541	132	1,495	109	16	229	135	116	2,773	120,297 0 0
Tambaroora and Turon .. ..	712	120	455	..	..	..	..	..	1,287	18,000 0 0
Tumut and Adelong .. ..	1,044	41	955	5	335	3	..	20	2,403	153,668 0 0
Southern .. ..	1,039	189	704	112	48	..	..	27	2,119	102,509 0 0
	7,439	864	11,616	6,396	1,976	721	362	937	30,311	1,486,338 0 0
Persons killed per 1,000 em ployed	..	..	861	2,970	2,530	..	..	1,067	1,154	..
Persons injured per 1,000 em ployed.	..	..	1,463	11,569	8,097	..	..	2,134	3,695	..

TABLE D.

FATAL Accidents, both on and under surface (exclusive of Broken Hill). during 1898, with verdicts of Coroners' Juries or Magisterial Inquiries.

Date.	Name.	Name of mine.	Locality.	Remarks and Verdict.
1898. 26 Jan.	Louis Sharkey .....	Graham's Gold-mine .....	Yalgogrin .....	Fell down shaft; verdict, accidental; no one to blame.
2 Feb.	John Stanford .....	Perseverance .....	Wyalong .....	Premature explosion; verdict, accidental; no one to blame.
3 Mar.	Geo. Tregaskis .....	Nymagee Copper .....	Nymagee .....	Fall of rock; verdict, accidental.
1 April	Ed. Trestrail .....	Girilambone Copper .....	Girilambone .....	" } verdict, accidental.
1 "	Geo. F. Kelly .....	" .....	" .....	
6 June	W. R. Pearce .....	Spring Creek .....	Bungonia .....	Fall of earth; verdict accidental; no one to blame.
9 "	Robt. Hudson .....	Cooney Proprietary .....	Hillgrove .....	Fell down gorge while lowering machinery; verdict, accidental; no one to blame.
17 "	Thos. Arthur .....	Kangaroo .....	Grong Grong .....	Fell down shaft; finding, accidental.
12 Aug.	Chas. Buckley .....	Myall's United .....	Tomingley .....	Smothered in pass by run of mullock; verdict, accidental; no one to blame.
23 "	Jas. Goldie .....	Great Cobar .....	Cobar .....	Fell down shaft; verdict, accidental; no one to blame.
14 Sept.	Thos. McRae .....	Eleanora .....	Hillgrove .....	Caught in belting; verdict, accidental; no one to blame.
14 Oct.	A. J. Roach .....	Girilambone Copper .....	Girilambone .....	Fell down shaft; verdict accidental.
27 "	John Hamel .....	Chesney .....	Cobar .....	Knocked down shaft by tank; verdict, accidental; no one to blame.
29 "	F. Vecerina .....	Barmedman .....	Barmedman .....	Fall of earth; verdict, accidental; no one to blame.
15 Nov.	C. R. Smith .....	White Cliffs Opal-mine .....	White Cliffs .....	Smothered by fall of earth; verdict, accidental; no one to blame.
5 Dec.	Henry Day .....	Gibraltar Con .....	Adelong .....	Caught in belting in battery-house; verdict, accidental.

TABLE E.

FATAL Accidents, both on and under surface, Broken Hill District, during 1898.

Date.	Name.	Name of mine.	Remarks and Verdict.
1898. 8 Jan.	Jas. Sinclair .....	B. H. North .....	Explosion of unburnt charge while drilling in old socket; verdict, accidental.
8 "	W. N. Byrne .....	Central .....	Fall of rock; crushed to death; verdict, accidental.
28 Feb.	Jas. Cunliff .....	British .....	Fall of rock
28 "	John F. Curtin .....	" .....	" } verdict, accidental.
28 "	John Coff .....	" .....	
28 "	Thos. Burns .....	" .....	" .....
13 April	R. M. James .....	Central .....	Fall of ore; verdict, accidental.
14 "	H. A. Gotting .....	" .....	" verdict, accidental.
26 "	John Arthur .....	Junction .....	" verdict, accidental.
23 May	W. J. Bray .....	Central .....	Jammed by railway truck in concentrating work; verdict, accidental.
7 July	W. J. Tonkin .....	British .....	Fall of earth; verdict, accidental.
5 Aug.	E. Shimmin .....	B. H. Proprietary .....	Fall of mullock; verdict, accidental; no one to blame.
23 "	A. Armstrong .....	Block 12 .....	Fall of earth
23 "	W. Wigley .....	" .....	" } verdict, accidental.
20 Sept.	Thos. Noonan .....	Junction Railway .....	Loading trucks and crushed between buffers; verdict, no one to blame.
22 "	Richard Bryar .....	Block 10 .....	Fall of ore; verdict, accidental; no one to blame.
22 Nov.	C. L. Andrew .....	B. H. South .....	Fell down shoot; verdict, caused through removal of timber from mouth of shoot.
24 "	E. Madden .....	B. H. Proprietary .....	Fall of ore; verdict, accidental.
20 Dec.	Michael Davis .....	Block 11 .....	Struck by falling stone in open cut; verdict, accidental.

TABLE F.

FATAL Accidents, under surface, Broken Hill District, during 1898.

Date.	Name.	Name of mine.	Remarks.
1898. 8 Jan.	Jas. Sinclair .....	B. H. North .....	Explosion of unburnt charge while drilling in old socket.
8 "	W. N. Byrne .....	Central .....	Fall of rock; crushed to death.
28 Feb.	Jas. Cunliff .....	British .....	Fall of rock.
28 "	John F. Curtin .....	" .....	"
28 "	John Coff .....	" .....	"
28 "	Thos. Burns .....	" .....	"
13 April	R. M. James .....	Central .....	Fall of ore.
14 "	H. A. Gotting .....	" .....	"
26 "	John Arthur .....	Junction .....	"
7 July	W. J. Tonkin .....	British .....	Fall of earth.
5 Aug.	E. Shimmin .....	B. H. Proprietary .....	Fall of mullock.
23 "	A. Armstrong .....	Block 12 .....	Fall of earth.
23 "	W. Wigley .....	" .....	"
22 Sept.	Richard Bryar .....	Block 10 .....	Fall of ore.
22 Nov.	C. L. Andrew .....	B. H. South .....	Fell down shoot.
24 "	E. Madden .....	B. H. Proprietary .....	Fall of ore.

TABLE G.

## MINOR Accidents under surface, Broken Hill District, during 1898.

Date.	Name.	Name of mine.	Remarks.
1898.			
8 Jan.	Jos. Brannigan.....	B. H. North.....	Explosion of unburnt charge.
8 "	Hy. Heyer .....	Central .....	Fall of rock; slightly injured.
11 "	J. Hocking .....	British .....	Fall of rock; cut on head and face.
13 "	C. Pedler .....	B. H. Proprietary .....	Fall of rock; shock to spine and sprained ankle.
15 "	W. Bennet .....	Central .....	Fell down ladderway; injured internally.
17 "	Wm. Murley .....	Junction .....	Stone fell; injured foot.
21 "	R. Hawkins .....	Block 10 .....	Fell and bruised hip and cut head.
28 "	Walter Tremlett .....	British .....	Fall of rock; slightly injured.
29 Mar.	A. Manley .....	Block 14 .....	Struck by flying stone; injury to head.
28 Apl.	Robt. Lane .....	Central .....	Fall of ore; scalp wound and injury to head.
7 May	Jas. Graham.....	" .....	Found injured in cage.
9 "	John Whalland .....	Block 12 .....	Fall of stone; injury to foot.
10 "	M. Jordan .....	B. H. Proprietary .....	Fall of stone; injured leg.
19 "	Jos. Currie .....	Block 11 .....	Fall of stone; injured head.
19 "	Jos. Berriman .....	Central .....	Fell and cut head slightly.
21 "	C. Vonmard .....	Block 13 .....	Struck by flying stone; injured leg.
31 "	G. Day .....	" 10 .....	Jambed foot and twisted knee joint.
11 June	John Paul.....	Central .....	Stone fell and injured foot.
17 "	Michael Clifford .....	B. H. Proprietary .....	Stone rolled down heap and injured foot.
7 July	Harry Downs .....	Central .....	Burned by explosion.
5 Aug.	Ed. Quilliam .....	B. H. Proprietary .....	Fall of mullock; bruised, &c.
19 "	Geo. Gooley .....	Central .....	Received blow from striker's hammer.
23 "	Wm. J. Bailey.....	Block 11 .....	Fell through opening; bruised shoulder.
27 "	G. S. Marshall.....	B. H. Proprietary .....	Fell off stage; bruised hip.
3 Sept.	A. Lawson .....	" .....	Injured by cage; shock to system.
19 "	A. Scammel .....	" .....	Fall of ore; slight abrasions.
19 "	R. Heaft .....	" .....	Fall of ore; slight bruises.
21 "	F. Lichman .....	Central .....	Strained back lifting cap-piece.
26 "	James Moore .....	B. H. Proprietary .....	Fell into hole; bruised back.
26 "	Michael Tonkin .....	" .....	Struck by falling stone; crushed foot.
30 "	D. Rawlands .....	Central .....	Struck by falling stone; bruised ankle.
21 Oct.	D. Martin .....	B. H. South .....	Fell while climbing; collar-bone broken.
27 "	Wm. Andrews .....	" North .....	Struck by falling stone; scalp wound.
4 Nov.	Walter Downes .....	" Proprietary.....	Struck by flying stone; cut on face.
12 "	Walter Boehm.....	Central .....	Stumbled and fell through opening, injuring head.
19 "	M. Nagle .....	" .....	Stone fell and severed finger; also scalp wound.
19 "	M. Tonkin .....	B. H. Proprietary .....	Struck by falling stone; injury to hip.
22 "	M. Kearns .....	Central .....	Stone fell, breaking a finger.
2 Dec.	Ed. Fitch .....	Block 11 .....	Truck overturned, crushing chest.
7 "	Jas. Blight .....	Junction North .....	Struck by falling stone while on ladder.
22 "	T. Tonkin.....	British .....	Stone fell and severed toe.

TABLE H.

## FATAL Accidents on surface, Broken Hill District, during 1898.

Date.	Name.	Name of mine.	Remarks.
23 May	Wm. J. Bray .. . . . .	Central .....	Jambed by railway truck in concentrating works.
20 Sep.	Thos. Noonan .....	Junction Railway .....	Loading trucks and crushed between buffers.
20 Dec.	Michael Davis .....	Block 11 .....	Struck by falling stone in open cut.

TABLE I.

## SERIOUS Accidents under surface, Broken Hill District, during 1898.

Date.	Name.	Name of mine.	Remarks.
1898.			
4 Mar.	Thos. Henderson.....	Block 14 .....	Fell and injured ribs and back.
19 "	W. Gynnan .....	Central .....	Stone rolled over and fractured ankle.
22 "	J. T. Hicks .....	" .....	Stone rolled over and broke leg.
27 Apl.	T. Evans .....	" .....	Fell and injured pelvis.
5 May	E. Taylor .....	" .....	Fell off stage and broke leg.
11 "	J. Armaninni .....	Block 11 .....	Jambed by rock—internal injuries.
7 July	James Buttler .....	British .....	Fall of earth—broken leg.
25 "	W. B. Manuel.....	Block 10 .....	Fell down shoot, injuring ankle and feet.

TABLE J.  
SERIOUS Accidents on surface, Broken Hill District, during 1898.

Date.	Name.	(Name of mine.	Remarks.
4 Mar.	A. Palmer .....	B. H. Proprietary .....	Struck by truck—leg broken.
6 July	Thos. Jones .. .....	" " " .....	Caught in belting—injured feet.
19 "	Wm. Howe .....	Block 11 " .....	Jambed by truck—leg broken.
12 Aug.	John Skewes .....	B. H. Proprietary .....	Fell into ore-bin and fractured ribs, &c.
6 Sept.	A. Pade .....	" " " .....	Caught in belting bin—arm broken.
26 Oct.	H. Price .....	" " " .....	Caught in shafting—fractured arm and leg.
8 Nov.	E. Copten .....	Block 10 .....	Injured internally by fall of tailings.
9 Dec.	Sam. Barry .....	B. H. Proprietary .....	Struck by handle of crab winch.

TABLE K.  
MINOR Accidents on surface, Broken Hill District, during 1898.

Date.	Name.	Name of mine.	Remarks.
1898.			
25 Apl.	Chas. Bevan.....	B. H. Proprietary .....	Truck fell on leg.
21 J'ne.	John Irwin .....	" " " .....	Caught in machinery—injured hand.
6 July	M. Brady .....	" " " .....	Slipped and injured back.
12 Aug.	Jos. Jones .....	Block 11 " .....	Fell—shock to system.
5 Sep.	John Buckle .....	B. H. Proprietary .....	Re-metalling bearing—splashed by molten metal.
6 "	Geo. Davis .....	" " " .....	Cut in ankle while adzing.
18 "	Wm. Fawcett .....	" " " .....	Crushed foot.
21 Oct.	Wm. Smith .....	Block 11' .....	Barring down stone—bruised leg.
22 "	D. McGowan .....	Central .....	Fell on floor—injured foot.
26 "	G. Baker .....	B. H. Proprietary .....	Stone fell inflicting scalp wound.
29 "	Wm. Tyries .....	Central .....	Riding on truck—fell and injured arm and hips.
21 Nov.	Peter Cameron .....	B. H. Proprietary .....	Injured hand by a passing truck.
22 "	Wm. McCarthy .....	" " " .....	Jambed by truck—injured leg.
26 "	Thos. Watts.....	" " " .....	Burned by hot ore while loading truck.

TABLE L.  
A Comparison of Accidents recorded during the years 1896, 1897, and 1898.

Total from all causes for the whole Colony.										
1896	...	...	...	...	...	...	...	...	...	123
1897	...	...	...	...	...	...	...	...	...	112
1898	...	...	...	...	...	...	...	...	...	147
As follows:—										
					Fatal.	Serious.	Minor.			
1896	...	...	...	...	35	36	52	=		123
1897	...	...	...	...	35	41	36	=		112
1898	...	...	...	...	35	27	85	=		147
Divided into—										
True Mining Accidents.										
					Fatal.	Serious.	Minor.			
1896	...	...	...	...	32	26	31	=		89
1897	...	...	...	...	29	30	26	=		85
1898	...	...	...	...	31	19	69	=		119
And Surface Accidents.										
					Fatal.	Serious.	Minor.			
1896	...	...	...	...	3	10	21	=		34
1897	...	...	...	...	6	11	10	=		27
1898	...	...	...	...	4	8	16	=		28
Broken Hill only (but included in above).										
Total from all Causes.										
1896	...	...	...	...	...	...	...	...	...	60
1897	...	...	...	...	...	...	...	...	...	61
1898	...	...	...	...	...	...	...	...	...	90
Divided into—										
True Mining Accidents.										
					Fatal.	Serious.	Minor.			
1896	...	...	...	...	9	12	12	=		33
1897	...	...	...	...	14	15	12	=		41
1898	...	...	...	...	16	8	41	=		65
Surface Accidents.										
					Fatal.	Serious.	Minor.			
1896	...	...	...	...	3	7	17	=		27
1897	...	...	...	...	2	10	8	=		20
1898	...	...	...	...	3	8	14	=		25



TABLE M.

LEAD-POISONING Returns from Broken Hill Mines for years 1895, 1896, 1897, and 1898, as reported by Managers of said Mines, in accordance with the Lead-poisoning Act of 1895.

Name of Mine.	1895.	1896.	1897.	1898.	Summary.
Broken Hill Proprietary ...	29	21	12	3	Total number of cases during 1895 ..... 89 Total number of men for same period ... 4,297 Percentage of cases ..... 2·07
Broken Hill South.....	15	12	4	5	
Broken Hill North.....	0	4	1	0	
British Broken Hill .....	0	3	0	0	Total number of cases during 1896 ..... 44 Total number of men for same period ... 5,400 Percentage of cases ..... 81
Block 14 .....	4	1	0	0	
Block 10 .....	1	1	0	0	
B.H. Junction South.....	0	0	0	0	Total number of cases during 1897 ..... 17 Total number of men for same period ... 6,473 Percentage of cases ..... 26
B.H. Junction North.....	0	0	0	0	
Junction Consolidated .....	.....	.....	0	0	
New Pinnacle Group .....	.....	.....	0	0	Total number of cases during 1898 ..... 14 Total number of men for same period ... 6,842 Percentage of cases ..... 20
Sulphide Corporation.....	40	2	0	6	
Silver Hill Junction .....	.....	0	0	0	
A.B.H. Consols .....	0	0	0	0	

Lead Poisoning Returns from other parts of the Colony.

Lake George Mine .....	.....	.....	.....	0	
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Report on the Kiandra Gold-field.

Sir,

Kiandra, 26 February, 1898.

I do myself the honor to furnish the following information in connection with the Kiandra Gold-field:—

Owing to the very dry seasons sluicing operations have been greatly retarded during the last two years, but notwithstanding this the Kiandra Gold-field has, during the said period, contributed a fair amount of gold to the general output of New South Wales.

In view of the hopes of a wet season extensive preparations and improvements in the mode of working have been made by claimholders, and should these hopes be realised a considerable increase in the production of gold throughout this district may be looked forward to.

So far the hills covered by basalt have not yielded the return of gold which was anticipated, nor have, so far, even paid the cost of tunnelling. But this is principally due to the parties, because nearly all the tunnels have been started too high, and in some instances where the tunnels would have been deep enough to drain the deepest part of the channels the parties, owing to driving said tunnels, were too eager to reach the wash, and, therefore, allowed their bottom of tunnel to rise too fast; hence, when the wash was struck, it was found that the face of the tunnel was too high to drain and systematically work the deepest ground. This can now only be remedied by extra labour and expense, either by cutting down the bed-rock in the bottom of said tunnels or to drive fresh ones.

My present visit of inspection has not in the least altered the opinion expressed by me some years ago, that the Kiandra Gold-field will again become an extensive gold-producing district, not only in alluvial but also in quartz, notwithstanding that powerful pumping machinery will be required to cope with the heavy flow of underground water which is met with in the working of quartz-veins throughout this district at a comparatively shallow depth.

At Toolong, about 30 miles southerly from Kiandra, there are about a dozen men working in the alluvial; and at Grey Mare's, Boogong, 30 miles south of Kiandra, some twenty-five men are at work, sixteen of whom are working in connection with Johnson and Party's reef, where two Huntington mills are now in course of erection, and will be ready to start crushing immediately.

About twenty men are working in the alluvial at the 15-Mile, south of Kiandra; and at the 9-Mile, south of Kiandra, there are about twelve men working in the alluvial. Mr. Lett, one of the oldest and most highly respected identities and miners of this district, has just completed a tunnel 900 feet in length for the purpose of working the old Empress Mine. It was formerly intended to work this extensive deposit by hydraulic sluicing, but the depth from the surface to the bed-rock is in some parts 250 feet, and the available water supply being insufficient, Mr. Lett has come to the conclusion to work the Empress Mine on the blocking-out system, and extensive operations will be commenced within a few days.

At the 8-Mile Sheaffer and Party are working on a quartz-reef, but are troubled with influx of water at their lower level. This party has a five-stamp battery, with the usual gold-saving appliances at work.

The old 3-Mile Reefs have been taken up by Dunn and Party, and they are now erecting a five-stamp crushing battery.

Tunnelling is still carried on under the basalt at the Township Hill, and payable results would have been the consequence long ere this had the parties carried in their tunnels in such a manner as to reach the lowest parts of the alluvial deposits, of which they had ample opportunities.

At the New Chum Hill a stoppage of the hydraulic sluicing took place, owing to some required repairs; but as soon as this is accomplished, Mr. Patterson, the manager, will at once start active sluicing operations, and payable results are anticipated.

On

On the Giandara Mine, of which Mr. John Robyns is manager, a great deal of prospecting and opening up the mine for future development has been accomplished. This mine is owned by a Sydney company, who have already spent some considerable capital, so far without any payable returns; nevertheless, the prospects of the mine, as far as can be seen, are such that, with economical and systematic working and a good water supply, the mine ought to be turned from purely developing to a dividend-paying one.

A rough plan shown me by Mr. Robyns was accurate enough to prove a good guide during my inspection of the underground workings of said mine.

The length of the main tunnel is 787 feet. Mr. Robyns informed me that payable gold was obtained at the 747 feet; that the width of the gold deposit was very considerable, and that prospects had been obtained on the deepest levels as high as 3 dwt. per dish; that 290 superficial yards blocked out had yielded little over 40 oz. of gold, and that 3 dwt. of gold per superficial yard could be made to yield payable returns.

The ventilation and timbering of said mine are excellent. A contract has also been let for the construction of a large reservoir on Racecourse Creek, and when completed, and filled with water, actual sluicing operations will be proceeded with.

In time to come it may be advisable to drive another tunnel at a lower level, to reach and drain the deepest alluvial deposits.

I have gone more into details in connection with Giandara Mine, because, should it become a dividend-paying mine, of which there is a great probability, then a new era in the gold-mining industry of the Kiandra Gold-field will commence.

Reckmann and Party are sinking on the old Charcoal Reef, which has been abandoned for about twenty years. They are now 20 feet below the old workings, and would have struck the reef only for the breakage of their pumping-gear, which has caused a temporary stoppage.

At the 12-Mile, situated 12 miles north of Kiandra, Cahill and Party are sinking on a large reef. They have had two trial crushings of 6 tons each, which yielded 6 dwt. of gold per ton, and 4 tons are now on transit to Adelong for treatment. This reef is fully 2 feet thick, and has been traced a fair distance. The gold being fine, and disseminated throughout the thickness of the reef, the latter may become of greater value after further development.

Some thirty miners are working in the Murrumbidgee River, within 14 miles of Kiandra. At Lobb's Hole Copper-mine, about 12 miles west of Kiandra, sinking operations are carried on; but, unfortunately, a breakage occurred in the pumping machinery, which caused temporary stoppage. The shaft is down 80 feet from surface, from which a good sample of yellow sulphide ore was obtained. From wall to wall is about 2 feet 6 inches, but the actual ore deposit varies from 6 to 18 inches in thickness. Between 2 to 3 tons of said ore are now on transit to Sydney. On the Tumut River, within 15 miles of Kiandra, there are about forty miners at work, and fossickers can be seen all over the district.

I would draw especial attention to the Providence Valley, part of which was rushed and worked before Kiandra was opened in 1858. The valley is very extensive. It is drained by the Eucumbene River, which river rises about 6 miles from Kiandra, flows through the latter gold-field, also through Providence Valley, about 11 miles from Kiandra, and the same distance from Adaminaby. There are also numerous tributaries. Few, if any, have been prospected, although the whole district has a decided auriferous appearance.

I have, &c.,

W. H. J. SLEE,

Chief Inspector of Mines.

#### Report on Mining at Bushy Hill.

Sir,

Cooma, 9 March, 1898.

I have the honor to inform you that, during my present inspection of several parts of the Monaro District, I have several times visited and inspected the auriferous deposits of Bushy Hill.

In September last, soon after the gold discoveries were made in quartz-veins at Middle Flat, I drew public attention to the fact that the indications for extensive and permanent auriferous deposits were far superior at Bushy Hill than at Middle Flat, and, in view of that belief, I strongly advised a thorough prospecting of said Hill. My predictions have not been disappointing, but have rather been verified.

The striking of payable gold by Perkins, Solomons, and Party, to whom I previously recommended aid out of the Prospecting Vote, caused a great rush; some twenty different parties made applications for gold leases totalling over 100 acres. But so far the principal mines at Bushy Hill, which can be classed as payable, or with very promising indications, are Perkins, Solomons, and Party's prospecting claim, and adjoining lease No. 1 North, Blake and Party, and McKenzie and Party.

Perkins, Solomons, and Party are now about 70 feet in depth, No. 1 North 64 feet, and McKenzie's 46 feet in depth, which are the deepest shafts on the Hill.

A crushing of 6 tons from Blake's Mine, sent to Mr. John Howell, yielded a return of £123 1s. 6d., the total expenditure for treatment, carriage, &c., leaving a profit balance of £90, which is highly payable. The prospectors, Perkins, Solomons, and Party, forwarded 3 tons 18 cwt. to the Government Metallurgical Works, yielding, I was informed by Mr. Solomons, 13 oz. per ton, and No. 1 North has also forwarded 6 tons to Dapto, but so far have not received results. The pyrites assay up to 10 oz. per ton in bottom of shaft. The pyrites on bottom of Perkins' shaft are very strong, and are associated with free coarse gold, which can be seen with the naked eye.

As formerly expressed by me, I am still of the opinion that there are no well-defined lodes on Bushy Hill; but the auriferous deposits seem to occur in mere cracks of the country rock; hence to sink a small shaft on one of the cracks does very little, if anything, towards prospecting the real value of the mine. By observations made, I cannot come to any other conclusion than that the auriferous ore deposits of Bushy Hill are of a fairly large extent, and that the country rock appears to be thoroughly impregnated with minerals. In fact, that part of the Hill between the mines known as Perkins', Blake's, and

and No. 1 North, may, after thorough prospecting, be found payable auriferous; hence, as I informed the Cooma people about three weeks ago, that crosscutting rather than sinking should be done, at least until such a time as the width of the auriferous deposits have been proven. The present system of working is very unsatisfactory, as it can hardly be termed mining; hence a judicious, economical system of improved modern mining should be introduced. The whole of the numerous small areas and leases should be amalgamated into one area, and, if this is done, then no doubt capital will be forthcoming, and instead of only a few men working, a few hundred persons may find profitable employment. Capital is the real requirement for the development of Bushy Hill, sufficiently large to cope with all contingencies, and that cannot be obtained on small areas.

The ordinary quartz-crushing battery with the ordinary blanketing table would be worse than useless in connection with the treatment of Bushy Hill ore. The gold, although of high quality, is very fine, and it would require not only an extensive battery, but also improved up-to-date gold-saving and concentrating plant—one plant for the whole hill. It would be great waste of money for separate claims to erect separate crushing and gold-saving plant.

I have, &c.,  
W. H. J. SLEE,  
Chief Inspector of Mines.

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#### Report on the Mining Industry in the Queanbeyan District.

Sir,

Queanbeyan, 12 March, 1898.

I do myself the honor to furnish you with the following information in connection with the mining industry and future prospects of same in the Queanbeyan District:—

For many years past some of the most enterprising inhabitants of the district, and, foremost of all, J. J. Wright, Esq., J.P., one of Queanbeyan's oldest identities, spent time and money to add to the district mining, which, if successful, would greatly help to facilitate the agricultural and pastoral industry, but so far those efforts have proved futile.

Lately, more attention has been paid in prospecting the various gold, silver, lead, and copper deposits occurring in lode formation, and there appears now a probability that in the near future the Queanbeyan District will rank largely in silver and copper if not in gold producing. There certainly occur various silver and copper deposits well worth a thorough prospecting.

Commencing near the south-east corner of the town boundary, D. Wright and T. Penny have a promising little vein about 10 inches in thickness of green and blue carbonates, which at a greater depth may develop into a payable lode. Following this in a northerly direction there is the old Primrose Valley, which more than thirty years ago produced some rich assays. But it is only within the last twelve months that prospecting and developing have been commenced in earnest by Mr. Trewenicke, metallurgist and general manager of the Lake George Mines, Captain's Flat. Some of the silver and lead lodes are very extensive, but may be classed as low-grade ore, whereas very high assays of silver have been obtained.

Should the market value of silver take an upward tendency, then a large number of men will be employed. Even as it is, by the continual new and improved methods and appliances, the Primrose Valley is likely in the near future to become the centre of an important mining industry.

Following the same course towards London Bridge, a bridge formed of limestone through which the creek now flows, there are several fairly good indications for gold, silver, and copper deposits in payable quantities.

A high mountain, known as the Diggers' Hill, is well worth a thorough prospecting. There is a great natural facility for prospecting this hill or mountain by driving a tunnel about 30 feet above the river or creek bed in a south-east direction for about 400 feet in length, which would intersect the whole of the veins and lode formation, all of which have a dip towards the creek.

Cadden and Wright's gold, silver, and copper deposits on Mr. J. Macnamara's property are also worthy of further development. Considering all circumstances, the out-look for the establishment of the mining industry in the Queanbeyan District is more hopeful at present than it has been in the past.

I have, &c.,  
W. H. J. SLEE,  
Chief Inspector of Mines.

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#### Report on important Discoveries of Gold, Silver, and Lead Deposits in the southern parts of the Manaro District.

Sir,

Sydney, 28 March, 1898.

I have the honor to inform you that during my recent visit through different parts of the Manaro District I inspected an important new discovery of gold, silver, and lead made by Messrs. Litchfield and Lamb, in a locality known as the Black Scrub, Lower Paupony, about 20 miles from the border of Victoria, 10 miles from Buckley's Crossing (Snowy River), and 42 miles from the Cooma Railway Station.

The locality referred to is one of Nature's greatest handicrafts; the sublime, wild, rugged, and well-timbered mountains and the valleys through which flows the Snowy River are such that must be seen to be thoroughly appreciated.

The Lower Paupong mineral discoveries are very opportune, occurring in a part of the Colony where agricultural and pastoral settlement is out of the question, but where a wilderness might be turned into a centre of an industrious mining population, and hence the at present almost unknown Lower Paupong may in the near future take its rank as one of New South Wales prosperous mining towns.

Few,

Few, if any, of the energetic persevering *bonâ fide* prospectors who are used to quartz and lode mining have ever made their appearance in this locality, and it would be worse than unless to attempt prospecting there unless amply supplied with provisions, tools, and explosives, as the nearest place such could be obtained is Buckley's Crossing. Horses also are requisite.

One of the discoveries made is in an open cutting about 8 feet in the deepest part, where the lode is exposed to view fully 8 feet in thickness, and can be traced a considerable distance along the surface.

The lode is well defined, with a slight underlay towards the creek, and has a few inches of a dig on the foot wall; the lodestuff also, being of a soft nature, greatly helps to reduce the expenditure of development.

Outcrops of parallel lodes are also noticeable on the surface.

Being informed by the discoverers that a number of private assays had been made which yielded up to 10 dwt. of gold per ton in addition to a good percentage of silver and metallic lead, and that one assay made at the establishment of Mr. John Howell had yielded gold a trace under 2 dwt. per ton, silver 26 oz., and metallic lead 38 per cent., I thought it advisable to take samples across the lode, one sample for each foot in width of lodestuff, eight samples in all, for assay by the Department of Mines, the following result having been given and certified as correct by the Government Geologist:—

- (737) 1. Galena and cerussite with some pyrites, yielding—  
 Gold, nil.  
 Silver, 21 oz. 9 dwt. per ton.  
 Metallic lead, 47.26 per cent.
- (738) 2. Galena and cerussite in a breccia, yielding—  
 Gold, nil.  
 Silver, 20 oz. 5 dwt. 1 gr. per ton.  
 Metallic lead, 30.21 per cent.
- (739) 3. Siliceous carbonate of lead ore, yielding—  
 Gold, nil.  
 Silver, 15 oz. 0 dwt. 12 grs. per ton.  
 Metallic lead, 24.79 per cent.
- (740) 4. Quartz with earthy oxidised lead ore, yielding—  
 Gold, a trace, under 2 dwt. per ton.  
 Silver, 3 oz. 19 dwt. 11 grs. per ton.  
 Metallic lead, 5.94 per cent.
- (741) 5. Breccia with carbonate of lead and specks of galena, yielding—  
 Gold, nil.  
 Silver, 32 oz. 16 dwt. 14 grs. per ton.  
 Metallic lead, 41.58 per cent.
- (742) 6. Quartz with yellow earthy oxidised lead ore, yielding—  
 Gold, nil.  
 Silver, 7 oz. 15 dwt. 17 grs. per ton.  
 Metallic lead, 11.10 per cent.
- (743) 7. Quartz with yellow earthy oxidised lead ore, yielding—  
 Gold, nil.  
 Silver, 7 oz. 11 dwt. 8 grs. per ton.  
 Metallic lead, 12.65 per cent.
- (744) 8. Quartz with yellow earthy oxidised lead ore, yielding—  
 Gold, a trace, under 2 dwt. per ton.  
 Silver, 7 oz. 0 dwt. 2 grs. per ton.  
 Metallic lead, 12.65 per cent.

It will be seen by the results of assays made that, so far, nothing extraordinarily rich has been discovered, and that the samples taken by me yielded but a very small percentage of gold; nevertheless, in justice to the prospectors, Messrs. Litchfield and Lamb, I may state they informed me, at the time I took the above samples, that ore could be obtained on the surface within a short distance of the open cutting which would assay over 10 dwt. of gold per ton.

There is almost an unlimited supply of timber and wood for all purposes in the vicinity of the lodes, and water could also be easily stored. A tunnel could be driven at a comparatively small cost to intersect the lodes at a great depth, and underground water is not likely to be met with during the first 500 feet in depth.

An easy-graded road could be cleared and levelled for about 3 miles in length to connect with a good road to Buckley's Crossing and Cooma.

As stated above, these parts of the Australian Alps have seen but little, if any, of the *bonâ fide* reef and lode miners, and I was informed by Mr. Cripps, one of the oldest mountaineers of the Australian Alps, that there were localities between these mountains which have so far never been visited or seen by man or beast, but once let these new discoveries make a fair start all obstacles and privations will be overcome, and all so far unknown localities in these Alps will be prospected by a class of men known as the brave, large-hearted, energetic, and persevering Australian miner—as a rule, a class of men any district or country may well be proud of.

I also inspected a quartz reef known as the Litchfield Reef, situated about 9 miles southerly of Buckley's Crossing, and 6 miles from Motong. This reef can be traced for about half a mile in a west by south direction, underlaying southerly. The average thickness is about 2 feet, occurring in lenticular blocks. Four shafts have been sunk—63 feet, 20 feet, 44 feet, and 40 feet respectively. No bulk samples have ever been crushed, and the prospecting so far has been done by Messrs. G. F. Litchfield and Party, the land being freehold, and is the property of the above-mentioned gentlemen. Several samples of the quartz

quartz were crushed in my presence on the spot, and were taken promiscuously from the various heaps, each and all yielding fair prospects of fine gold, with a small percentage of bismuth, the gold yielding from about 5 dwt. to 15 dwt. per ton.

There is a splendid site for a large reservoir within a quarter of a mile, on which a small compact crushing and up-to-date concentrating and gold-saving plant could be erected, but before the erection of machinery it would be prudent to have a few bulk samples thoroughly tested.

A small river dredge may very probably find payable employment on the Snowy River, near Buckley's Crossing, provided means can be adopted by which the difficulties of large granite boulders in the river-bed can be overcome.

I am informed that miners have made good wages in this river, and have frequently stuck to their work up to their waist in water, but were compelled to give in after every little fresh or small flood of the river.

There is also a locality worth prospecting, being of a slate formation, intersected by diorite dykes and hornblende granite, easterly from Berridale, which crosses the road between the latter place and Cooma.

Taking that part of the Manaro District through which I have lately travelled, signs and indications are certainly not wanting in arriving at a conclusion that in the near future Cooma, the principal town in the Manaro District, will become the centre of a fairly large and prosperous mining population, which will not only put new life into the town and municipality, but will also be the means of minimising, if not totally reversing, the loss now sustained by the Railway Commissioners in running the Cooma Railway line.

I have, &c.,

W. H. J. SLEE,  
Chief Inspector of Mines.

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Inspector Milne's Annual Report.

Sir,

Cobar, 5 January, 1898.

I have the honor to submit my annual report for the year 1898.

The following localities have been inspected during the year in the south:—Braidwood, Bumbo, Bodalla, Bateman's Bay, Bermagui, Dromedary, Captain's Flat, Markdale, Moruya, Mogo, Nerigundah, Pambula, Tilba Tilba, Wagonga, and Wolumla.

In the west:—Burruga, Blayney, Back Creek, Bathurst, Bobadah, Carcoar, Cowra, Clear Creek, Cheshire Creek, Cargo, Canowindra, Grenfell, Gilgunnia, Girilambone, Galleymont, Hill End, Hermidale, Honeybugle, King's Plains, Lewis Ponds, Lucknow, Mumbil, Mandurama, Melrose, Mount Hope, Mount McDonald, Newbridge, Nyngan, Nymagee, Ophir, Orange, Oberon, Palmer's Oakey, Pyramul, Restdown, Sunny Corner, Sofala, Tarana, Tuena, Trunkey, Wattle Flat, and Wellington.

Some of these districts were inspected two or three times.

The total number of mines inspected, 276, some of which were in reference to aid from the Prospecting Vote; in the execution of this work I travelled 7,469 miles.

The first nine months of the year I was engaged generally throughout the South and Western Districts, after which I was stationed in the Cobar District, and, in compliance with your instructions, reached Cobar on or about the 5th October, making that place my headquarters.

I attended and inquired into the cause of two fatal accidents, both of which were returned as accidental by the jury.

The first occurred at Girilambone, and should not be termed a true mining accident, owing to the fact that the deceased was not at the time employed on the mine, but was going home from the town late at night in the dark, and by some means got off the usual track and walked into an old shaft used as a mullock pass from the surface.

The second accident occurred at the Chesney Mine (Cobar) at the 260-foot level, where the platman, according to the evidence, appears to have been looking down the shaft and was struck by the passing tank, and then fell from the 260-foot to 300-foot level.

It will be seen that by ordinary precautions by the deceased both of these accidents could have been avoided.

The general conditions of the mines might be regarded as safe, and I am pleased to note that in the general management I have very little trouble, as most of the managers do all they can for the safety of those in their employ, and are always willing to accept any suggestion I may make for the safe working of their mines.

In many of our larger and older mines the hauling-shafts are not as good as might be, and are a source of care and trouble on the managers to keep safe for working purposes, and is only done by frequent overhauling and repairs.

Travelling roads underground are, in general, good and secure, and little fault can be found in this respect.

Ventilation, as a rule, is fairly good, especially in the large mines.

There is still some trouble with the miners in regard to the special storage of explosives underground and for immediate use.

Although special storage is insisted on, there is a tendency to make the boxes a store-room for candles, caps, fuse, and dynamite.

Another source of trouble, and one very hard to put down, is the dangerous habit the miners have of biting the detonator on the fuse instead of using the nippers or knife, owing no doubt to the frequent loss of nippers and trouble of always having a knife handy for use, and the fact that it is no one's special duty to prepare explosives.

In reviewing my work for the year, I have been practically employed in the South and Western Districts; but as I am now located in the Cobar District, I shall confine my remarks to the mines embraced in that district.

The

The main locality is Cobar, my headquarters, and, as in the past, the Great Cobar Copper Mine the principal. As anticipated in my last year's report, the output from this mine has been considerably increased, and I am pleased to say the coming year will again see a still further increase in the returns from this mine.

The same system of working is in vogue as described in last year's report.

In the old stopes worked under the previous management, when only the rich oxidised ores were mined, leaving large bodies of low-grade ore on either side of stoped ground, there is some particularly dangerous ground to work, principally on the south end of the mine, but as only picked men are engaged on the work, and the dangerous nature of the country thoroughly understood, I do not anticipate any accidents from this quarter.

The system adopted is to mine up from underneath, first securing the weight of the stope on pig-styes, well wedged; then rise up, as the case may be, either on the east or west side for the height of about 10 feet; then shoot away the burden, secure the back with stulls until the pig-styes are built up to the back; then fill with mullock, which is kept as close as possible to the back.

It has been found by crosscutting that bunches of ore occur on the east and west side of the main lode.

There are now five blast furnaces in regular work, and a hot-air furnace in course of construction, and a material increase in the output from this mine may be looked for in the coming year.

It may be interesting to know the amount of ore smelted, timber and filling used for securing the depleted stopes, also the amount of driving and sinking for the year:—

Ores raised and smelted	...	...	...	...	...	...	111,557 tons
Filling depleted stopes	...	...	...	...	...	...	81,117 "
Mine timber	...	...	...	...	...	...	1,812 "
Driving	...	...	...	...	...	...	1,358 feet
Sinking	...	...	...	...	...	...	503 "

There are at the present about 600 men employed on the mine.

Taking the prospects of the mine as a producer, there can be no doubt as to its permanency, there being at the present time more ore in sight than at any previous time during the life of the mine. This body of ore has been proved for some considerable distance by the deepening of the "N" shaft, where the immense body of sulphide ore worked in Baston's shaft has been met with.

This shaft is now on the same level as Baston's, and will in a short time be connected with the 90-fathom level.

The machinery on the mine is in fair condition, but up to the present no regular system of periodical overhaul is made; such parts as may show signs of wear or break are at once repaired. If a periodical overhaul were made (say) once in six months the engineer would have a chance to thoroughly repair where required, and would in a considerable degree prevent many of the short vexatious stoppages that must necessarily occur in so large a plant.

I must repeat my remarks of last year in reference to the want of a main shaft, and must say this mine will not have justice done until a large shaft is sunk off the lode and properly equipped with suitable winding engines.

The Fort Bourke Mine.—I am sorry to say the expectations of regular returns have not so far been obtained, owing, principally, to the extreme fine nature of the gold and very slimy character of the ore.

It was found that the amount of gold saved by amalgamation was not sufficient, and the funds being exhausted, the mine was shut down for a time.

There is again considerable activity showing this time in the erection of a cyanide plant in conjunction with the 100-stamp mill now on the mine, and no doubt early in the coming year the stamps will be again dropping, and a direct course of cyaniding carried out.

In this instance the development of the mine is not altogether forgotten; a main shaft has been sunk to the depth of 236 feet, and is, without doubt, one of the most substantial shafts in the Colony. It is the intention to continue sinking this shaft, and (although the last mine on the line to intersect the copper zone) there is very little doubt but a regular system of development will be carried out, but with the machinery now on the mine it will be only the oxidised ores near the surface which will be operated on for some time to come.

At the Chesney Mine a steady system of development has been done during the year—sinking the main shaft and driving at the different levels being the principal work done. This is now the deepest shaft on the line of lode. The future method of treatment has not yet decided on, owing, no doubt, to the want of iron in the ore bodies so far developed. The sinking done during the year in shaft and winzes was 450 feet and driving 860 feet.

Recently a prospecting shaft on the south end of the Berribungie Mine was started, and is now down over 100 feet. Should the same body of iron be intersected as is now being worked in the adjoining mine, it will very soon settle the question as to what class of a reduction plant is required.

Berribungie Mine.—A fair amount of development has been done; the main shaft sunk to the depth of 300 feet, and crosscut east some distance, showing a strong lode formation, in which occur narrow shoots or veins carrying a high percentage of malleable copper.

A syndicate was formed to develop this mine, erect a smelting plant, and buy ore from the different mines. This will be, as the field now shows, a very desirable assistance to some of the smaller mines, and is likely to materially assist in the further development of the copper zone. The ore raised will be sold on assay value, and the cost of railway carriage saved. A plant of this description will be a great benefit to the Cobar District.

At the Young Australian extensive preparations have been going on for the thorough opening up and development of this mine.

A new main shaft has been sunk, well equipped with winding plant, which will in the coming year prove beneficial in systematically opening and working the mine.

There is also a cyanide plant on this mine, and the old heap of tailings has now been nearly all treated, with a very satisfactory return.



Occidental Mine.—The same steady system of work has been done as in previous years; but I am pleased to say the directors appear to have suddenly discovered that they have a big reserve fund in the immense stack of tailings on hand. To cope with this a cyanide plant has been erected and a few vats only put through before the water run out, and so far are standing waiting for the rain so long looked for in this district.

I am glad to say that the results from this mine must be very satisfactory during the coming year, as, besides the immense amount of tailings, the lode is a large one, of a fair grade, and in the lower level a very good shoot of gold has been proved, which will considerably add to the value of the ore mined from the open cut. I look to this mine as one of the mainstays of the Cobar District.

Recently a new 20-inch cylinder engine has been added to the crushing mill, also a new multitubular steam-boiler, and it is the intention to erect a further ten stamps, which will then give them thirty stamps, so that an extra output may safely be counted on.

All the ore obtained from this mine for the year was from the open cut on the south side of the shaft, where the lode is about 40 feet wide, and yielded by amalgamation from 3 to 5 dwt. per ton.

The Great Western Mine in the early part of the year was on the dividend list, but towards the end of the year, owing to the prospecting work not being kept well ahead, has again fallen back from regular returns, and until the directors fall in with the advantages to be gained by properly developing the mine they cannot expect regular returns.

A fair start was made towards the end of the year to systematically work the mine and a new main shaft sunk to some depth, but I am sorry to say this has now been discontinued.

At the Peak very little work has been done for the past year, but what work has been accomplished has given very satisfactory returns. A considerable quantity of the ore mined is smelted at the Great Cobar Company's Mine.

There is on the mine a 10-stamp mill, but, owing to scarcity of water, has been idle for most part of the year.

The Conqueror Gold Mine adjoins the Peak, and has been giving very good results for some time. The deepest level is 100 feet, where a strong body of ore occurs.

I look forward to this mine giving a much larger output and increased value in the coming year.

There is very little doubt but the mines at the Peak will, like those nearer Cobar, develop into copper at a depth, and, with the present price and every appearance of further increases in the copper market, they should be pushed on with all speed, instead of simply rooting out all the easily-obtained ores, which appears to be the favourite system of working most of the smaller mines in the Cobar District.

Girilambone Copper Mine.—So far the returns from this mine have not been up to expectations, owing, principally, to the want of good fluxing ores.

During the year a large amount of development work has been done. The main shaft has been sunk 200 feet—making a total depth of 560 feet—and from this and the 460-foot levels drives are now being extended to prove the existence or otherwise of a body of sulphides which, from the appearance of the levels above, should exist.

The May jigger, erected early in the year, has done good work, but still the output of concentrates has not been sufficient to keep the furnaces running full time. To further assist this, a new Hancock jig on the latest improved principle is now being erected, and will, as soon as sufficient water is obtained, add to the concentrates by about 100 tons per day.

On the surface the winding plant has been renewed, and now a compact hauling plant, consisting of a double-cylinder horizontal engine, 18-inch cylinders, 3 ft. 6 in. stroke, link motion, direct action, with drums 8 feet diameter, safety-cages with detaching hooks, is fixed, and is one of the best hauling engines in the Western District.

Steam is generated in a nest of three Cornish boilers, each 27 feet long, 6 feet diameter, 3-foot flue, and three Galloway tubes.

At Restdown very little progress has been made during the year, owing principally to the fact of there being no crushing-mill on the ground and the veins of ore not sufficiently rich to pay for carting to Cobar.

This will, I have every reason to believe, be remedied in the coming year, a Cobar syndicate having decided to erect a small mill, which will give the miners a chance to crush the poor stone now at grass and encourage further prospecting on the field, which I am sure will give some fair returns for systematic prospecting. The veins are small and irregular, with the shoots very short, and so far have not continued to any depth. There is a fair extent of auriferous country to prospect, and it is possible some fairly good veins may be discovered and a fair number of miners find profitable employment for some time to come.

Mount Boppy G. M. Co.—This is a mine recently bought by the Anglo-Australian Exploration Company.

It was originally worked by O'Grady and Reid, who were aided from the Prospecting Vote. After some twelve months or so of prospecting they sold to the above company, who have still further proved the lode by sinking at intervals, and have now proved it for over 1,000 feet in length and 130 feet deep; on the north end a winze has been sunk 70 feet and another on the south end of workings, thus proving a fair body of stone at each end of the mine at a depth of 200 feet.

The reef averages about 8 feet, and a bulk sample of ore treated at Dapto gave a return of 16 dwt. per ton, and as this sample (260 tons) was taken promiscuously from the heap, it may be reckoned as a fair test. A further test of 1,000 tons is to be treated before it is intended to erect a plant of their own for treating the ore.

This is a locality well worthy of a thorough prospecting, as similar bodies of quartz are likely to be obtained.

At Nymagee the mine has only worked intermittently, owing to the extremely dry season, the water in the tanks having run out, and what little water caught from the passing showers being all they had to depend on. Very little can be said further than was expressed in my report of last year. There is abundance of ore in sight, and with anything like a fair season I expect good results in the future.

At the N. Nymagee Mine prospecting is still being pushed ahead, but so far without any beneficial results.

At Whulong a very promising copper show has been discovered, but up to the present very little work has been done, but there is every indication of it proving a payable mine.

At the Overflow the expectations of last year have not been realised. This is not through any fault of the mine, as there is a strong body of ore, which is of a very slimy character, yielding by assay from 8 to 16 dwt. per ton. The cause arises from the unsuitable machinery erected for treating the ore, and the principal part of the gold (which is extremely fine) being in the slimes.

Some considerable difficulty occurs in the treatment of these slimes by cyanide owing to defective filtration.

Certainly a small return of gold has been won, but nothing like what is expected from the ore on its assay value.

It is to be hoped that in the coming year a satisfactory method of treatment will be discovered and a fair percentage of gold known to be in the ore saved, and the shareholders get some return for their pluck and energy.

I have, &c.,

DAVID MILNE,  
Inspector of Mines.

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Inspector Hebbard's Annual Report.

Sir,

Broken Hill, 18 January, 1899.

I have the honor to present my annual report for the year 1898 as follows:—

During the year my time has been occupied in regular and frequent visits of inspection to the mines on the Broken Hill line of lode and the immediate vicinity.

In addition, I have reported on applications for aid from the Prospecting Vote at Thackaringa, Silverton, Purnamoota, Mount Robe, Yuba, Pinnacles, Nine-mile, Acacia, and Rockwell, and some considerable time has subsequently been occupied in revisiting and measuring up the work of parties to whom aid has been granted. So far the results of this prospecting work have not been very encouraging.

Work in any of the outlying districts has only been carried on intermittently; but some of the mines continue to produce ore in small but payable quantities, as, for instance, the Maybell, the Caledonian, and the Pioneer at Thackaringa.

In the Purnamoota District a few small parties are at work in the vicinity of Mount Robe, and but for the cost of cartage and smelting charges I believe the small veins of copper and galena would pay small working parties handsomely.

In and around the Day Dream country the claims are all idle, with the exception of a party of prospectors in the Apollyon Valley, and two or three men in the old Hen and Chickens Mine, which continues to yield very rich chloride ore in payable quantities.

Some efforts have been made to work some of the lead shows in the neighbourhood of Poolamacca Station, but the efforts have failed owing to the cost of transit.

Considerable activity has resulted from the advance in the price of copper, and several parties are out with a view of exploiting the numerous copper lodes and veins known to exist.

Of those at present being actively operated, I may instance Trezise's Claim at Silverton, the Fairy Hill, near Euriowie, the Invincible, near Acacia, the New Era, near Pinnacles, and the Diamond Jubilee, near Yuba.

In tin-mining nothing has been done, though a great number of leases in the Euriowie District have been repegged.

I anticipate a good deal of activity in prospecting for the ores of tin and copper should the metals continue to be high in price.

At the Pinnacles Mine during the year mining operations have been almost at a standstill pending the construction of a concentrating plant. This is now completed; a trial run has been satisfactorily made, and mine and works will soon be in full swing.

There seems every reason to hope that after all its vicissitudes this mine is to enter upon an era of prosperity.

On the Broken Hill line of lode the prosperity of the mining industry has been greatly advanced by the production and sale of very large quantities of zinc product, formerly laid aside as unmarketable.

A large trade in the zinc concentrates and tailings produced by the mills has arisen, and has led to the establishment of a company known as the Australian Metals Co., controlling a special process for the extraction of zinc.

The company's engineer is now engaged in erecting large works.

Evidently there is a great future before this particular branch of the mining industry.

The year's work in concentration shows considerable improvement on that of previous years in the way of more thorough and complete extraction of the metals, mainly attributable to improvements and additions to the machinery employed.

*Lead Poisoning Act.*

The regulations under this Act are very generally complied with, though the opportunities for changing dresses and bathing are not availed of by the workmen to nearly the extent desirable for their health; one great cause of this disinclination on the part of the workmen to use the changing rooms is the prevalence of petty thieving.

This must, of necessity, be carried on by some of the workmen, as the rooms are locked except at relief of shifts.

*Lead*

*Lead Poisoning.*

Fourteen cases have been reported to me during the year as against seventeen for 1897 and forty-four for 1896.

The fourteen cases have all been certified to by duly qualified medical men.

The length of time employed before being laid off averages about eighty-five weeks.

*Machinery and Boilers.*

All machinery and boilers have been thoroughly well looked after, and the requirements of the regulations in regard to them fulfilled in every respect.

*Open Cuts.*

Besides the Broken Hill Proprietary, the Central and South Mines are now operating open cuts, though, in the latter instances, only for the purpose of underground filling; the permanent sides have been kept at a safe angle, and, generally, the safety of the workman secured as far as human foresight can secure it.

*Underground.*

The development of a new system of stoping has been the outcome of new conditions, arising out of the extreme hardness of the sulphide ore now being mined, and the absolute necessity of, as far as possible, minimising the risk of fire.

The systems now obtaining have been fully described in my reports on the British disaster.

The number of men employed in the district is 5,956, an increase of 490 as compared with the same period of 1897. I had anticipated that the increase would have been much greater, but the general adoption of rock-drills for boring in the stopes and various workings of the mines has prevented any very marked advance in the number of men employed.

The complaints often heard from the managers regarding the incompetency of a very large proportion of the men obtaining employment as miners is well grounded, and I have no hesitation in saying that the employment of this unskilled labour has been a most prolific cause of accident.

In my opinion the accident list would have been much heavier were it not for the constant vigilance of the mines foremen and the shift bosses, who have immediate control of the details of the work.

*Accidents and Fatalities.*

Of accidents and fatalities reported on by me as occurring in and around the mines of the district, the total number for the year is 90, including 19 fatal, 16 serious, and 55 slight accidents. In addition, several accidents of a very slight nature have been reported to me, which, on investigation, did not seem to call for further report.

*Prospects of the Mining Industry.*

The developments in prospecting the deeper levels of the various mines are, in every instance, favourable, and a noticeable feature in the half-yearly reports of the managers is the largely increased reserve of ore available. As experience is gained the extraction in concentrating is becoming more complete and rapid, and it is owing to these facts that very large bodies of ore formerly regarded as too poor for profitable treatment are now being made available.

I have, &c.,

JAMES HEBBARD,  
Inspector of Mines.

Sir,

Broken Hill, 31 January, 1899.

I have the honor to submit the following figures made up from information supplied by the various mining companies in Broken Hill, which, I hope, will be of interest as supplementary to my annual report for 1898.

Tonnage of ore raised, 1,139,873 tons; cubic yards of material extracted from open cuts exclusive of ore, 360,756 cubic yards.

Timber used underground, 13,666,945 superficial feet; filling put into depleted stopes, 233,300 cubic yards.

Lineal measurement of work in the way of shafts, levels, crosscuts, winzes and rises, 15,294 feet.

Quantity of explosives used—dynamite and other high explosives, 400,960 lb.; powder, &c., 80,000 lb.; fuse, 65,049 coils; detonators, 495,500. The value of this material is given as £28,544.

Horse-power of boilers, 5,070 n.h.p.; horse-power of engines, 4,850 n.h.p.

Value of machinery and plant, £491,300.

Value of plant and machinery erected during 1898, £67,633.

Value of gross metal contents of ore extracted, exclusive of zinc, £5,368,211.

Value of material shipped as zinc product, £84,824.

I have, &c.,

JAMES HEBBARD,  
Inspector of Mines.

Inspector

Inspector Godfrey's Annual Report.

Sir,

Sydney, 5 January, 1899.

I have the honor to forward you my annual report for the year 1898.

The localities visited by me during the year are as follow :—

Northern District—Armidale Gully, Bolivia, Boonoo Boonoo, Bowling Alley, Bora Creek, Boggy Camp, Bundarra, Bucca (Upper and Lower), Coramba, Copeland, Crow Mountain, Dalmorton, Drake, Dungog, Euenga Creek, Enmore, Elsmore, Emmaville, Grafton, Glen Elgin, Gilgai, The Gulf, Hanging Rock, Hillgrove, Inverell, Kookabookra, Little Nimboi, Lionsville, Moonanbrook, Melrose, Nana Creek, Nundle, Niangala, Omadalebrook, Rivertree, Rockvale (twice), Rawden Vale, Swamp Oak, Stewart's Brook, Tallewudjab, Tingha, Tent Hill, Tia, Timbarra, Uralla, Upper Gloucester, Upper Orara, Wangat (Upper and Lower), Whispering Gully, Wingen, Woods' Reef, Wollomumbi, Webb's.

Southern and South-western District—Adelong, Balow, Blairgowrie, Billy's Lookout, Coolac, Gundagai, Hiawatha, Kimo, Micalong, Mount Adrah, Nariah, Quartzville, Reno, Sebastopol, Scrub Yards, Temora, Reefton, Yalgogrin, and Wyalong.

During the year I inspected 350 mines, and reported upon a large number of applications under the Prospecting Vote. These inspections entailed upwards of 6,420 miles of travelling by train, coach, horseback, &c.

I only served nine written notices as against forty last year, the decrease being principally due to the smaller number of mines working at Wyalong, and their increased efficiency.

During the year I had four accidents to investigate—one fatal, two serious, and one minor. These were :—

J. Bullen, who fell down a shaft at Rockvale and was blown up. He had a miraculous escape, as the shaft was 72 feet deep, and his worst injury was a lacerated leg caused by the explosion; he was at work again in three weeks.

Samuel Lamprell, who was injured at the Gibraltar Consolidated Mine at Adelong. He gave a wrong signal to the engine-driver, and then attempted to get into a cage when in motion; his foot slipped, and he was crushed between the cage and the plat. His spine was injured, and his injuries, though not fatal, are very serious.

Francisca Vecerina, who was killed in the old Barmedman Mine, at Barmedman, by a fall of ground. He worked under dangerous ground, and omitted to put in timber. The jury returned a verdict of accidental death—no one to blame—with which verdict I concur.

William Johns, Alexander Cleghorn, and Thomas Asquith were blown up at the Phoenix Mine, Rockvale, through boring into an old socket left by the previous shift. Johns lost his left hand. The others were only temporarily blinded. Boring into old sockets is frequently done to save time, and is a fruitful cause of explosions.

The Southern District now being in my charge, I have taken up my headquarters at Adelong, where I arrived on October the 4th, according to your instructions. Reviewing, rapidly, the mining centres in this district visited by me since taking charge, I may report that Wyalong has settled down into steady, unobtrusive work, and, though there are fewer mines, yet the output is larger than during any previous years. Neeld's line of reef in particular has proved very valuable, and several mines along the line are paying well—the Lucknow yielding as high as 40 oz. to the ton on bulk treatment.

Yalgogrin has given several good crushings up to 6 and 7 oz., but the development of this field is slow; considerable prospecting is being done in the locality, notably at Nariah and Blairgowrie.

Temora is in a very quiescent state, the reefs being only worked intermittently, though some rich nuggets of alluvial gold have been obtained on a false bottom in the old lead below the town.

Scrub Yards is also very quiet—the Great Victoria Mine being under suspension, and other reefs being prospected. Hall's Reward Mine, however, has a fair number of men employed, and is under offer for sale.

Gundagai is notable principally through the Prince of Wales Mine at Reno, the name of a small township which has sprung up, and is maintained by the mine. At the present time the mine is in full work. The Mount Kimo Mine is under partial suspension, and other mines are merely prospecting, with the exception of Rice's Long Flat Reef, where some sensational yields have recently been obtained.

Adelong is comparatively quiet owing to the Gibraltar Consolidated having been idle for some time; but several parties are now opening up the old lines of reef at the Challenger and Caledonian, and this may lead to increased activity in the near future.

Quartzville is being prospected more thoroughly than in the past, but owing to the wetness of the ground and the shallowness of the water-level (30 feet), prospectors find it difficult to sink.

Many defects to which I drew attention in my last year's report have been remedied, and it is gratifying to note the improvements which have been effected. It is only fair to say that in my official dealings with mine managers my work has been rendered much easier by their readiness on most occasions to carry out any improvements which I considered necessary.

Safety-catches are being largely adopted on cages, and I make it a practice to test them every half-year. Some of these catches were inoperative owing to faulty design, but they have been readjusted, and are in perfect working order at the present time. Over-winding gear is also being adopted, and is an extra safeguard in case of the cage being pulled to the poppet-heads.

Reverting once more to the Prince of Wales Mine at Gundagai, I may mention that the lode is a wide one, and the country very rotten in places; the stopes are kept close-filled by means of mullock run from the surface, and the roof is kept up by pig-styes put in at frequent intervals. Up to the present time this has worked most satisfactorily.

There has been a decided improvement both underground and in machinery in all the larger mines, and I hope to be able to report a consistent advance in the future.

I have, &c.,

J. R. GODFREY,

Inspector of Mines.

Inspector

## Inspector Hooke's Annual Report.

Orange, 3 January, 1899.

Sir,

I have the honor to submit my report on the operations during 1898 of the regulations for the inspection and regulation of mines other than coal and shale mines, and on other matters.

During the year I travelled 9,100 miles, and made 249 inspections, of which 112 were in connection with applications for aid from the Prospecting Vote.

The following vicinities were visited, viz., Adelong, Albury, Binalong, Bodangora, Burrowa, Byng, Coolac, Cootamundra, Forbes, Gundagai, Girilambone, Grong Grong, Gulgong, Hargraves, Hill End, Hiawatha, Junee, Lucknow, Mudgee, McPhail, Muttama, Murrumburrah, Murrumbateman, Nanima, Nariah, Orange, Oberon, Parkes, Peak Hill, Sofala, Tomingley, Temora, Tumberumba, Taralga, Wyalong, Windeyer, Wellington, Wattle Flat, Yalgogrin, Yass, and other places.

During the year I attended three inquests; the first was due to the death of two miners who were killed in the Girilambone Copper Mine through a fall of rock, and the unfortunate victims, if any negligence were the cause, were themselves mostly to blame. The second fatality was in the Kangaroo Mine at Grong Grong; in this instance the accident happened through the breakage of a sling in which deceased was standing while being lowered, thus causing his fall to the bottom of shaft; deceased himself was in charge of the mine, and the sling, which was defective, was, with the other gear, under his supervision. In the third case the deceased, a lad, by some means became entangled in some belting in motion at the Eleanora Mine, Hillgrove, and thus received injuries which caused his death.

In each instance the jury returned a verdict of accidental death, adding a rider that no blame was attributable to anyone; and I may add that none of the accidents were due to any breach of, or omission to comply with, the regulations.

Up to time of writing I have traversed but a portion of that allotted me, hence am unable to state the condition of the mines within it; but so far as I have inspected, the continued absence of water, due to drought conditions, has rendered the mining industry itself excessively dull. The dry season, however, has enabled many alluvial miners to gain access to river deposits, and satisfactory yields have been obtained from this source.

In this connection it should be recorded that river-dredging, by means of bucket-dredges, has also been commenced during the year under review, as two of large capacity are in course of erection—one on the Macquarie River, and one on the Turon River, and these will be in operation shortly. One, at least, of these dredges has been designed to cope with the dry-weather conditions so prevalent in this Colony, and a minimum of flowing water in the river will be utilised and permit of work being continued, and occasionally be of advantage in rendering it possible to "clean-up" the bed-rock by hand.

During the year the numerous sites tested with assistance from the Prospecting Vote have met with but a small measure of success in such districts as I have traversed, but it is hopeful that the new endeavours to test deeper ground will prove successful.

It is also interesting to note that the Lucknow Mines are now in two instances down to depths of 1,000 feet—in one case to 1,021 feet—and at these depths stone of as high a grade as usually obtained at upper levels is now being gained. This is simply referred to as evidence in refutation of views sometimes expressed that our veins do not yield satisfactorily as depth is attained; and also as indicative of further advancement, it may be added this high-grade complex ore, formerly sent to England, &c., for treatment, is now satisfactorily treated at the metallurgical works within the Colony.

I have, &amp;c.,

HENRY HOOKE,  
Inspector of Mines.

## Acting Inspector Polkinghorne's Report.

Sydney, 5 January, 1899.

Sir,

I have the honor to submit my report on the inspection of mines performed by me since my appointment on the 10th day of May to the 31st December.

During that period I examined and reported upon 226 mines, &c.

The following places were visited:—Cowra, Canowindra, Cargo, Cooma, Blayney, Bathurst, Burranga, Delegate, Frogmore, Forest Reefs, Grenfell, Galley Mont, Lucknow, Mount McDonald, Orange, Peak Hill, Parkes, Pambula, Rockley, Stuart Town, Sunny Corner, Tomingley, Trunkey, Tuena, Wattle Flat, and Yass.

The total number of mines which came under my notice was 226, of which 107 were in connection with applications for aid from the Prospecting Vote, and in the execution of which 5,541 miles were travelled.

I also served 16 written notices, drawing attention to defects in mines, where the work done was, in my opinion, not satisfactory or safe.

I have, &amp;c.,

JOHN POLKINGHORNE,  
Acting Inspector of Mines.

Acting

## Acting Inspector Carthew's Annual Report.

Sir,

Sydney, 5 January, 1899.

I have the honor to submit my report on the inspection of mines performed by me during the seven months 1st of June to the 31st of December, 1898.

During that period I have been engaged in the Northern District. I examined and reported on 184 mines in the vicinity of the following places, viz.:—Armidale, Avery's Creek, Boonoo Boonoo, Bundarra, Bingara, Barraba, Boggy Camp, Bora Creek, Ballala, Copeland, Cobark, Corinda, Coramba, Crow Mountain, Chichester, Drake, Dungog, Deepwater, Enmore, Elsmore, Emmaville, Grafton, Glen Innes, Glen Elgin, Glen Reagh, Hillgrove, Inverell, Kookabookra, Lionsville, Limbri, Lower Bucca, Moonbi, Melrose, Moonan Brook, Maitland, Niangala, Nundle, Nana Glen, Nymboi, Nine-mile, Rockvale, Rawden Vale, Scone, Solferino, Stewart's Brook, Swamp Oak, Tia, Tenterfield, Tallawadjah, Uralla, Undercliff, Upper Bucca, Walcha, Wollomumbi, and Wilson's Downfall.

The number of mines which came under my notice were 184, but some of these have been inspected twice and some three times. I have also inspected and reported on 90 cases in connection with applications for the Prospecting Aid Vote.

This has occasioned the travelling of 6,775 miles, made up as follows:—Horse, buggy, &c., 2,399; train, 1,897; coach, 1,989; boat, 408; and on foot, 82 miles.

I have served 20 notices on owners and mine managers in different mines where, in my opinion, the places were defective, and in almost all cases these defects have been attended to.

I have, &amp;c.,

JOHN CARTHEW,  
Acting Inspector of Mines.

## Diamond Drill Sections.

Section of Bore No. 3 (No. 7 Diamond Drill),  
Junction Point.

Nature of Strata.	Thickness. ft. in.
Bored last year ( <i>see</i> Annual Report for 1897)	151 6
Hard broken slate	4 9
Broken slate	13 9
Hard granite	7 9
Hard broken slate	0 6
Hard cherty slate	1 9
Hard flint	5 0
Very hard flint	1 0
Hard flint	1 6
Broken slate	3 6
Soft broken slate	1 9
Chert	1 0
Broken granite	3 0
Slate	0 9
Sandy slate	4 6
Soft sandy slate	3 0
Very hard granite	1 6
Hard granite	0 6
Very hard flint	2 0
Hard broken flint	0 6
Soft sandy slate	10 0
Very hard cherty slate	2 0
Very hard flinty slate	3 0
Very hard broken slate	2 6
Hard broken slate	9 0
Very hard flinty broken slate	3 3
Hard broken cherty slate	4 9
Hard broken slate	5 9
Hard granite	1 9
Hard broken slate	8 9
Very hard flinty slate	5 9
Hard flinty slate	7 0
Hard broken slate	18 0
Hard flinty slate	4 0
Very hard flint	13 6
Total depth of Bore	308 6

Compiled from the Foreman's Weekly Report Sheets.

2—0

Section of 1st Site (No. 7 Diamond Drill),  
Sunny Corner.

Particulars.	Thickness. ft. in.
Shaft	20 0
Total depth of shaft	20 0

Compiled from the Foreman's Weekly Report Sheets.

Section of Bore No. 1 (No. 7 Diamond Drill),  
Sunny Corner.

Nature of Strata.	Thickness. ft. in.
Shaft—alluvial	4 0
Mud slate	83 0
Slate with quartz veins	2 0
Mud slate	14 6
Mud slate, broken	28 3
Grey mud slate	40 3
Grey slate, broken	6 8
Grey slate, very much broken	11 6
Grey slate	3 11
Black slate	5 11
Grey slate, country very much broken	3 6
Grey slate	1 0
Blue slate	21 0
Slate	43 0
Soft slate	1 6
Diorite	5 0
Total depth of Bore	275 0

Compiled from the Foreman's Weekly Report Sheets.



Section of Bore No. 2 (No. 7 Diamond Drill),  
Sunny Corner.

Nature of Strata.	Thickness.	
	ft.	in.
Alluvial .....	4	0
Mud slate.....	125	3
Soft mud slate.....	22	0
Soft slate with quartz veins .....	3	6
Broken mud slate .....	23	0
Mud slate.....	41	1
Grey slate .....	16	1
Broken grey slate .....	9	2
Grey slate .....	51	2
Broken grey slate .....	4	11
Grey slate .....	9	5
Blue slate.....	13	8
Broken slate.....	3	7
Blue slate.....	2	0
Black slate with quartz veins .....	2	3
Blue slate.....	45	6
Serpentine .....	1	6
Blue slate with quartz veins .....	1	9
Blue slate.....	7	0
Blue slate with quartz veins.....	11	10
Broken blue slate .....	4	11
Blue slate.....	2	6
Serpentine .....	1	0
Blue slate.....	23	6
Broken blue slate .....	10	9
Blue slate.....	18	8
Broken blue slate .....	8	4
Total depth of bore .....	468	4

Compiled from the Foreman's Weekly Report Sheets.

Section of Bore No. 1 (No. 13 Diamond Drill),  
Tarro, near Hexham.

Nature of Strata.	Thickness.	
	ft.	in.
Alluvial .....	14	0
Soft black shale .....	3	3
Black shale .....	6	6
Coal .....	2	0
Clay .....	2	0
Sandstone .....	3	3
Shaly sandstone .....	19	6
Sandstone .....	3	0
Shaly sandstone .....	8	8
Shale .....	27	6
Coal .....	0	6
Shale .....	1	4
Coal .....	1	0
Shale .....	24	9
Sandstone .....	0	10
Shale .....	1	0
Coal .....	1	0
Sandstone and shale .....	7	5
Shale .....	16	4
Chert .....	1	6
Shale .....	21	0
Shaly sandstone .....	14	2
Sandstone .....	18	11
Shale .....	26	9
Sandstone .....	5	0
Shale .....	8	1
Clay .....	3	0
Shaly sandstone .....	8	11
Sandstone .....	3	0
Shaly sandstone .....	1	6
Shale .....	29	4
Soft shale.....	4	7
Carried forward .....	289	7

Section of Bore No. 1 (No. 13 Diamond Drill),  
Tarro, near Hexham—*continued.*

Nature of Strata.	Thickness.	
	ft.	in.
Brought forward .....	289	7
Hard shale .....	2	0
Shale .....	7	11
Shaly sandstone .....	8	9
Shale .....	1	3
Fireclay .....	0	6
Coal .....	0	8
Band .....	0	3
Coal .....	1	3
Band .....	0	3
Coal .....	1	0
Band .....	0	4
Coal .....	2	3
Band .....	0	0½
Coal .....	0	8½
Shale .....	1	6
Coal .....	0	11
Fireclay .....	0	2
Coal .....	1	2
Shale .....	0	6
Shale and sandstone with coal bands .....	10	6
Shale and sandstone .....	7	10
Shaly sandstone .....	8	6
Shale and sandstone .....	7	0
Sandstone with coal bands .....	6	2
Shale .....	1	9
Coal .....	2	6
Clay and bands mixed .....	3	3
Coal and bands .....	4	11
Shaly sandstone .....	5	9
Coal .....	1	0
Shaly sandstone .....	3	0
Chert .....	3	9
Coal .....	2	8
Fireclay .....	2	0
Coal .....	3	7
Band .....	0	0½
Coal .....	0	4
Fireclay .....	0	3
Coal .....	1	2
Fireclay .....	0	0½
Coal .....	0	3
Fireclay .....	0	2
Coal .....	0	10
Fireclay .....	0	4
Coal .....	0	4
Shale .....	0	7
Shaly sandstone .....	7	10
Total depth of bore .....	405	6

Compiled from the Foreman's Weekly Report Sheets.

Section of Bore No. 1 (No. 8 Diamond Drill), on the  
Island of Funafuti, Ellice Group, 3rd Expedition.

Nature of Strata.	Thickness.	
	ft.	in.
Depth bored by the 2nd Expedition .....	698	0
Soft sandy coral .....	43	3
Hard coral .....	2	0
Hard broken coral .....	15	3
Hard coral .....	40	6
Hard broken coral .....	29	6
Hard coral .....	174	6
Coral .....	3	0
Hard coral .....	103	6

Total depth of bore .....

Compiled from the Foreman's Weekly Report Sheets.

## COAL AND OIL-SHALE MINES.

Report on the Inspection of Mines under the Coal Mines Regulation Act, in the Colony of New South Wales, for the year ending 31st December, 1898. By  
A. A. ATKINSON, Chief Inspector of Coal Mines.

Sir,

Department of Mines, Sydney, 18 February, 1898.

As required by section 21 of the Coal Mines Regulation Act, 1896, I have the honor to submit the following report of inspection, together with a detailed list of fatal and non-fatal accidents, and other statistical information relating to coal and shale mining generally.

The report is divided as follows :—

- Section I. Persons employed.
- "   II. Output and export of mineral.
- "   III. Accidents.
- "   IV. Prosecutions.
- "   V. General remarks.

The quantity of coal wrought during the year amounted to 4,706,251 tons, the quantities in each District, and the comparative figures for the year 1897, being as follows :—

	1898.	1897.	Increase or Decrease.
	Tons.	Tons.	Tons.
Northern District .....	3,355,600	3,176,869	+ 178,731
Southern and South-western Districts .....	1,068,367	918,862	+ 149,505
Western District .....	282,284	287,860	— 5,576
<b>Totals .....</b>	<b>4,706,251</b>	<b>4,383,591</b>	<b>+ 322,660</b>

The quantity of oil-shale wrought during the year amounted to 29,698 tons, the quantities in each District, and the comparative figures for the year 1897, being set out hereunder :—

	1898.	1897.	Increase or Decrease.
	Tons.	Tons.	Tons.
Northern District .....	5,378	5,486	— 108
Southern and South-western Districts .....	24,320	28,604	— 4,284
Western District .....			
<b>Totals .....</b>	<b>29,698</b>	<b>34,090</b>	<b>— 4,392</b>

### SECTION I.

#### PERSONS EMPLOYED.

TABLE showing the number of persons employed in and about Coal and Shale Mines, divided according to ages and occupation below or above ground, and in the several districts :—

Districts.	Number of Mines.	Below ground.			Above ground.				Total number of persons employed below ground and above ground.
		Ages.			Ages.				
		Boys under 16.	Males above 16.	Total below ground.	Boys under 14.	Boys of 14 and under 16.	Males above 16.	Total above ground.	
Northern .....	62	168	6,079	6,247	...	99	1,421	1,520	7,767
Southern and South-western .....	13	67	1,607	1,674	...	28	455	483	2,157
Western .....	20	9	459	468	...	5	122	127	595
<b>Totals, 1898 .....</b>	<b>95</b>	<b>244</b>	<b>8,145</b>	<b>8,389</b>	<b>...</b>	<b>132</b>	<b>1,998</b>	<b>2,130</b>	<b>10,519</b>
<b>Totals, 1897 .....</b>	<b>92</b>	<b>277</b>	<b>7,800</b>	<b>8,077</b>	<b>1</b>	<b>149</b>	<b>1,752</b>	<b>1,902</b>	<b>9,979</b>

These figures are obtained from the statutory return made by the mine owners under section 27 of the Coal Mines Regulation Act, 1896.

### SECTION II.

SECTION II.  
OUTPUT OF MINERALS.

TABLE showing the output and value of Coal and Shale from mines under the Coal Mines Regulation Act, 1896, in the Colony of New South Wales, during the year 1898:—

*Output.*

Districts.	Coal.	Oil-Shale.	Shale used for other purposes.	Total.	Value at Mine.	
	Tons.	Tons.		Tons.	£	s. d.
Northern .....	3,355,600	.....	.....	3,355,600	957,505	17 4
Southern and South-western .....	1,068,367	5,378	.....	1,073,745	262,184	5 9
Western.....	282,284	24,320	.....	306,604	83,976	7 11
Totals, 1898 .....	4,706,251	29,698	.....	4,735,949	£1,303,666	11 0
Totals, 1897 .....	4,383,591	34,090	.....	4,417,681	£1,270,652	16 1
Increase or decrease.....	+ 322,660	— 4,392	.....	+ 318,268	+ £33,013	14 11

TABLE showing the Output of Coal and Shale per person employed in and about Mines under the Coal Mines Regulation Act, 1896, in the Colony of New South Wales, during the year 1898:—

*Output per person employed.*

Districts.	Below-ground.	Below and Above-ground.
	Statute tons.	Statute tons.
Northern .....	535	432
Southern and South-western .....	641	497
Western .....	655	515
	} 564	} 450

The corresponding figures for 1897 were 546 tons per person employed below-ground, and 442 tons per person employed above and below-ground, whilst for the United Kingdom the figures (for all mines under the Imperial Coal Mines Regulation Act) for the year 1897 were 385 tons per person employed below-ground, and 309 tons per person employed below-ground and above-ground.

Showing Coal and Shale separately, we obtain the following figures:—

*Quantity raised per person employed.*

Districts.	Below-ground.		Below and Above-ground.	
	Coal.	Shale.	Coal.	Shale.
	Statute tons.	Statute tons.	Statute tons.	Statute tons.
Northern .....	537	.....	432	.....
Southern and South-western .....	669	69	516	59
Western .....	808	20½	665	142

COMPARATIVE Statement of Returns for 1897-8.

	Men and boys above ground.	Men and boys below ground.	Tons of round and small coal.		Value at mine.
			tons	cwt. qrs.	£ s. d.
Northern, 1898.....	1,520	6,247	3,355,600	0 0	957,505 17 4
"    1897 .....	1,304	5,925	3,176,869	0 0	938,774 4 8
Increase.....	216	322	178,731	0 0	18,731 12 8
Southern and South-western, 1898 .....	471	1,596	1,068,367	0 0	254,687 5 9
"    "    1897 .....	529	1,808	918,862	0 0	232,557 15 3
Increase.....	.....	.....	149,505	0 0	22,129 10 6
Decrease .....	58	212	.....	.....	.....
Western, 1898 .....	75	349	282,284	0 0	59,639 7 11
"    1897 .....	69	344	287,860	0 0	58,709 1 2
Increase.....	6	5	.....	.....	930 6 9
Decrease .....	.....	.....	5,576	0 0	.....

From these returns it appears that in the Northern District, during the year 1898, there were 538 more persons employed in and about the collieries, and 178,731 more tons of coal raised.

In

In the Southern and South-western Districts there has been a decrease of 270 persons employed in and about the collieries, and an increase of 149,505 tons in the amount of coal raised.

In the Western District there has been an increase of 11 persons employed in and about the collieries, and a decrease of 5,576 tons of coal raised.

Years.	Exports to Intercolonial Ports.			Exports to Foreign Ports and United Kingdom and other British Possessions.			Total Exports.			Home consumption.
	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.	
	Tons.	£ s. d.	£	Tons.	£ s. d.	£	Tons.	£ s. d.	£	Tons.
1895	1,196,504	0 6 9-69	407,271	969,726	0 7 6-75	366,633	2,166,230	0 7 1-74	773,954	1,572,359
1896	1,371,796	0 7 0-34	482,096	1,103,111	0 7 6-98	418,163	2,474,907	0 7 3-30	900,264	1,434,603
1897	1,498,992	0 6 11-49	521,462	1,197,631	0 7 2-20	430,592	2,696,623	0 7 0-73	952,054	1,686,963
1898	1,629,072	0 6 9-18	551,033	1,162,724	0 7 0-95	411,585	2,791,796	0 6 1	962,663	1,914,455
	5,696,364	0 6 10-66	1,961,912	4,433,192	0 7 4-03	1,627,023	10,129,556	0 7 1-03	3,583,940	6,608,390

Years.	Total output and value.			Coal raised per each person employed in and about the mines.			Value of coal raised per each person employed in and about the mines.			Tons of coal raised per each life lost.		
	Quantity.	Average per ton.	Value.	Quantity.	Average tons per each person employed.	Persons employed.	Value.	Average value per each person employed.	Persons employed.	Quantity.	Average tons per each life lost.	Lives lost.
	Tons.	£ s. d.	£	Tons.	Tons.		£	£ s. d.		Tons.	Tons.	
1895	3,738,589	0 5 10-31	1,095,327	3,738,589	414	9,017	1,095,327	121 9 5	9,017	3,738,589	373,858	10
1896	3,909,517	0 5 9-08	1,125,280	3,909,517	423	9,233	1,125,280	121 17 6	9,233	3,909,517	162,896	24
1897	4,383,591	0 5 7-34	1,230,041	4,383,591	455	9,626	1,230,041	127 16 3	9,626	4,383,591	273,974	16
1898	4,706,251	0 5 4-85	1,271,832	4,706,251	459	10,253	1,271,832	123 19 8	10,253	4,706,251	188,250	25
	16,737,948	0 5 7-71	4,722,480	16,737,948	438	33,134	4,722,480	123 16 9	33,134	16,737,948	223,172	75

#### BOGHEAD MINERAL OR OIL-SHALE.

##### Western and South-western Districts.

Amount of boghead mineral or oil-shale raised .....	29,698 tons.
Value at mines .....	£31,834
Value per ton (at mines) .....	£1 1 5-26
Persons employed above-ground .....	64
Persons employed below-ground.....	197 } 261

#### COKE RETURNS.

Northern District .....	Tons. 34,422	£ s. d. Value, 34,375 10 0
Southern and Western Districts .....	47,800	(at ovens) 29,759 7 0

Total ..... 82,222 tons at 15s. 7-20d. per ton.

The following table shows comparisons between the year under notice and the preceding year, as regards the proportion the accidents and deaths bear to the persons employed, and the quantity and value of the coal for each person employed in and about the mines in the Northern, Southern, and South-western, and Western Districts.

	Northern District.		Southern and South-western Districts.		Western District.	
	1897.	1898.	1897.	1898.	1897.	1898.
Number of person employed in and about the mines..	7,229	7,767	2,337	2,067	413	424
Number of persons employed underground .....	5,925	6,247	1,808	1,596	344	349
Quantity of coal raised in tons .....	3,176,369	3,355,600	918,862	1,063,367	287,860	282,284
Number of non-fatal accidents .....	55	82	4	18	1	7
Number of lives lost by accident .....	14	23	1	2	1	Nil
Persons employed per each non-fatal accident .....	131	94	584	115	413	60
Persons employed per each life lost .....	516	337	2,337	1,033	413	Nil
Tons of coal raised per each non-fatal accident.....	57,761	40,922	229,715	59,353	287,860	40,326
Tons of coal raised per each life lost.....	226,919	145,895	918,862	534,133	287,860	Nil
Tons of coal raised per each person employed in and about the mines.	439	432	395	516	766	665
Tons of coal raised per each person employed underground.	536	537	511	660	919	809
Value of coal raised .....	£ s. d. 938,774 4 8	£ s. d. 957,505 17 4	£ s. d. 232,557 15 3	£ s. d. 254,687 5 9	£ s. d. 53,709 1 2	£ s. d. 50,369 7 11
Value of coal raised per each person employed in and about the mines.	129 17 2	123 5 6	99 10 2	123 4 3	142 3 0	140 13 2
Value of coal raised per each person employed underground.	150 0 1	153 5 5	123 12 6	159 11 6	170 13 6	170 17 8

## DECENNIAL RETURN.—Port of Newcastle.—Foreign and Intercolonial Ports.

Year.	Vessels cleared outwards for Foreign and Intercolonial Ports.		Total value of Imports from Foreign and Intercolonial Ports.	Quantity and value of Coal exported to Foreign and Intercolonial Ports.		Total value of Exports (inclusive of Coal) to Foreign and Intercolonial Ports.	Total amount of Revenue collected.
	No. of Vessels.	Tonnage.		Tons.	Value.		
1889 .....	1,277	1,126,892	£ 924,150	2,091,557	£ 1,102,722	£ 1,894,321	£ 132,018 0 1
1890 .....	916	842,180	816,694	1,628,038	875,197	1,768,379	124,782 14 10
1891 .....	1,425	1,476,097	877,063	2,244,729	1,160,965	2,032,522	166,048 2 9
1892 .....	1,307	1,381,318	765,083	1,894,735	879,482	1,846,953	191,394 12 10
1893 .....	1,108	1,209,467	451,253	1,583,882	702,190	1,700,813	151,286 8 1
1894 .....	1,255	1,415,159	427,581	1,891,674	710,341	1,485,475	158,895 12 11
1895 .....	1,207	1,410,004	420,778	1,920,378	678,217	1,417,122	155,362 8 1
1896 .....	1,180	1,479,033	611,872	2,070,304	729,444	1,496,687	123,280 15 3
1897 .....	1,375	1,740,345	510,721	2,431,489	842,347	1,746,925	112,548 14 2
1898 .....	1,431	1,803,605	409,527	2,485,394	846,128	1,782,634	118,615 6 1

RETURN showing the quantity raised, price per ton, and value of the boghead mineral or oil shale, from 1865 to 1898 inclusive.

Year.	Tons.	Average price per ton.	Value.	Year.	Tons.	Average price per ton.	Value.
1865 .....	570	£ s. d. 4 2 5·47	£ s. d. 2,350 0 0	1882 .....	48,065	£ s. d. 1 15 0·00	£ s. d. 84,114 0 0
1866 .....	2,770	2 18 10·48	8,154 0 0	1883 .....	49,250	1 16 10·77	90,861 10 0
1867 .....	4,079	3 14 9·21	15,249 0 0	1884 .....	31,618	2 5 7·85	72,176 0 0
1868 .....	16,952	2 17 7·11	48,816 0 0	1885 .....	27,462	2 8 11·62	67,239 0 0
1869 .....	7,500	2 10 0·00	18,750 0 0	1886 .....	43,563	2 5 10·79	99,976 0 0
1870 .....	8,580	3 4 3·18	27,570 0 0	1887 .....	40,010	2 3 10·43	87,761 0 0
1871 .....	14,700	2 6 3·91	34,050 0 0	1888 .....	34,896	2 2 2·28	73,612 0 0
1872 .....	11,040	2 11 11·91	28,700 0 0	1889 .....	40,561	1 18 3·55	77,666 15 0
1873 .....	17,850	2 16 6·55	50,475 0 0	1890 .....	56,010	1 17 2·07	104,103 7 6
1874 .....	12,100	2 5 1·48	27,300 0 0	1891 .....	40,349	1 18 8·90	78,160 0 0
1875 .....	6,197	2 10 2·22	15,500 0 0	1892 .....	74,197	1 16 8·16	136,079 6 0
1876 .....	15,998	3 0 0·00	47,994 0 0	1893 .....	55,660	1 16 4·44	101,220 10 0
1877 .....	18,963	2 9 0·82	46,524 10 0	1894 .....	21,171	1 10 0·20	31,781 5 0
1878 .....	24,371	2 6 11·49	57,211 0 0	1895 .....	59,426	1 5 3·78	75,218 18 0
1879 .....	32,519	2 1 10·96	66,930 10 0	1896 .....	31,839	1 1 5·81	34,201 18 0
1880 .....	19,201	2 6 7·03	44,724 15 0	1897 .....	34,090	1 3 9·09	40,611 15 0
1881 .....	27,894	1 9 2·59	40,748 0 0	1898 .....	29,698	1 1 5·26	31,834 0 0

The following Statistical Return, furnished by the Sub-Collector of Customs of Newcastle, shows that the greatest increase in the export of coal from that port has been:—To South Australia, 59,678 tons; Victoria, 27,822 tons; New Zealand, 26,456 tons; Sandwich Islands, 23,887 tons; and Java, 22,016 tons. And the greatest decreases are:—To the United States, 48,205 tons; India, 35,283 tons; Hong Kong, 23,453 tons; Philippine Islands, 14,386 tons; and Western Australia, 11,261 tons.

## NEWCASTLE.—New South Wales export of Coal during the years 1897 and 1898.

Countries.	1897.	1898.	Increase.	Decrease.
	Tons.	Tons.	Tons.	Tons.
Victoria .....	622,062	649,884	27,822	.....
New Zealand .....	152,342	178,798	26,456	.....
South Australia .....	305,109	364,787	59,678	.....
Queensland .....	28,315	26,215	.....	2,100
Tasmania .....	54,825	60,238	5,413	.....
Western Australia .....	171,587	160,326	.....	11,261
Hong Kong .....	67,181	43,728	.....	23,453
United States .....	240,281	192,076	.....	48,205
Java .....	54,184	76,200	22,016	.....
Ecuador .....	2,667	1,097	.....	1,570
New Caledonia .....	9,617	9,358	.....	259
Mauritius .....	5,864	10,154	4,290	.....
Fiji .....	8,833	9,286	453	.....
India .....	68,833	33,550	.....	35,283
Philippine Islands .....	89,978	75,592	.....	14,386
Peru .....	26,387	40,100	13,713	.....
Chili .....	338,286	341,103	2,817	.....
Sandwich Islands .....	44,073	67,960	23,887	.....
Mexico .....	21,403	11,737	.....	9,666
South Sea Islands .....	.....	4,744	4,744	.....
Singapore .....	65,751	71,304	5,549	.....
United Kingdom .....	7,850	5,190	.....	2,660
New Hebrides .....	2,470	1,080	.....	1,390
Ceylon .....	3,600	10,331	6,731	.....
Panama .....	24,149	19,913	.....	4,236
Other Countries .....	16,022	20,647	4,625	.....
Total .....	2,431,669	2,485,394	208,194	154,469

## NEWCASTLE—Export of Coke for the year 1898.

Countries to which exported.	Quantity.	Value.
	Tons.	£
Victoria .....	810	1,016
New Zealand .....	480	610
New Caledonia .....	3	5
Western Australia .....	35	39
South Australia .....	8,170	9,782
Mexico .....	.....	.....
Tasmania .....	175	268
United States .....	.....	.....
Java .....	.....	.....
Chili .....	10	14
Mauritius .....	6	8
Hong Kong .....	5	6
Total .....	9,644	11,693

The total quantity of coke exported during the year 1897 amounted to 10,448 tons valued at £13,064.

SECTION III.  
ACCIDENTS.

The total number of accidents reported during the year 1898, including accidents on private branch railways, &c., was 116, the corresponding number for the previous year being 76. During 1898 there were 9 fatal accidents and 107 non-fatal, resulting in the deaths of 25 persons and injuries to 113 persons, the figures for the previous year being 16 deaths and injuries to 63 persons.

The explosion of gas and coal dust at Dudley Colliery, on March 21st, caused the loss of 15 lives, and the fall of roof at East Greta Colliery, on November 18th, resulted in the loss of 3 lives. The remaining 7 fatal accidents caused the death of one person each.

In addition to the above a fatal accident happened on November 26th to Charles Dalby, aged 52, diver, who was fatally injured whilst in the sea repairing the Mount Kembla Jetty. This accident was not reported by the colliery owners, as it does not come within the jurisdiction of the Coal Mines Regulation Act, and is therefore not included in the list of fatal accidents.

## SUMMARY of fatal and non-fatal accidents, classified according to place and cause.

Place and cause.	Fatal accidents.		Non-fatal accidents reported.	
	Number of separate fatal accidents.	Number of deaths.	Number of separate non-fatal accidents.	Number of persons injured, including those injured by accidents which proved fatal to their companions.
Explosions of fire-damp or coal-dust .....	1	15	1	1
Falls in mine :—				
Falls of side .....	3	3	29	30
Falls of roof .....	2	4	18	19
Total falls .....	5	7	47	49
In shafts :—				
Overwinding .....	.....	.....	.....	.....
Ropes and chains breaking .....	.....	.....	.....	.....
Whilst ascending or descending by machinery .....	.....	.....	.....	.....
Falling into shaft from surface .....	.....	.....	.....	.....
Things falling from surface .....	.....	.....	.....	.....
Falling from part way down .....	1	1	.....	.....
Things falling from part way down .....	.....	.....	.....	.....
Miscellaneous .....	.....	.....	2	2
Total .....	1	1	2	2
Miscellaneous under-ground :—				
By explosives .....	.....	.....	7	8
Suffocation by natural gases .....	.....	.....	.....	.....
Irruption of water .....	.....	.....	.....	.....
Falling into water .....	.....	.....	.....	.....
On inclined or engine planes .....	.....	.....	2	2
By trains and tubs .....	.....	.....	15	15
By machinery .....	.....	.....	.....	.....
By underground fires .....	.....	.....	1	2
Ropes and chains breaking .....	.....	.....	.....	.....
Sundries .....	.....	.....	17	18
Total .....	.....	.....	42	45
Total under-ground .....	7	23	92	97
On surface :—				
By machinery .....	.....	.....	1	1
Boiler explosions .....	.....	.....	.....	.....
Railway sidings or tramways .....	2	2	6	6
Miscellaneous .....	.....	.....	8	9
Total on surface .....	2	2	15	16
Gross total .....	9	25	107	113



RETURN showing the number of fatal and non-fatal accidents in Coal and Shale mines; those caused by falls of coal and stone, and Lithgow, Ferndale, Bulli, A. A. Co.'s Hamilton Pit, South Burwood Sinking Pit, Metropolitan, Stockton, Dudley, and East Greta disasters, 1873 to 1898 inclusive.

Year.	Fatal accidents.	Remarks on fatal accidents.	Non-fatal accidents	Remarks on non fatal accidents.	Men above and below ground.	Tons of coal raised.	Tons of coal raised per life lost
1873	13	9 by falls of coal .....	10	4 by falls of coal, 1 by stone roof .	* .....	1,192,862	91,758
1874	5	3 by falls of coal, 2 by stone roof .	13	6 by falls of coal, 4 by stone roof .	* .....	1,304,612	260,922
1875	8	4 by falls of coal, 3 by stone roof ..	10	6 by falls of coal ..	3,308	1,329,729	166,216
1876	4	2 by falls of coal, 1 by stone roof ...	8	4 by falls of coal.....	4,084	1,319,918	329,979
1877	7	4 by falls of coal, 1 by stone roof ...	21	16 by falls of coal .....	4,657	1,444,271	206,324
1878	8	2 by falls of coal, 1 by stone roof ...	15	12 by falls of coal, 1 by stone roof...	4,792	1,575,497	196,937
1879	5	2 by falls of coal, 2 by stone roof	19	10 by falls of coal ..	5,035	1,583,381	316,676
1880	8	4 by falls of coal, 1 by stone roof .	19	8 by falls of coal ..	4,676	1,466,180	183,272
1881	2	2 by falls of coal .....	33	25 by falls of coal.....	4,098	1,769,597	884,798
1882	12	10 by falls of coal ..	33	23 by falls of coal .....	4,487	2,109,282	175,773
1883	15	8 by falls of coal, 1 by stone roof ..	34	15 by falls of coal, 4 by stone roof	5,431	2,521,457	168,096
1884	14	6 by falls of coal, 2 by stone roof ...	34	14 by falls of coal, 6 by stone roof...	6,227	2,749,109	196,364
1885	11	7 by falls of coal, 2 by stone roof ..	40	13 by falls of coal .....	7,097	2,878,863	261,714
1886	29	10 by falls of coal, 1 by stone roof, 8 by Lithgow disaster, 1 by Ferndale flooding.	43	15 by falls of coal, 2 by fall of roof .	7,847	2,830,175	97,592
1887	94	81 killed by Bulli catastrophe, 5 by falls of coal, 2 by falls of stone roof.	45	22 by falls of coal, 5 by fall of stone roof.	7,998	2,922,497	31,090
1888	15	5 by falls of roof .....	43	12 by falls of coal, 4 by stone roof..	9,301	3,203,443	213,562
1889	41	11 by crush at Hamilton Pit, 11 by falls of coal, 4 by over-winding at South Burwood.	57	24 by falls of coal .....	10,277	3,655,632	89,161
1890	13	4 by falls of coal, 1 by fall of roof	36	17 by falls of coal, 3 by stone roof...	10,315	3,060,876	236,145
1891	21	7 by falls of coal, 3 by fall of roof ..	54	27 by falls of coal, 6 by stone roof .	10,820	4,037,929	192,232
1892	8	4 by falls of coal, 3 by fall of roof ..	77	38 by falls of coal, 10 by stone roof...	10,514	3,780,967	472,620
1893	13	10 by falls of coal, 1 by fall of stone ..	45	22 by falls of coal, 5 by fall of stone	9,971	3,278,327	252,179
1894	7	2 by falls of coal, 2 by fall of stone ..	40	28 by falls of coal, 1 by fall of stone	9,126	3,672,076	524,582
1895	10	5 by falls of coal, 3 by fall of stone .	47	25 by falls of coal, 1 by fall of stone	9,017	3,738,589	373,858
1896	24	5 by falls of coal, 2 by fall of roof ..	62	28 by falls of coal, 4 by fall of roof	9,460	3,909,515	162,896
1897	16	7 by falls of coal, 2 by fall of roof ..	60	28 by falls of coal, 5 by falls of roof	9,979	4,383,691	273,974
1898	25	3 by falls of coal, 4 by fall of roof ..	107	29 by falls of coal, 18 by falls of roof	10,519	4,706,251	188,250

\* Figures not available.

#### List of Fatal Accidents.

Date of Accident, 1898	Name of Mine.	Situation of Mine.	Name, Age, and Occupation of Person killed.	Cause of Accident and Remarks.
3 Feb.	Bulli . . .	Bulli	B Dando, 44, miner .	Fall of coal.
21 March.	Dudley ....	Charlestown	Geo. Hindmarch, 49, under manager ..	Explosion of gas and coal dust.
21 "	"	"	Thos. Hetherington, 64, deputy	" " "
21 "	"	"	Thos. Young, 58, deputy	" " "
21 "	"	"	Thos Haddon, 44, master shifter and shafts man	" " "
21 "	"	"	Thos. Green, 27, rolleywayman ..	" " "
21 "	"	"	Wm Humphreys, 69, bratticeman . . . .	" " "
21 "	"	"	John Benson, 41, pumpman	" " "
21 "	"	"	Geo Cook, 46, water bailer	" " "
21 "	"	"	Wm Rudge, 19, water bailer . . . . .	" " "
21 "	"	"	Thos Jones, 20, water bailer . . .	" " "
21 "	"	"	Thos Dorrity, 21, rolleywayman	" " "
21 "	"	"	Archd Mowbray, 20, assistant onsetter	" " "
21 "	"	"	James M'Dougall, 16, flatter	" " "
21 "	"	"	Cyrus Price, 30, on setter	" " "
21 "	"	"	Arthur Dunn, 20, assistant on setter	" " "
21 April	Greta . . .	Greta .....	Jas Marsh, 40, miner . . . . .	Whilst engaged getting coal down, a soldier sprag slipped from the face, the coal, falling over it, displacing a large prop, which in falling struck him, causing fatal injuries.
2 May .	Newcastle Co's B pit	Newcastle .	Wm. W. Thomas, 64, miner	Fractured "pelvis" by fall of face coal, inflicting fatal injuries
8 "	Killingworth	West Wall-send	D. C. M'Geachie, 48, contractor . . .	Fell into sump whilst crossing from one side of the shaft to the other, at seam level.
22 June .	Wallsend No. 2	Wallsend	Wm. Webster, 61, miner . . . . .	Crushed by fall of coal and stone, "roof" in pillar workings
11 July	South Bulli	Bellambi	Alexander Learmouth, 60, deputy	Fatal injuries by a waggon on surface incline
19 "	Seaham	West Wall-send.	John Richardson, 35, traffic manager ..	Crushed between Railway waggon and retaining wall at screens whilst attempting to use the brake with his foot, whilst the locomotive was shunting an empty waggon.
18 Nov ..	East Greta	West Mait-land.	Albert Moncreiff, 25, miner . . . . .	Killed by a fall of roof in No. 1 tunnel.
18 "	"	"	Daniel Gronow, 29, miner . . . . .	" " "
18 "	"	"	Stephen Richard Barnes, 23, miner.....	" " "

The following tables show the districts in which the accidents occurred:—

#### FATAL ACCIDENTS.

Districts.	Fatal accidents.						Deaths.					
	Explosions of fire-damp or coal-dust.	Falls of roof and sides.	In shafts.	Miscellaneous under ground.	On the surface.	Total.	Explosions of fire-damp or coal-dust.	Falls of roof and sides.	In shafts.	Miscellaneous under ground.	On the surface.	Total.
Northern .....	1	4	1	...	1	7	15	6	1	...	1	23
Southern and South-western .....	...	1	...	...	1	2	...	1	...	...	1	2
Western .....	...	..	...	...	...	...	...	...	...	...	...	...
Totals, 1898 .....	1	5	1	...	2	9	15	7	1	...	2	25
Totals, 1897 .....	...	9	..	6	1	16	...	9	...	6	1	16

#### NON-FATAL ACCIDENTS.

Districts.	Non-fatal accidents.						Number of persons injured, including those injured in accidents fatal to other persons.					
	Explosions of fire-damp or coal-dust.	Falls of roof and sides.	In shafts.	Miscellaneous under ground.	On the surface.	Total.	Explosions of fire-damp or coal-dust.	Falls of roof and sides.	In shafts.	Miscellaneous under ground.	On the surface.	Total.
Northern .....	1	34	1	34	12	82	1	36	1	37	13	88
Southern and South-western .....	...	11	...	5	2	18	...	11	...	5	2	18
Western .....	...	2	1	3	1	7	...	2	1	3	1	7
Totals, 1898 .....	1	47	2	42	15	107	1	49	2	45	16	113
Totals, 1897 .....	...	33	1	18	8	60	...	34	1	20	8	63

#### LIST of Non-fatal Accidents.

Date of Accident, 1898.	Name of Mine.	Situation of Mine.	Name and Occupation of Person Injured.	Cause of Accident and Remarks.
3 Jan. ..	Stockton .....	Stockton .....	Henry Garrigan, miner .....	Fall of coal which knocked out a sprag and fell on his leg as he lay holing. Not serious.
5 " ..	Burwood .....	District of Newcastle .....	Robt. Hargraves, miner .....	Fracture of left leg by a fall of coal from a grey-back in face of place.
6 " ..	" .....	" .....	David Inglis, miner .....	Shock to system by being knocked down by a runaway horse on main road.
7 " ..	Stockton .....	Stockton .....	Wm. McDonald, deputy .....	(Knocked over by a runaway horse. Deputy suffering from scalp wounds; miner from shock.
10 " ..	Metropolitan ..	Helensburgh .....	Geo. Baker, miner .....	Injuries to back by fall of coal.
19 " ..	Dudley .....	District of Newcastle .....	James Wall, miner .....	Powder burns on left arm and hand.
24 " ..	Burwood .....	" .....	Wm. Cuthbert, miner .....	Fall of coal in face, causing fracture of left collar-bone, shoulder-blade, and ribs.
28 " ..	Genowlan .....	Capertee .....	R. Dowling, miner .....	Injury to eye by a piece of shale.
31 " ..	Zig Zag .....	Lithgow .....	Wm. Wright, onsetter .....	Big toe injured by cage at bottom of shaft.
7 Feb. ..	Dudley .....	Newcastle .....	Chas. Knight, miner .....	Fall of coal in face, causing fracture of right thigh.
9 " ..	Stockton .....	Stockton .....	John Morgan, miner .....	Fall of coal which knocked out sprag. Injured man was cutting coal on one side. Not serious.
17 " ..	Wallsend .....	Wallsend .....	Wm. Hinds, miner .....	Severe injury to foot by fall of coal.
19 " ..	Brown's No. 2 ..	Minmi .....	Wm. Waite, miner .....	Leg broken by a fall of coal while he was knocking out a sprag. His mate, Joseph Kirk, had meanwhile lighted the fuse of a shot they had prepared. While the fuse was "running" Kirk very courageously returned and carried Waite out of danger from the shot.
24 " ..	Osborne Wallsend ..	Mount Keira .....	Ed. Chapman, miner .....	Rib broken by a fall of coal.
26 " ..	Bulli .....	Bulli .....	John Sherring, miner .....	Leg-broken by a fall of coal.
28 " ..	" .....	" .....	Thos. Morris, miner .....	Head cut by a fall of stone.
28 " ..	Stockton .....	Stockton .....	Jas. Scotman, wheeler .....	Kicked in stomach by a horse.
7 Mar. ..	Burwood .....	Newcastle .....	Ed. Hughes, miner .....	Fall of coal in face, causing compound fracture of right leg near ankle. Lower leg afterwards amputated in Wallsend Hospital.
8 " ..	A.A. Co.'s No. 2 ..	" .....	Thos. Walters, miner .....	Fracture of right fore-arm by fall of top band coal.
9 " ..	Dudley .....	" .....	Wm. Allenby, miner .....	Injury to right ankle by a fall of coal from face.

Date of Accident, 1898.	Name of Mine.	Situation of Mine.	Name and Occupation of Person Injured.	Cause of Accident and Remarks.
12 Mar.	Osborne Walls-end.	Mount Keira	Wm. Richardson, deputy	Injuries to back and head by fall of stone.
14 "	Stockton	Stockton	Gillot Ardron, engine man	} Scalded by steam and water while caulking a defective joint in steam pipes leading to fan
15 "	Killingworth	West Wallsend	John Doohan, fitter Lawrence Moran, sinker	
16 "	Newcastle Co.'s A pit.	Newcastle	Thos Medlicott, minei	Skull fractured by laden bucket as it swung across shaft bottom when lifted by engine Compound fracture of right leg The leg was afterwards amputated in the Newcastle Hospital. Fracture caused by a piece of coal blown from a shot. Leg broken by a fall of stone.
29 "	Osborne Walls end	Mount Keira	John Shipp, miner	Scalp wound caused by a plank falling upon him.
2 April	Wickham and Bullock Isld.	Newcastle.	Frank Croft, minei	Collar bone fractured by fall of roof
18 "	Duckenfield	Minmi	Simon Shields, miner	Three ribs broken and leg fractured by fall of stone.
19 "	Genowlan	Capertee.	Alex Horn, minei	Fracture of leg by empty skip.
21 "	Pacific	Teralba.	Geo Griffin, wheeler	Head cut by falling before empty skip
26 "	South Clifton	Clifton	Peter Young, wheeler	
3 May	Stockton	Stockton	Charles Butt, wheeler	Leg broken while riding between tubs, first one got off the way
5 "	"	"	Stanley Digby, fireman	In act of firing Babcock boiler when flame flashed out and burnt his face
16 "	"	"	Saml. Smith,rolley wayman	Leg broken by haulage rope in shaft siding. Binding sheave gave way and rope flew over, hitting Smith on the leg
17 "	Brown's No. 4	Minmi	Geo Gibson, screen boy	Crushed about loins between buffers and waggons while stepping in to couple
18 "	Burwood	Newcastle.	Saml Spence, miner	Injury to both hips by fall of coal from face
20 "	Wallsend	Wallsend	Patrick McGurk, miner	Fall of coal (little tops) causing fracture of right shoulder blade, also fracture of three ribs on left side.
20 "	Osborne Walls-end.	Mount Keira.	Herbt Brownlee, wheeler	Hip dislocated by skip on surface incline.
21 "	New Winning	Newcastle	Wm. Peek, surface labourer	Loss of left eye by a blow from a piece of steel whilst cutting a skip axle
25 "	Stockton	Stockton	Charles Usher, flat man	Jaw broken by a kick from a horse
28 "	Bull	Bull	Jas. Pack, miner	Leg broken by a fall of coal.
30 "	Maryland	Plattsburgh..	Thos Finley, miner	Abdominal injury by fall of coal which caught him against a prop.
6 June	New Winning	Newcastle	Evan Thomas, shunter	Injury to chest and back whilst shunting waggons on surface
6 "	Wickham and Bullock Island	"	Elijah Shakespere, wheeler	Injury to back while riding on full tubs To avoid striking his head against a catch, he threw himself backwards, with the result as above.
13 "	Wallsend	Wallsend	John Meiklejohn, horse driver	Right foot severely bruised by loaded skip.
16 "	West Wallsend	West Wallsend	Geo. Jefferson, miner	Hand burnt by powder Small plug had been left lying on some debris near to where Jefferson was trimming his lamp, a spark from which caused ignition
20 "	Wallsend No 2	Wallsend	Patrick O'Keefe, minei	His mate accidentally stuck a pick into his buttock
22 "	"	"	John Dryden, minei	Fracture of lower jaw and compound fracture of right leg by fall of roof in pillar workings
22 "	"	"	Thos Lewis, miner	In same accident Lewis was badly bruised
22 "	Wickham and Bullock Island	Newcastle	Michael Lorraine, miner	Burnt and bruised by shot blowing through from adjoining bord into his wall
23 "	Stockton	Stockton	Wm Roy, wheeler	Kicked by his horse
24 "	"	"	Jas McDonald, miner	Leg broken by fall of coal, which he was pulling down from the face
24 "	Newcastle Co.'s B. Pit.	Newcastle	Thos Wood, shunter at surface	Fracture of right arm by bottom board of a waggon.
28 "	Hetton	"	Andrew Mordue, horse keeper	Kicked or knocked down by a horse in the stable
28 "	Cullen Bullen	Cullen Bullen	John Fitzgerald, miner	Hand hurt by empty skips
4 July	Hetton	Newcastle	Robt. Stevenson, driver	Leg broken by a fall of stone. Riding on limbers, when horse knocked out a prop
5 "	Genowlan	Capertee	Peter Cartells, miner	Arm broken by a piece of shale bursting from face.
11 "	Stockton	Stockton	Patrick Collins, wheeler	Knocked down by a horse Dislocation of shoulder.
15 "	Newcastle Co.'s B Pit.	Newcastle	Frank Hawthorne, switch boy	Right hand run over by a loaded skip at pit bottom, causing fracture of several bones
18 "	Seaham	West Wallsend	Joseph Pease, junr, driver	Injury to head, back, and shoulders through falling in front of his set of tubs Riding with one foot on chain and other on buffer of first tub.
21 "	Brown's No. 4..	Minmi	Henry Murnane, driver on refuse heap.	Crushed between tubs of stone on refuse heap. Fractured ribs
29 "	Osborne Walls end.	Mount Keira	John Causley, miner	Foot hurt by a fall of stone.
1 Aug.	Corrimal	Corrimal	Alex. Masters, wheeler	Leg broken by empty skips
2 "	Newcastle Co.'s A Pit.	Newcastle	James Ford, wheeler	Back badly bruised by a slab of timber which fell after a prop had been knocked out by a loaded skip
11 "	New Winning	"	John Harvey, miner	Fall of coal in face caused fracture of right leg
11 "	Co-operative	Plattsburgh.	Herbert Hancock, clip boy	Thumb crushed, tub ran over it while he was attempting to detach same from endless rope.
18 "	Metropolitan	Helensburgh	James Wood, clip boy	Scalp wound by empty skip.
19 "	New Winning	Newcastle	Archd. Livingston, miner	Severe injury to back by a fall of shale roof (stone) whilst working top band coal
23 "	Dulwich	Singleton	Wm. Heny Hughes, under manager	Injury to left thumb by fall of stone.
26 "	Seaham	West Wallsend	Wm Ramsey, driver	Crushed between tubs and wall side whilst attempting to get into refuge hole
30 "	Newcastle Co.'s A Pit.	Newcastle	Thos Shufflebotham, miner	Fracture of right leg near ankle by a fall of shale roof (stone).
5 Sept.	New Park	Singleton	John Rowley, miner	Injury to leg by blow from prop.
12 "	Hetton	Carrington	Mattw Foster, miner	Broken leg by piece of top coal, which fell while being wedged
20 "	Stockton	Stockton	Joseph Wardle, wheeler	Kicked in stomach by horse He was standing behind and flogging it
23 "	Bellambi	Woonona	John Crowther, miner	Leg broken by fall of coal
27 "	East Greta	West Maitland	Albert Whiteley, Assistant brakeman.	Fracture of leg (afterwards amputated below the knee) by being struck with wire rope used for hauling coal into hopper.
29 "	Elemore Vale	Wallsend	Joseph Smith, minei	Bruises on back of hip by fall of coal.
1 Oct.	Duckenfield	Minmi	Jas Gibson, miner	Severely injured by fall of top coal
3 "	Stockton	Stockton	Geo Barnicott, miner	Leg broken and back cut by fall of coal while holing.
3 "	Burwood	Newcastle	Josh Fenwick, miner	Fall of coal in face, causing fracture of right leg.
6 "	Wallsend	Wallsend	Andrew Drummond, miner	Fracture of leg by fall of stone

Date of Accident, 1898.	Name of Mine.	Situation of Mine.	Name and Occupation of Person Injured.	Cause of Accident and Remarks.
7 Oct. ..	Greta .....	Greta .....	Peter Ford, miner .....	Fracture of leg by fall of coal.
11 ,, ..	South Bulli ..	Bellambi .....	H. Richards, miner .....	Leg broken by fall of coal.
11 ,, ..	Wallsend No. 2	Wallsend .....	Thos. Peacock, miner .....	A piece of coal wedged down by his mate grazed his thigh ; no bones broken.
20 ,, ..	New Winning..	Newcastle .....	James Pearce, miner .....	Injury to right arm by the point of a pick which his mate was using at the time.
20 ,, ..	Wallsend .....	Wallsend .....	Matthew Bailey, shiftman .....	Injury to head by falling slab.
22 ,, ..	Sydney Harbour Collieries.	Balmain .....	John Bennett, stoker at boilers	Left hand caught in a feed-pump, and resulted in loss of forefinger.
26 ,, ..	Wickham and Bullock Island.	Newcastle .....	James Wilson, landing boy .....	Hit on leg by hauling-rope. Compound fracture below the knee.
31 ,, ..	West Wallsend.	West Wallsend .....	Archd. Gray, shiftman .....	Caught on horse-road by horse and set of full tubs while cleaning road. Knocked down and crushed; concussion of brain; collarbone and five ribs broken.
3 Nov. ..	Bellambi .....	Woonona .....	Thos. Ralph, miner .....	Bruised arm and back by fall of coal.
4 ,, ..	New Lambton..	New Lambton .....	John Tattersall, surface labourer	Severe injury to back by a fall from screen platform.
7 ,, ..	East Greta .....	West Maitland .....	Wm. Henderson, miner .....	Fracture of ribs by fall of coal.
7 ,, ..	" ..	" ..	Geo. Rowley, miner .....	Fracture of thigh and internal injuries by fall of coal.
12 ,, ..	South Bulli .....	Bellambi .....	Geo. Johnston, surface labourer	Head slightly cut by coal falling off waggon on surface incline.
14 ,, ..	Cullen Bullen..	Cullen Bullen .....	H. Flude, surface labourer .....	Foot hurt with skips at screens.
15 ,, ..	Wickham and Bullock Island.	Newcastle .....	Hugh Riddle, miner .....	Arm broken by fall of coal. He was pulling some loose coal over when tops fell.
16 ,, ..	Pacific .....	Teralba .....	Jno. Redman, miner .....	Shock from premature explosion of shot.
16 ,, ..	" ..	" ..	Benjn. Lewis, miner .....	Burns on hands and arms by premature explosion of shot.
16 ,, ..	Bulli Pass.....	Bulli .....	H. Cropper, miner .....	Hand burnt by plug of powder exploding.
2 Dec. ..	Ferndale Shafts	Wickham .....	T. J. Evans, manager .....	) Rendered unconscious by carbon-monoxide gas, which was exuding into the shaft where they were at work taking out cylinders.
2 ,, ..	" ..	" ..	John Patmore, fitter .....	
5 ,, ..	Metropolitan ..	Helensburgh .....	Evan Parrot, miner .....	Fractured leg by fall of coal.
5 ,, ..	A.A. Co.'s No. 2 Pit.	Newcastle .....	Wm. Brien, ,, ..	Injury to right knee by a fall of coal in pillar face.
7 ,, ..	Hetton .....	" ..	John Hales, ,, ..	Thigh broken by fall of coal while drawing sprag.
15 ,, ..	Sydney Harbour Colliery	Balmain .....	Joseph Butler, sinker .....	Blow from a hammer whilst drilling a hole, causing loss of two fingers on right hand.
15 ,, ..	A.A. Co.'s No. 2 Pit.	Newcastle .....	Wm. Williams, miner .....	Fracture of three ribs on right side by a fall of top band coal.
19 ,, ..	" ..	" ..	John Willmot, miner .....	Burnt by flame from a powder shot. One hole had been drilled into another old one, and the flame from the powder, after being lighted, was emitted from the latter, which burnt Willmot somewhat severely, although at a considerable distance from shot.
20 ,, ..	Duckenfield ..	Minmi .....	John Lindsay White, screen-boy	Collar-bone broken by falling off a waggon. He had no business there.
22 ,, ..	Lambton .....	Lambton .....	Thos. Brown, under-manager ..	Fracture of leg and bruises by full skips.
27 ,, ..	Hetton .....	Newcastle .....	Geo. Ayliffe, wheeler .....	Arm broken through being jammed between empty tub and prop.
28 ,, ..	Seaham .....	West Wallsend .....	John Morris, miner .....	Ignition of fire-damp, which burnt his back, shoulders, arms, and face.
28 ,, ..	Metropolitan ..	Helensburgh .....	Jas. Oswald, wheeler .....	Hurt about the abdomen by a skip.

The following table shows the death-rate from accidents in the Coal and Shale mines of the Colony:—

#### DEATH-RATE from Accidents in the Colony.

Per 1,000 persons employed below ground.	Per 1,000 persons employed above ground.	Per 1,000 persons employed below and above ground.
2·741	0·939	2·376

The following figures afford a comparison of the death-rate, &c., in respect of Coal and Shale mines in this Colony for the year 1898, and those in Great Britain and Ireland for the year 1897 (including the persons employed on private branch railways, &c., and accidents to such persons):—

Place.	Death-rate from Accidents per 1,000 persons employed.	Number of persons employed per Fatal Accident.	Number of persons employed per Life Lost.	Tons of minerals raised per Fatal Accident.	Tons of minerals raised per Life Lost.
New South Wales, 1898 .....	2·376	1,168	420	526,216	189,438
Great Britain and Ireland, 1897.....	1·32	810	754	240,331	223,830

Of the three tables following, which are made up for the twenty years ending with 1897, two afford comparisons as between Great Britain and Ireland and this Colony, and the third shows the Fatal Accidents here, classified according to place and cause.

STATEMENT showing the tons of mineral raised, persons employed, lives lost, &c., in Great Britain and Ireland for twenty years, 1878-1897 (both inclusive).

Year.	Output of Mineral.	Persons employed.			Tons of Mineral raised per life lost.	Persons employed per each life lost.	Lives lost per 1,000 persons employed.	Tons of Mineral raised per each person employed underground.	Number of deaths.	Death-rate per 1,000,000 tons of mineral raised.
		Above.	Below.	Total.						
1878 .....	145,798,138	92,350	382,979	475,329	103,183	336	2.972	380	1,413	9.690
1879 .....	145,360,369	91,631	385,179	476,810	149,400	490	2.040	377	973	6.693
1880 .....	161,466,793	93,552	391,381	484,933	122,509	368	2.718	412	1,318	8.162
1881 .....	168,959,931	96,090	399,387	495,477	177,106	519	1.925	423	954	5.646
1882 .....	171,334,032	97,795	406,192	503,987	152,161	447	2.234	421	1,126	6.572
1883 .....	178,763,390	98,237	416,696	514,933	169,605	488	2.046	429	1,054	5.896
1884 .....	174,872,759	98,143	422,233	520,376	185,639	552	1.810	414	942	5.357
1885 .....	173,223,960	96,441	424,191	520,632	150,629	452	2.209	408	1,150	6.631
1886 .....	170,006,959	96,108	423,862	519,970	178,391	545	1.833	401	953	5.605
1887 .....	173,049,795	97,737	428,540	526,277	173,919	529	1.890	403	995	5.750
1888 .....	182,660,163	96,043	433,902	534,945	201,611	602	1.693	416	906	4.862
1889 .....	189,633,656	100,135	463,000	563,735	170,533	530	1.972	409	1,112	5.611
1890 .....	194,605,887	106,421	506,812	613,233	162,149	523	1.947	383	1,194	5.960
1891 .....	197,693,592	112,350	536,091	648,450	196,710	662	1.549	368	1,005	4.952
1892 .....	191,954,908	114,988	549,312	664,300	188,932	676	1.529	349	1,016	5.110
1893 .....	175,236,857	133,270	549,738	683,008	165,317	644	1.552	318	1,060	6.049
1894 .....	190,451,018	135,562	569,678	705,240	176,975	625	1.598	350	1,127	5.651
1895 .....	201,738,351	135,646	564,638	700,284	193,606	672	1.488	357	1,042	5.165
1896 .....	208,503,868	135,653	557,026	692,684	203,418	675	1.479	374	1,025	4.916
1897 .....	215,145,025	136,008	558,305	695,213	231,338	747	1.337	385	930	4.323
Totals .....	3,619,465,451	2,165,074	9,374,742	11,539,816	.....	.....	.....	.....	21,295	.....
Averages .....	180,973,272	108,253	468,737	576,990	169,967	542	1.845	386	1,064	5.883

STATEMENT showing the tons of mineral raised (coal and shale), persons employed, lives lost, &c., in New South Wales for twenty years, 1878-1897.

Year.	Output of Mineral.	Persons employed.			Tons of Mineral raised per life lost.	Persons employed per each life lost.	Lives lost per 1,000 persons employed.	Tons of Mineral raised per each person employed underground.	Number of deaths.	Death-rate per 1,000,000 tons of mineral raised.
		Above.	Below.	Total.						
1878 .....	1,599,868	913	4,099	5,012	199,983	626	1.596	390	8	5.001
1879 .....	1,615,900	370	4,346	5,216	323,180	1,043	0.956	371	5	3.094
1880 .....	1,485,381	394	3,978	4,872	185,672	690	1.642	373	8	5.533
1881 .....	1,797,491	311	3,513	4,329	898,745	2,164	0.462	511	2	1.112
1882 .....	2,157,346	1,072	3,832	4,904	179,779	409	2.446	563	12	5.562
1883 .....	2,570,707	1,216	4,558	5,774	171,380	385	2.597	564	15	5.835
1884 .....	2,780,727	1,232	5,111	6,343	198,623	453	2.207	544	14	5.034
1885 .....	2,906,323	1,080	5,741	7,421	264,211	675	1.482	506	11	3.784
1886 .....	2,873,738	1,531	6,416	7,947	99,095	274	3.649	447	29	10.091
1887 .....	2,962,507	1,562	6,556	8,118	31,516	86	11.579	452	94	31.729
1888 .....	3,233,311	1,827	7,727	9,554	215,877	637	1.570	419	15	4.632
1889 .....	3,696,193	1,944	8,461	10,405	99,151	257	3.940	436	41	11.092
1890 .....	3,116,886	2,073	8,431	10,504	239,760	808	1.237	369	13	4.170
1891 .....	4,078,237	2,146	8,934	11,080	194,202	527	1.895	456	21	5.149
1892 .....	3,855,165	1,969	8,941	10,910	481,896	1,364	0.733	431	8	2.075
1893 .....	3,333,987	1,787	8,569	10,356	256,460	796	1.255	389	13	3.899
1894 .....	3,693,246	1,745	7,672	9,417	527,606	1,345	0.743	481	7	1.895
1895 .....	3,798,013	1,690	7,681	9,371	379,801	937	1.067	494	10	2.633
1896 .....	3,941,354	1,761	7,699	9,460	164,223	394	2.537	512	24	6.089
1897 .....	4,417,681	2,009	8,323	10,332	276,105	645	1.548	530	16	3.621
Totals .....	59,919,061	30,732	130,593	161,325	.....	.....	.....	.....	366	.....
Averages .....	2,995,953	1,536	6,530	8,066	163,713	440	2.203	458	18.3	6.108

STATEMENT showing number of Deaths caused by Fatal Accidents for the years 1878-1897 (both inclusive) in New South Wales.

	1878.		1879.		1880.		1881.		1882.		1883.		1884.		1885.		1886.		1887.		1888.		1889.		1890.		1891.		1892.		1893.		1894.		1895.		1896.		1897.		Totals		Percentage.					
	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.	Accidents.	Deaths.								
Explosions of fire damp and coal-dust ...																				1	81	1	1	1	1			1	1												4	84	22.95					
<b>FALLS IN MINES.</b>																																																
Falls of sides .....	2	2	2	2	4	4	2	2	10	10	8	8	6	6	7	7	10	10	5	5			11	11	4	4	7	7	4	4	10	10	2	2	5	5	5	5	7	7								
Falls of roof .....	1	1	2	2	1	1			1	1	1	1	1	2	2	2	1	1	2	2			4	4	4	4	3	3	3	3	1	1	2	2	3	3	2	2	2	2								
Total falls .....	3	3	4	4	5	5	2	2	11	11	9	9	7	8	9	9	11	11	7	7			4	4	15	15	7	7	11	11	4	4	8	8	7	7	9	9	148	159	43.14							
<b>IN SHAFTS.</b>																																																
Overwinding .....																																																
Ropes and chains breaking... ..																																																
While ascending or descending by machinery.																																																
Falling into shaft from surface .....																																																
Things falling from surface .....																																																
Falling from part way down .....																																																
Things falling from part way down ...	1	1																																														
Miscellaneous .....																																																
Total in shafts .....	1	1																																														
<b>MISCELLANEOUS UNDERGROUND.</b>																																																
By explosions ..																																																
Suffocation by natural gases .....	1	2																																														
Eruptions of water ..																																																
Falling into water ..																																																
On inclines and engine planes .....																																																
By trains and tubs .....																																																
By machinery ..																																																
By underground fires .....																																																
Ropes and chains breaking .....																																																
Sundries .....																																																
Total miscellaneous underground	1	2																																														
<b>ON SURFACE.</b>																																																
By machinery ..																																																
By boilers bursting .....																																																
On railways and tramways .....	2	2	1	1	3	3																																										
Miscellaneous .....																																																
Total on surface .....	2	2	1	1	3	3																																										
GROSS TOTAL .....	7	8	5	5	8	8	2	2	12	12	15	15	13	14	11	11	23	29	14	14	94	15	15	28	14	13	13	21	21	8	8	13	13	7	7	10	10	13	24	16	16	254	366	100.00				



## EXPLOSIONS of Fire-damp and Coal-dust.

During the past year there was one fatal explosion of fire-damp and coal-dust, which occurred at the Dudley Colliery on 21st March, causing the deaths of 15 persons.

There was also one slight explosion of fire-damp at the Seaham Colliery on 28th December, which injured 1 person.

Date and hour.	Colliery.	Seam.	Barometer.*		Number killed.	Number Injured.
			Height.	Rising or falling.		
March 21st, 9 a.m. ....	Dudley ...	Borehole ..	in. 30·036	Rising slowly.	15	.....
December 28th, 2 p.m. ....	Seaham...	Borehole ..	30·193	Steady ...	.....	1

\* From information kindly afforded by the Government Astronomer.

## ACCIDENTS from Explosions of Fire-damp and Coal-dust, classified according to cause.

Cause of Explosion.	Number of Fatal Accidents.	Number of Deaths.	Number of Non-fatal Accidents.	Number of Persons Injured.
Naked lights .....	1	15	1	1
Safety-lamps .....	.....	.....	.....	.....
Shot firing .....	.....	.....	.....	.....
Miscellaneous .....	.....	.....	.....	.....
Totals .....	1	15	1	1

On the 21st March, 1898, 15 lives were lost by an explosion of fire-damp and coal-dust at the Dudley Colliery. This accident was the subject of a lengthy inquest, held by the coroner, Mr. G. C. Martin, at which 51 witnesses were examined. At its termination the jury returned the following verdict:—"That the said Thomas Dorrity and John Benson met their deaths in the Dudley Colliery, at Dudley, in the district of Newcastle, and in the colony of New South Wales, on the 21st day of March, 1898, from carbon-monoxide poisoning, and that there is not sufficient evidence before us to determine the cause of the explosion in the said colliery."

At the inquest the Crown was represented by Mr. E. H. Wilshire; the owners by the Hon. Alex. Brown, M.L.C., who is also agent for the colliery; the miners and the relatives of the deceased by Mr. Jas. Curley, who is the miners' general secretary; and Mr. H. Humphreys, the manager of the colliery, by Mr. W. H. Baker, solicitor.

At the time when the inquest was opened only 5 of the bodies had been recovered, the pits having been sealed down on 29th March, in consequence of underground fires and the possibility of another explosion.

The pits were reopened on the 17th June, and the work of exploration continued, with the result that the last of the bodies was recovered on 4th August.

In accordance with the provisions of section 23 of the Coal Mines Regulation Act, 1896, an inquiry was held by Mr. C. G. Wade, Barrister-at-law, which commenced on 15th August, and lasted thirteen days, during which time 45 witnesses were examined, many of whom were able to give the result of their examination of the workings after the pits had been reopened.

The result of this inquiry has been presented to the Minister for Mines in a report, which has been printed and laid on the Table of the House.

The conclusions were:—

"(I.) The explosion was caused by the ignition of fire-damp at a naked light.

"(II.) The explosion was intensified by the agency of coal-dust.

"(III.) Evidence did not show what was the approximate quantity of fire-damp, or what the circumstances were under which it assumed an explosive character.

"(IV.) Ventilation was not 'constantly' produced in accordance with the terms of section 47, Rule 1 of the Act.

"(V.) Inspections were not conducted in accordance with General Rule 4.

"(VI.) There was in the mine a quantity of fire-damp which rendered the use of naked lights dangerous.

"(VII.) Locked safety-lamps should have been used at the time of the explosion."

With reference to the description of lights to be used in the mine in future, Mr. Wade states:—"For the future, the use of safety-lamps is entirely a matter for the discretion of the management. Responsibility in this respect is removed by section 20 from the shoulders of the inspectors and transferred to the mine officials, and I have no doubt that they will show the same regard for the interests of all associated with the mine as has been exhibited in the past."

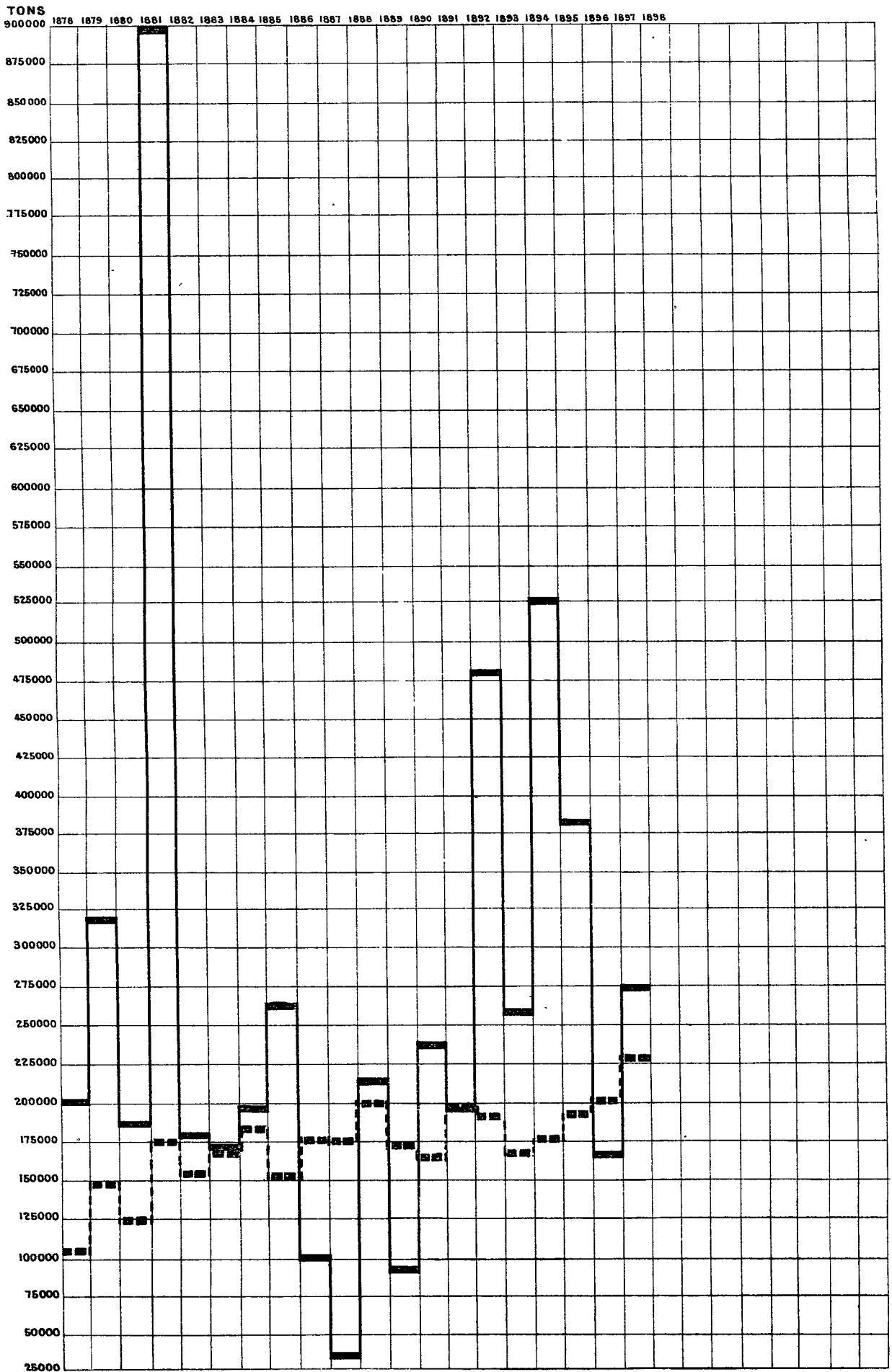
When the mine was ready to recommence coal-getting operations, the management had arranged to use safety-lamps in all places but the downcast pit bottom and the main intake airways.

The miners, however, demanded an extra payment of 3d. per ton for working with safety-lamps, which the management refused to concede. In consequence of this, the mine has not yet recommenced working.

It is unfortunate that the question of the price to be paid for getting the coal should stand in the way of the adoption of the precautionary measure of using safety-lamps, and it would be well if some satisfactory arrangement between the management and the miners could be arrived at on this matter.

Following

# DIAGRAM SHOWING THE QUANTITY OF MINERAL RAISED PER LIFE LOST IN NEW SOUTH WALES AND GREAT BRITAIN FROM 1878 TO 1897 INCLUSIVE



**New South Wales** ———  
**Great Britain** - - -

*Photo-lithographed by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.*

S 87  
37846

Following is a statement of the fatal and non-fatal accidents caused by explosions or ignitions of fire-damp in the Newcastle district during the past 20 years :—

Year.	Date.	Name of Colliery.	Names of Persons.	Occupation.	Fatal.	Non-fatal.
1879	1 Mar.	Wallsend	Henry Rushton	Blacksmith		1
1879	1 "	"	Thomas Lundy	Deputy		1
1881	30 Sept.	Brown's, Minmi	Daniel Duggan	Miner		1
1882	9 April	"	Jos. Clews	"		1
1882	9 "	"	Richard Barratt	"		1
1883	24 Feb.	"	Geo. Hibbered	"		1
1883	24 "	"	J. Mills	"		1
1886	23 "	Burwood	R. Dawson	"		1
1886	20 May	"	E. Hargraves	"		1
1886	20 "	"	Wm. Dodd	"		1
1887	17 Aug.	Wallsend	Geo. Hall	"		1
1888	28 Nov.	South Wallsend	Thos. Jones	Sinker	1	
1888	28 "	"	John Minchin	"		1
1888	28 "	"	Daniel Dansey	"		1
1889	21 Sept.	Durham	J. Robinson	Miner		1
1889	21 "	"	Jas. Jarvie	"		1
1889	6 Dec.	Seaham	Lewis Walters	"	1	
1889	6 "	"	Wm. Hunter	"		1
1889	6 "	"	Robert Hume	Wheeler		1
1890	4 Aug.	Young Wallsend	Geo. Kegan	Miner		1
1892	18 May	Durham	Wm. Thompson	"		1
1892	18 "	"	Geo. Virgo	"		1
1893	6 Jan.	Seaham	E. Hargraves	"		1
1898	21 Mar.	Dudley	G. Hindmarch	Under-manager	1	
1898	21 "	"	Thos. Hetherington	Deputy	1	
1898	21 "	"	Thos. Young	"	1	
1898	21 "	"	Thos. Haddon	Master shifter	1	
1898	21 "	"	Thos. Green	Rolley-wayman	1	
1898	21 "	"	Wm. Humphreys	Bratticeman	1	
1898	21 "	"	John Benson	Pumpman	1	
1898	21 "	"	Geo. Cook	Water-bailer	1	
1898	21 "	"	Wm. Rudge	"	1	
1898	21 "	"	Thos. Jones	"	1	
1898	21 "	"	Thos. Dorrity	Rolley-wayman	1	
1898	21 "	"	Archd. Mowbray	Assistant onsetter	1	
1898	21 "	"	Jas. McDougall	Flatter	1	
1898	21 "	"	Cyrus Price	Onsetter	1	
1898	21 "	"	Arthur Dunn	Assistant onsetter	1	
1898	28 Dec.	Seaham	John Morris	Miner		1
Totals .....					17	22

This statement shows that so long ago as 1879 in the Wallsend Colliery, then working coal comparatively speaking near the outcrop and at a shallow depth, fire-damp was an enemy that had to be dealt with. Since that time the fact cannot be lost sight of that many of the mines are now working coal at a greater depth, and that fire-damp is more frequently met with than when the shallower coal was being worked.

In addition to the danger arising from an explosion of fire-damp, it has now been abundantly proved that coal-dust is, under certain conditions, an important element in initiating or spreading an explosion.

In this connection I cannot do better than quote the conclusions arrived at by the Royal Commission appointed in Great Britain to enquire into explosions from coal-dust in mines, and which are set forth in their report dated June, 1894:—

"1. The danger of explosion in a mine in which gas exists, even in very small quantities, is greatly increased by the presence of coal-dust.

"2. A gas explosion in a fiery mine may be intensified and carried on indefinitely by coal-dust raised by the explosion itself.

"3. Coal-dust alone, without the presence of any gas at all, may cause a dangerous explosion if ignited by a blown-out shot or other violent inflammation. To produce such a result, however, the conditions must be exceptional, and are only likely to be produced on rare occasions.

"4. Different dusts are inflammable, and consequently dangerous, in varying degrees; but it cannot be said with absolute certainty that any dust is entirely free from risk.

"5. There appears to be no probability that a dangerous explosion of coal-dust alone could ever be produced in a mine by a naked light."

The explosion at Dudley Colliery, although initiated by a naked light igniting fire-damp, was carried into nearly every part of the pit through the medium of coal-dust. It also appears from the evidence on the Bulli Colliery explosion (1887) that coal-dust played a very important part in carrying the explosion along the main haulage road to the tunnel mouth.

It was therefore deemed advisable, on the conclusion of the investigation of the Dudley Colliery explosion, to specially call the attention of all the colliery managers to the dangers of coal-dust, and a circular on the subject was issued.

At the same time their attention was drawn to the necessity for a strict observance of the conditions laid down in general rule 8 (as to the use of safety-lamps) and general rule 12 (as to blasting).

These rules are the same in our Act as in the Imperial Act of 1887; but as explosions continued to occur in Great Britain, it was found necessary to introduce there further legislation bearing on these, amongst other kindred matters, and a short amending Act was accordingly passed on August 14th, 1896.

Under

Under the authority of this latter Act the "Explosives in Coal Mines" Orders have been made, the most recent of which is dated July 11th, 1898. Hereunder will be found copies in full, both of the Act and Order.

## CHAPTER 43.

## An Act to amend the Coal Mines Regulation Act, 1887. [14th August, 1896.]

A.D. 1896.

BE it enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

Special rules.  
50 and 51 Vict.  
c. 58.

1.—(1.) The power to propose, amend, and modify special rules for a mine under the Coal Mines Regulation Act, 1887 (in this Act referred to as the principal Act), shall include powers with respect to any of the following matters:—

- (a) the nature and description of the lights or lamps to be used in the mine, and their custody and the mode of using and trimming them; and
- (b) the description of explosives to be used in the mine, the mode of using and of storing such explosives, and of making and stemming holes, and the times at which and the manner in which shots are to be fired in the mine; and
- (c) the number or class of persons, if any, to be permitted to remain in the mine or any part thereof whilst shots are being fired; and
- (d) the watering or efficient damping of the mine or any ways or places therein; and
- (e) generally the precautions to be adopted for the prevention of accidents from inflammable gas and coal-dust.

(2.) While any special rules made under this section are in force in any mine, any general rule contained in section forty-nine of the principal Act, and any special rule established under the principal Act, shall, if and so far as it is inconsistent with any special rules made under this section, be suspended in relation to that mine.

Representation  
of workmen on  
arbitration.

2. Where any matter in difference is referred to arbitration under the principal Act, a majority of the workmen employed in the mine to which the arbitration relates may, on giving such security, if any, as may appear to the arbitrators or umpire sufficient to provide for the costs occasioned by such representation, appoint any person to represent the workmen, or any class of them, on the arbitration, and any person so appointed shall be entitled to attend and take part in the proceedings of the arbitration to such extent and in such manner as the arbitrators or umpire may direct, and be subject to the same liability with respect to costs so occasioned as if he were a party to the arbitration.

Plan of mine in  
working.

3. The plan required to be kept in pursuance of section thirty-four of the principal Act shall show the position of the workings therein mentioned with regard to the surface, and the position, extension, and direction of every known fault or dislocation of the seam with its vertical throw.

Plan of  
abandoned mine.

4.—(1.) For subsection (1) and (2) of section thirty-eight of the principal Act shall be substituted the following subsections:—

"(1.) Where any mine or seam is abandoned, the person who is owner of the mine or seam at the time of its abandonment shall, within three months after the abandonment, send to a Secretary of State:

- (i.) An accurate plan of the mine or seam, being either the original working plan or an accurate copy thereof made by a competent draftsman, and showing—
  - (a) the boundaries of the workings of the mine or seam, including not only the working faces but also all headings in advance thereof, up to the time of the abandonment;
  - (b) the pillars of coal or other mineral remaining unworked;
  - (c) the position, direction, and extent of every known fault or dislocation of the seam with its vertical throw;
  - (d) the position of the workings with regard to the surface boundary;
  - (e) the general direction and rate of dip of the strata; and
  - (f) a statement of the depth of the shaft from the surface to the seam abandoned; and
- (ii.) A section of the strata sunk through, or, if that is not reasonably practicable, a statement of the depth of the shaft with a section of the seam.

Every such plan must be on a scale of not less than that of the ordnance survey of twenty-five inches to the mile, or on the same scale as the plan used at the mine at the time of its abandonment, and its accuracy must be certified, so far as is reasonably practicable, by a surveyor or other person approved in that behalf by an inspector of mines.

"(2.) The plan and section shall be preserved under the care of the Secretary of State; but no person, except an inspector under this Act, shall be entitled without the consent of the owner of the mine or seam, or the license of a Secretary of State, to see the plan when so sent until after the expiration of ten years from the time of the abandonment. Provided that such license shall not be granted unless the Secretary of State is satisfied that the inspection of such plan is necessary in the interests of safety.

(2.) The High Court, or, in Scotland, the Court of Session, may, on application by or on behalf of the Secretary of State, make an order requiring any person who has, for the time being, the custody or possession of any plan or section of an abandoned mine or seam to produce it to the Secretary of State for the purpose of inspection or copying.

Amendment of  
general rules as  
to lamps,  
inspection, and  
tamping.

5.—(1.) The inspection before the commencement of work required by Rule 4 (i) contained in section forty-nine of the principal Act, shall extend to all working places in which work is temporarily stopped within any ventilating district in which the men have to work.

(2.) A safety-lamp shall not be used in any mine or part of a mine by any person employed therein unless it is provided by the owner of the mine, and no portion of any safety-lamp shall be removed by any person from the mine while the lamp is in ordinary use.

(3.) In Rule 12 of the general rules contained in section forty-nine of the principal Act, for the words "nor shall coal or coal-dust be used for tamping" shall be substituted the words "and only clay or other non-inflammable substances shall be used for stemming, and shall be provided by the owner of the mine."

Provision as to  
explosives.

6. A Secretary of State on being satisfied that any explosive is or is likely to become dangerous, may, by order, of which notice shall be given in such manner as he may direct, prohibit the use thereof in any mine, or in any class of mines, either absolutely or subject to conditions, and the provisions of the principal Act as to contraventions of general rules shall apply to contraventions of any such prohibitions.

Short title.  
57 and 58 Vict.  
c. 52.

7. This Act may be cited as the Coal Mines Regulation Act, 1896, and the principal Act and the Coal Mines (Check Weighers) Act, 1894, and this Act may be cited collectively as the Coal Mines Regulation Acts, 1887 to 1896.

STATUTORY RULES AND ORDERS, 1898.

No. 515.

MINES.—COAL MINES.

*The Explosives in Coal Mines Order of the 11th July, 1898.*

WHEREAS by section 6 of the Coal Mines Regulation Act, 1896, it is enacted that a Secretary of State, on being satisfied that any explosive is, or is likely to become, dangerous, may by Order prohibit the use thereof in any mine or in any class of mines either absolutely or subject to conditions:

I hereby, in pursuance of the power conferred on me by the aforesaid section, make the following Order:—

*Absolute prohibition of certain explosives in unsafe mines.*

- 1.—(1) In all coal-mines in which inflammable gas has been found within the previous three months in such quantity as to be indicative of danger, the use of any explosive, other than a permitted explosive, as hereinafter defined, is absolutely prohibited in the seam or seams in which the gas has been found.
- (2) In all coal-mines which are not naturally wet throughout, the use of any explosive, other than a permitted explosive, as hereinafter defined, is absolutely prohibited in all roads, and in every dry and dusty part of the mine.

*Conditional*

*Conditional prohibition of other explosives in unsafe mines.*

2. In all such coal-mines or parts thereof as aforesaid, the use of permitted explosives is prohibited unless the following conditions are observed:—

- (a) Every charge of the explosive shall be placed in a properly drilled shot hole and shall have sufficient stemming :
  - (b) Every charge shall be fired by an efficient electrical apparatus, or by some other means equally secure against the ignition of inflammable gas or coal dust :
  - (c) Every charge shall be fired by a competent person appointed in writing for this duty by the owner, agent, or manager of the mine, and not being a person whose wages depend on the amount of mineral to be gotten :
  - (d) Each explosive shall be used in the manner and subject to the conditions prescribed in the Schedule hereto :
- Provided that nothing in this Order shall prohibit the use of a safety fuse in any mine in which inflammable gas has not been found within the previous three months in such quantity as to be indicative of danger.

*Conditional prohibition of all explosives in main roads.*

3. In every coal-mine the use of any explosive is prohibited in the main haulage roads and in the intakes, unless all workmen have been removed from the seam in which the shot is to be fired, and from all seams communicating with the shaft on the same level, except the men engaged in firing the shot, and in addition such other persons, not exceeding ten in number, as are necessarily employed in attending to the ventilating furnaces, steam-boilers, engines, machinery, winding apparatus, signals, or horses, or in inspecting the mine; or unless a permitted explosive is used, and every part of the roof, floor, and sides of the main haulage road or intake, within a distance of 20 yards from the place where it is used, is, at the time of firing, thoroughly wet, either naturally or from the application of water thereto.

This section shall not apply to such portions of the main haulage roads and intakes as are within 100 yards of the coal face.

This section shall not authorise the use of any explosive in any case where the use of such explosive is prohibited by section 1 or 2 of this Order.

*Application of Order.*

4. This Order shall not apply to mines of clay, or stratified or nodular ironstone, nor shall it apply to shafts in course of being sunk from the surface, or deepened, or to drifts and other outlets being driven from the surface, if such shafts, drifts, or outlets are not ventilated by return air.

Where a mine contains several separate seams this Order shall apply to each seam as if it were a separate mine.

*Definitions.*

5. In this Order the term "permitted explosives" means such explosives as are named and defined in the Schedule hereto: Provided that where the composition, quality, or character of any explosive is defined in such Schedule, any article alleged to be such explosive which differs therefrom in composition, quality, or character, whether by reason of deterioration or otherwise, shall not be deemed to be the explosives so defined: Provided, further, that an owner, agent, or manager shall not be responsible for the composition, quality, or character of an explosive, if he shows that he has in good faith obtained a written certificate from the maker of the explosive that it complies with the terms of the Schedule, and that he has taken all reasonable means to prevent deterioration of the explosive while stored.

The term "road" includes all roads of any description extending from the shaft or outlet to within 10 yards of the coal face.

The term "main haulage road" means a road which has been, or for the time being is, in use for moving trams by gravity or by steam or other mechanical power.

*Revocation of Former Order.*

6. This Order shall come into force on the 18th day of July, 1898, from which date the Explosives in Coal Mines Order of the 4th February, 1898, is revoked.

*Citation.*

7. This Order may be cited as the Explosives in Coal Mines Order of the 11th July, 1898.

M. W. RIDLEY,  
One of Her Majesty's Principal Secretaries of State.

Home Office, Whitehall, 11th July, 1898.

*Schedule.*

## LIST OF PERMITTED EXPLOSIVES\*.

*Ammonite*, consisting in every 100 parts by weight of the finished explosive of not more than 89 parts and not less than 87 parts of nitrate of ammonium, with not more than 13 parts and not less than 11 parts of thoroughly purified di-nitro-naphthalene, and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a case of lead and tin alloy thoroughly waterproofed with pure paraffin wax;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6½ (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 19 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6½ detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Amvis*, consisting in every 100 parts by weight of the finished explosive of not more than 92 parts and not less than 89 parts of nitrate of ammonium, with not more than 6 parts and not less than 4 parts of wood-meal, and with not more than 6 parts and not less than 4 parts of thoroughly purified di-nitro-benzol and chlorinated naphthalene, and with no other ingredient, provided that the chlorine does not exceed 1 per cent. by weight of the finished explosive;

Provided—

- (1) That the explosive shall be used only when contained in a case of stout paper thoroughly waterproofed with ceresine;
- (2) That the explosive shall be used only with a special detonator or electric detonator fuse containing not less than 15 grains of a composition consisting in every 100 parts by weight of 95 parts of fulminate of mercury and 5 parts of chlorate of potassium; and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with a special detonator"; and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Bellite*

\* This list is subject to revision in accordance with the results of experiments made from time to time in the Government Testing Station at Woolwich.

*Bellite No. 1*, consisting in every 100 parts by weight of the finished explosive of no more than 85 parts and not less than 82 parts of nitrate of ammonium, with not more than 18 parts and not less than 15 parts of thoroughly purified di-nitro-benzol, and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a case of linen paper thoroughly waterproofed with a mixture of carnauba and paraffin waxes;
- (2) That the explosive shall be used only with a detonator or electric detonator fuze of not less strength than that known as No. 7 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 23 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That, in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used with not less than No. 7 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Bellite No. 3*, consisting in every 100 parts by weight of the finished explosive of not more than 95 parts and not less than 92 parts of nitrate of ammonium, with not more than 8 parts and not less than 5 parts of thoroughly purified di-nitro-benzol, and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a case of linen paper thoroughly waterproofed with a mixture of carnauba and paraffin waxes;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*British Gelnignite*, consisting in every 100 parts by weight of the finished explosive of not more than 62 parts and not less than 58 parts of thoroughly purified nitro-glycerine, with not more than 5 parts and not less than 3 parts of nitro-cotton, carefully washed and purified, and not more than 31 parts and not less than 26 parts of nitrate of potassium, and not more than 9 parts and not less than 6 parts of wood-meal, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper.
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium).
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives." And, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Carbo-gelatine*, consisting in every 100 parts by weight of the finished explosive of not more than 40 parts and not less than 37 parts of a mixture of carefully washed nitro-cotton and thoroughly purified nitro-glycerine, with not more than 51 parts and not less than 48 parts of nitrate of potassium, and with not more than 12 parts and not less than 9 parts of a mixture of wood-meal and charcoal, provided that the charcoal shall not exceed 3 parts by weight in every 100 parts by weight of the finished explosive, and not more than 2 parts of carbonate of magnesium, and with no other ingredient; the whole to be thoroughly mixed or incorporated so as not to be liable to liquefaction or exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed parchment paper wrapper.
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and marked with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients;
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Carbonite*, consisting in every 100 parts by weight of the finished explosive of not more than 27 parts and not less than 25 parts of thoroughly purified nitro-glycerine, with not more than 36 parts and not less than 30 parts of nitrate of barium and nitrate of potassium or either of them, and with not more than 43 parts and not less than 40 parts of wood-meal, with or without not more than half a part of sulphuretted benzol and not more than half a part of carbonate of sodium and carbonate of calcium or either of them, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use..

*Dahmenite*



*Dahmenite A*, consisting in every 100 parts by weight of the finished explosive of not more than 93.5 parts and not less than 91 parts of nitrate of ammonium, with not more than 6.5 parts and not less than 4 parts of naphthaline, and with not more than 2.5 parts and not less than one part of bichromate of potassium, and with no other ingredients;

Provided—

- (1) That the explosive shall be used only when contained in paper wrappers, waterproofed with paraffin wax and resin;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 7 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 23 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 7 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Electronite No. 2*, consisting in every 100 parts by weight of the finished explosive of not more than 96 parts and not less than 94 parts of nitrate of ammonium, with not more than 6 parts and not less than 4 parts of wood-meal and starch, and with no other ingredient;

Provided—

- (1) That the explosive shall be used only when contained in a waterproof metal case made of an alloy of lead and tin or in a paper wrapper waterproofed with ceresine;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That, in addition to the marking on the outer package, required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and the proportion of the ingredients.

*Elephant Brand Gunpowder*, consisting in every 100 parts by weight of the finished explosive of not more than 76 parts and not less than 74 parts of pure saltpetre, with not more than 15½ parts and not less than 14½ parts of charcoal, and not more than 11 parts and not less than 9 parts of pure distilled sulphur, and with no other ingredient, the whole being thoroughly well incorporated, and to be of such strength as, when exploded in a lead cylinder as used at the Home Office Testing Station, will give a result not inferior to that obtained with an equal weight of R. F. G.<sup>2</sup> gunpowder; and to be in the form of grains of a size to pass through a sieve of 11 meshes to the linear inch;

Provided—

- (1) That the gunpowder shall not be taken into or used in a mine except when contained, together with neutral oxalate of ammonium in the proportion of 1 part by weight of oxalate of ammonium to 2 parts by weight of gunpowder, in a spark-proof brown paper case or cartridge (Elephant Brand) in which there shall intervene between the gunpowder and the oxalate of ammonium a diaphragm of such strength and character as will effectually prevent any admixture of the two;
- (2) That there shall not be taken into or used in a mine any case or cartridge containing more than 9 oz. of the said gunpowder; that every case or cartridge shall be inserted intact in the hole, and that not more than one case or cartridge at a time shall be inserted;
- (3) That no shot with the said gunpowder shall be fired unless properly stemmed with an amount of stemming not less than would be sufficient for a charge of 9 oz. of ordinary gunpowder;
- (4) That the cases or cartridges shall be packed in thoroughly waterproof wrappers, bags, or other receptacles, each containing not more than 5 lb. of gunpowder; and
- (5) That in addition to marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each cartridge shall be clearly marked with the words "Permitted Explosive," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Faversham Powder*, consisting in every 100 parts by weight of the finished explosive of not more than 87 parts and not less than 83 parts of nitrate of ammonium, with not more than 14 parts and not less than 9 parts of thoroughly purified di-nitro-benzol, with not more than 2 parts and not less than 1 part of chloride of ammonium, and not more than 3 parts and not less than 2 parts of chloride of sodium, and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a case of paper thoroughly waterproofed with paraffin wax, and with or without a lead nozzle;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as 6½ (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 19 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than 6½ detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Kynite*, consisting in every 100 parts by weight of the finished explosive of not more than 27 parts and not less than 25 parts of thoroughly purified nitro-glycerine, with not more than 36 parts and not less than 30 parts of nitrate of barium, and not more than 43 parts and not less than 40 parts of wood-meal, and with not more than half a part of carbonate of sodium, and with no other ingredient; the whole being uniformly incorporated, and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of vegetable parchment;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosives, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Kymoch Gelnignite*, consisting in every 100 parts by weight of the finished explosive of not more than 63 parts and not less than 54 parts of thoroughly purified nitro-glycerine, with not more than 5 parts and not less than 3 parts of nitro-cotton, carefully washed and purified, and not more than 34 parts and not less than 26 parts of nitrate of potassium, and not more than 9 parts and not less than 6 parts of wood-meal, and with or without not more than 1 part of chalk, and with no other ingredients; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Nahusen's Gelnignite*, consisting in every 100 parts by weight of the finished explosive of not more than 63 parts and not less than 54 parts of thoroughly purified nitro-glycerine, with not more than 5 parts and not less than 3 parts of nitro-cotton, carefully washed and purified, not more than 34 parts and not less than 26 parts of nitrate of potassium, and not more than 10 parts and not less than 6 parts of wood-meal, and with or without not more than half a part of chalk, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*National Gelnignite*, consisting in every 100 parts by weight of the finished explosive of not more than 64 parts and not less than 56 parts of thoroughly purified nitro-glycerine, with not more than 6 parts and not less than 4 parts of nitro-cotton, carefully washed and purified, and not more than 32 parts and not less than 24 parts of nitrate of potassium, and not more than 9 parts and not less than 5 parts of wood-meal, and with or without not more than half a part of chalk, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a special detonator or electric detonator fuse containing not less than 15 grains of a composition consisting in every 100 parts by weight of 95 parts of fulminate of mercury and 5 parts of chlorate of potassium;
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with a special detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Nobel Ardeer Powder*, consisting in every 100 parts by weight of the finished explosive of not more than 34 parts and not less than 31 parts of thoroughly purified nitro-glycerine, with not more than 14 parts and not less than 11 parts of kieselguhr, with not more than 51 parts and not less than 47 parts of sulphate of magnesium, and with not more than 6 parts and not less than 4 parts of nitrate of potassium, with or without the addition of not more than half a part of carbonate of ammonium and not more than half a part of carbonate of calcium, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 3 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 8 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked by the words "Permitted Explosive, to be used only with not less than No. 3 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Nobel Carbonite*, consisting in every 100 parts by weight of the finished explosive of not more than 27 parts and not less than 25 parts of thoroughly purified nitro-glycerine, and not more than 36 parts and not less than 30 parts of nitrate of potassium and nitrate of barium, or either of them, and with not more than 43 parts and not less than 40 parts of wood-meal, with or without not more than half a part of sulphuretted benzol, and not more than half a part of carbonate of sodium and carbonate of calcium, or either of them, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Nobel*

*Nobel Gelignite*, consisting in every 100 parts by weight of the finished explosive of not more than 63 parts and not less than 54 parts of thoroughly purified nitro-glycerine, with not more than 5 parts and not less than 3 parts of nitro-cotton, carefully washed and purified, not more than 34 parts and not less than 26 parts of nitrate of potassium, and not more than 9 parts and not less than 6 parts of wood-meal, and with or without not more than half a part of chalk, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Oxalate Blasting Powder*, consisting in every 100 parts by weight of the finished explosive of not more than 73 parts and not less than 69 parts of nitrate of potassium, with not more than 15½ parts and not less than 12 parts of charcoal, and with not more than 16½ parts and not less than 13½ parts of oxalate of ammonium, and with no other ingredient; the whole being thoroughly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of an alloy of lead and tin;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Pembrite*, consisting in every 100 parts by weight of the finished explosive of not more than 96 parts and not less than 93 parts of neutral nitrate of ammonium, with not more than 6 parts and not less than 3 parts of vegetable oil, of a character approved by the Secretary of State, and with not more than 2 parts and not less than 1 part of sulphur, and with or without not more than 1 part of nitrate of barium, and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in non-waterproofed wrappers of metal-coated paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 8 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 30.9 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That in addition to the marking on the outer package required in the case of this explosive by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 8 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Rhenish Gelignite*, consisting in every 100 parts by weight of the finished explosive of not more than 59 parts and not less than 57 parts of thoroughly purified nitro-glycerine, with not more than 3 parts and not less than 2 parts of nitro-cotton, carefully washed and purified, not more than 31 parts and not less than 28 parts of nitrate of potassium, and not more than 10½ parts and not less than 9 parts of wood-meal, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Roburite No. 3*, consisting in every 100 parts by weight of the finished explosive of not more than 89 parts and not less than 86 parts of nitrate of ammonium, with not more than 13 parts and not less than 9 parts of thoroughly purified di-nitro-benzol, with or without not more than 2 parts of chloro-naphthaline containing of chlorine not more than 1 part, and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a case of paper thoroughly water-proofed with ceresine;
- (2) That the explosive shall be used only with a special detonator or electric detonator fuse containing not less than 15 grains of a composition consisting in every 100 parts by weight of 95 parts of fulminate of mercury and 5 parts of chlorate of potassium; and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with a special detonator," and also with the name of the explosive, the name of the manufacturer, date of manufacture, and the nature and proportion of the ingredients.

*Sun Gelignite*, consisting in every 100 parts by weight of the finished explosive of not more than 59 parts and not less than 57 parts of thoroughly purified nitro-glycerine, with not more than 3 parts and not less than 2 parts of nitro-cotton, carefully washed and purified, not more than 31 parts and not less than 25 parts of nitrate of potassium, and not more than

10 parts and not less than 8 parts of wood-meal, and with no other ingredient; the whole being uniformly incorporated and of such character and consistency as not to be liable to exudation;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of parchment paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 6 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 15 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 6 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients; and
- (4) That the explosive, if in a frozen condition, shall be thoroughly thawed in a safe and suitable manner before use.

*Westfalite No. 1*, consisting in every 100 parts by weight of the finished explosive of not more than 96 parts and not less than 94 parts of neutral nitrate of ammonium, with not more than 6 parts and not less than 4 parts of resin, consisting of pure pine resin which does not melt below a temperature of 200 degrees Fahr., and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 8 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 30.9 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium);
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 8 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

*Westfalite No. 2*, consisting in every 100 parts by weight of the finished explosive of not more than 92 parts and not less than 90 parts of neutral nitrate of ammonium, with not more than 5 parts and not less than 3 parts of nitrate of potassium, and with not more than 6 parts and less than 4 parts of resin, consisting of pure pine resin which does not melt below a temperature of 200 degrees Fahr., and with no other ingredient; the whole being uniformly incorporated;

Provided—

- (1) That the explosive shall be used only when contained in a non-waterproofed wrapper of paper;
- (2) That the explosive shall be used only with a detonator or electric detonator fuse of not less strength than that known as No. 8 (*i.e.*, the detonator or electric detonator fuse to be used shall possess an effective detonative strength as great as, or greater than, that of one containing 30.9 grains of a composition consisting in every 100 parts by weight of 80 parts of fulminate of mercury and 20 parts of chlorate of potassium); and
- (3) That in addition to the marking on the outer package required by an Order of the Secretary of State, made under the Explosives Act, 1875, and in force for the time being, such outer package shall bear the words "As defined in the List of Permitted Explosives"; and, further, that each inner package shall be clearly marked with the words "Permitted Explosive, to be used only with not less than No. 8 detonator," and also with the name of the explosive, the name of the manufacturer, the date of manufacture, and the nature and proportion of the ingredients.

A perusal of these show that very large powers are given in Great Britain in regard to the use of safety-lamps and explosives, in mines which give off fire-damp.

During the past year fire-damp has been reported, under General Rule 4, at the following collieries in the Colony, viz. :—Dudley, Burwood, Lambton No. 2 (late Durham), Seaham, West Wallsend, Killingworth, Brown's, Duckenfield, Waratah, Wallsend, and East Greta, in the Newcastle district; and at Metropolitan, Bulli, South Bulli, South Clifton, and Mount Pleasant Collieries, in the Illawarra district.

Whilst the quantity of gas reported in some of the above has been small, yet in others a more or less regular discharge is given off. The Metropolitan and Killingworth Collieries are the only ones at present using safety-lamps for purposes other than that of examination.

The explosion of a small quantity of gas may, if there is a deposit of coal-dust to carry it on, lead to a very serious explosion. Outside the mining profession, and sometimes amongst those associated with coal-mining, a somewhat popular error exists that it requires a comparatively large quantity of gas to cause a serious explosion; but with finely-divided coal-dust, according to eminent authorities, the explosion of not more than 20 to 30 cubic feet may result in a disastrous and widespread explosion.

It is therefore necessary, in the interests of safety, that the smallest quantities of gas should be reported; and I desire to call the attention of the officials and workmen to their responsibilities in this matter, which are fully provided for and explained in the provisions of the General and Special Rules.

It is also a popular notion that mines generating a quantity of gas insufficient to produce an explosive atmosphere with the ordinary current of ventilation are free from the dangers of explosion. It must not, however, be overlooked that in the ramifications of a mine producing fire-damp, even to a slight extent, the various arrangements by which continuous ventilation is effected and the gas diluted may wholly or partially become deranged by human frailty, or other causes over which the management has little or no control, and result in a local or general accumulation of gas, requiring only to be brought in contact with a naked light to cause disastrous consequences. It is not necessary to go beyond the Colony for an example of a mine giving off a little fire-damp, worked with naked lights, becoming dangerously charged with fire-damp, through a door being left open, and loss of life resulting. All the accidents from explosions of fire-damp in the Colony have so far occurred in mines regarded as only slightly fiery, and in which safety-lamps were very little used. If colliery managers and miners would only grasp the fact that the difference between a slightly gassy mine and a very gassy mine is after all only one of degree, and that the conditions necessary to produce an explosion in either case may arise sooner or later, the necessity for the more extensive use of safety-lamps, coupled with the more rigid discipline which usually prevails where safety-lamps are in use, would become apparent.

There are now a few safety-lamps with special appliances which can detect as little as  $\frac{1}{4}$  per cent. of fire-damp in the air, and the managers of those mines in which gas has recently been seen would do well to obtain one of these. I have found from experience the Clowes hydrogen lamp to be the best for this purpose. It has been used by the manager of the Metropolitan Colliery, who has found it very useful.

It has sometimes been argued that the use of safety-lamps in a mine leads to carelessness in the matter of ventilation; but in practice the reverse of this has been found to be the case, as in mines where safety-lamps and other precautionary measures have been adopted it is generally admitted that the most rigid supervision and discipline prevails.

Portable electric lamps have been used on a small scale for special purposes in mines, and at present about 600 are being used in one of the largest and most fiery mines in the north of England, with considerable satisfaction. No doubt, as further improvements are effected in their construction, they will become more used in the future.

Blasting with gunpowder has been greatly restricted in Great Britain, in consequence of the explosions caused by its use (see section 1 of the "Explosives in Coalmines" order). Great care should be exercised to see that all the provisions of General Rule 12 are complied with, and if the necessity arises, one of the safety explosives should be adopted. In connection with the adoption of the latter, I desire to call the attention of colliery managers to the danger attending the use of a fuse in the presence of gas, as explosions have been traced to its use in such cases. On this matter, Mr. Henry Hall, Inspector of Mines in Lancashire, states in his report for 1895: "In the year 1890 I sent a circular letter to each owner, pointing out the danger of using fuses with safety explosives, and declining to accept such a method as being in conformity with General Rule 12 (2)." This subsection is the same in our Act, and it is therefore necessary, when safety explosives are used, that they should be fired by means of electricity.

A non-fatal accident occurred at Seaham Colliery on 28th December, when a miner was slightly burned by the ignition of a small quantity of fire-damp by the naked light on his cap, the gas being found in a cavity of the roof near to the face of his working-place. He was off work a few days in consequence of the burns received.

ACCIDENTS FROM FALLS OF ROOF AND SIDE, classified according to the place where they happened:

Place where the fall occurred.	Number of Fatal Accidents.	Number of Deaths.	Number of Non-fatal Accidents.	Number of Persons injured.
At the working face .....	4	4	47	49
On roads while repairing or enlarging .....	.....	.....	.....	.....
On roads while otherwise working or passing ..	1	3	.....	.....
Total from falls underground.....	5	7	47	49

During 1898, 52 accidents were reported as having been caused by falls, which resulted in the death of 7 persons, the corresponding figures for the previous year being 42 accidents, 9 deaths, and 34 persons injured.

One fatal accident, which happened at the East Greta Colliery on 18th November, caused the death of three men. The fall took place in the main engine dip of No. 1 tunnel, where the gradient varies from 45 degrees to 47½ degrees. The three deceased were engaged extending the tunnel, and it had been driven 387 feet below the lowest pair of working levels, when a fall took place about 7 a.m. (the usual time for changing shifts), the out end of which was 127 feet from the lowest levels, and extended for a distance of 60 feet. The top of the fall was about 15 feet above the top of the coal, and probably 300 tons of material fell, which, in consequence of the high inclination, rolled down into the face, doubtless causing the almost instantaneous death of the three men, all of whom were afterwards found within 30 feet of the face.

In consequence of the dangerous and difficult character of the work to be done in recovering the bodies of the deceased men, and the large quantity of timber which it was necessary to put in to secure the fall and strengthen the other timbers, in order to ensure safety to the rescue parties, it was not until 23rd December, or five weeks after the fall occurred, that the first body was recovered; the second was recovered on 24th December, and the third on 26th December.

The tunnel was driven in the seam from the surface a total distance of 933 feet, and the last pair of working levels were at a point 546 feet from the surface. As stated before, the main tunnel was being extended at the time of the accident, and had reached 387 feet from the lowest levels. A place parallel to the main tunnel was also being driven, but had only gone 129 feet below the levels, and no cut-through or stenton had been driven between these two places.

Whilst the work in connection with extending the tunnel, in order to win the dip coal, was proceeding, all other work was suspended in No. 1 tunnel, as the hauling-engine which hauled the coal from the face to the surface was constantly required.

Electric signals were kept within a few yards of the face of the main tunnel.

Manholes or places of refuge were made at intervals of 20 yards, in accordance with General Rule 14, and it was stated in evidence at the inquest that one was to be prepared close to the face during the night before the accident.

The seam of coal is about 11 feet thick, and usually overlaid by a hard conglomerate. From the lowest levels towards the face of the tunnel, a band of shale, a few inches in thickness, had made its appearance between the top of the coal and the conglomerate. Where the fall occurred the conglomerate, which was very variable in thickness, had thinned down in places to 4 or 5 inches in thickness, although it did not altogether run out.

Above the conglomerate at the fall was a considerable thickness (5 or 6 feet) of rotten argillaceous shale or mudstone. This stone was not laminated, and presented many slippery facings and joints, as revealed by the fall. When immersed in water it decrepitates very rapidly.

From the lowest levels to the face the sets of timber were put in 5 feet apart between centres. These consisted of—

- (a) One sill or floor piece of ironbark 16 feet long, 8 inches diameter at the small end. Let into each side.
- (b) One cap piece of ironbark next to the roof 15 feet long, 8 inches diameter at the small end. Let into each side 8 or 10 inches.
- (c)

- (c) Two legs or props of ironbark 10½ feet long, 8 inches diameter at the small end. These were mortised into sill and cap about 4 inches deep.
- (d) Slabs of hardwood 6 feet long, 6 to 8 inches wide, and 2 to 3 inches thick, which covered the whole surface of the roof, floor, and sides of the tunnel.
- (e) Pieces of ti-tree for packing behind the slabs in order to make all secure.
- (f) Sole pieces of ironbark between the sills, near to the sides, and parallel with the tunnel.

The props were 12 feet apart at the top and 13 feet at the bottom, measured between inside and inside. They were fixed at right angles to the dip of the strata, which is the correct method in order to resist the greatest pressure. In order to get sufficient height for these timbers, it was necessary to remove some of the stone below the seam. Occasionally, also, a little cutting had to be done in the stone above the coal, although much the greater portion was taken out of the floor, as it was much softer than the roof stone.

The inquest occupied thirteen days, on one of which the jury made an underground inspection of the No. 1 tunnel. They retired to consider their verdict at 5 p.m. on 27th January, and, as they failed to agree, were discharged at 8 a.m. on 28th January.

The cause of the accident, in my opinion, was due to roof pressure, consequent upon the conglomerate having been replaced by mudstone, which, by virtue of its jointy nature and the presence of water, rested on the timbers, and caused the caps to break.

Although the fall might have occurred without much warning of timber breaking at the last, I am of opinion some days before it actually took place evidence of pressure would have been afforded by the bending of the caps.

A good deal was said in evidence at the inquest about the unchangeable character of the conglomerates in the Greta measures, and, in view of this, a quotation is given from Professor Archibald Geikie, an acknowledged authority on geology, with reference to conglomerates:—"Coarse conglomerates which represent ancient shingles and gravels thicken and thin out rapidly, and do not usually cover a large area; they pass laterally and vertically into grits and sandstones, which have a much wider distribution, and these again shade off into clays and shales, that range also over large areas."

This opinion, coming from such an authority, coupled with the East Greta accident, should have the effect of causing the managers who have conglomerate roofs to deal with to place less reliance on their consistent character in the future.

The inquest disclosed what was, in my opinion, a breach of General Rule 4, inasmuch as the deputies who examined No. 1 tunnel were "contractors for getting minerals."

The under manager also committed breaches of Special Rules 3 and 7.

None of the other fatal accidents by falls require particular comment.

The non-fatal accidents from falls of roof and side show a large increase as compared with the previous year. In 1897 there were 33 accidents, injuring 34 persons, whereas last year there were 47 accidents, causing injuries to 49 persons.

This class of accident can only be reduced by a more rigid supervision on the part of the colliery officials, and more attention to the setting of props and sprags by the miners.

There is a disposition on the part of some of the officials not to enforce the use of sprags, in accordance with the terms of General Rule 23, but to leave the setting of them to the discretion of the miner. The officials in the exercise of their duties should enforce the rule, as the miners sometimes refrain from putting them in when necessary, and unless the officials do this their supervision loses some of its usefulness in the prevention of accidents.

Most of the accidents from falls of side coal have occurred in the Borehole seam of the Newcastle district, which contains many slippery backs and facings, and consequently demands particular attention as regards sprags. Where the seam is thick, the system known as "cockerleg" sprags might be used to advantage; but in any case the long or "soldier" sprags, as well as short ones under the holing, are necessary when the holing is done next to the bottom of the seam.

*Shaft Accidents.*—A fatal accident occurred at Killingworth Colliery on 8th May, when a contractor named D. C. McGeachie accidentally fell into the sump below the Borehole seam and was drowned.

Of the two non-fatal accidents, one was caused by the cage at the Zigzag Colliery, crushing the big toe of the onsetter, who was only off work a few days. The other one was more serious, and occurred at the Killingworth sinking shaft, when Lawrence Moran had his skull fractured by the laden bucket as it swung across the shaft bottom.

ACCIDENTS with Explosives, classified according to their character or cause.

Nature of Accident.	No. of Fatal Accidents.	No. of Deaths.	No. of Non-fatal Accidents.	No. of Persons Injured.
While conveying explosives.....	.....	.....	2	2
While thawing explosives .....	.....	.....	.....	.....
While charging (from sparks of lamp or candle.....	.....	.....	.....	.....
or stemming (when using iron or steel tools.....	.....	.....	.....	.....
holes (when using wooden, brass, or copper tools.....	.....	.....	.....	.....
Premature ex- } with squibs or straw.....	.....	.....	.....	.....
plosions ..... } with safety fuse.....	.....	.....	1	2
Delayed explosions, due to fuse hanging fire.....	.....	.....	.....	.....
Blows from stones or coal projected by shots.....	.....	.....	2	2
Sundries and unknown.....	.....	.....	2	2
Totals.....	.....	.....	7	8

The two accidents "while conveying explosives" were caused by sparks from the lights carried by the injured men.

The premature explosion of a shot at the Pacific Colliery resulted in injuries to the two men, and was caused by friction exploding the charge when being rammed into the hole by means of an iron drill, which was a breach of General Rule 12.



Of the two accidents by blows from stones or coal projected from shots, one occurred at the Newcastle Coal Company's A Pit, when a miner was struck by a piece of coal blown from a shot, in consequence of which his leg had to be amputated. The other one was caused by a shot blowing through into a wall from the adjoining bord at the Wickham and Bullock Island Colliery, which burnt and bruised a miner. This accident illustrates the necessity of warning men to keep clear in cases where shots are being fired when two places are nearly holed into each other.

The two accidents under the head of "Sundries and unknown," one of which happened at West Wallsend on 16th June, and the other at the A.A. Company's No. 2 Pit on 19th December, are fully described in the list of accidents.

#### UNDERGROUND Haulage Accidents.\*

Nature of Accident.	No. of Fatal Accidents.	No. of Deaths.	No. of Non-Fatal Accidents.	No. of Persons Injured.
While engaged in pushing tubs or skips .....	.....	.....	5	5
While engaged in coupling or uncoupling tubs or skips .....	.....	.....	.....	.....
Run over while passing along or across levels or engine planes.	.....	.....	4	4
Crushed between tubs, or between tubs and sides of levels or planes and props.	.....	.....	6	6
In other ways .....	.....	.....	2	2
<b>Totals .....</b>	.....	.....	<b>17</b>	<b>17</b>

\* These include all accidents on inclined and engine planes, and by trams and tubs. (See table headed "Summary of Fatal and Non-fatal Accidents, classified according to place and cause.")

It is satisfactory to notice that there was no fatal accident during the year under this head, although there were four more non-fatal accidents than during the year 1897.

On inclined and engine planes there were two accidents, both caused by hauling ropes, one resulting in a broken leg and the other a compound fracture of the leg below the knee.

By trams and tubs there were fifteen accidents, the most serious of which were the following:—31st May, at Stockton, when a wheeler had his leg broken whilst riding between tubs. 6th June, at Wickham and Bullock Island, when a wheeler injured his back whilst riding on full tubs. 18th July, at Seaham, when a driver injured his head, back, and shoulders by falling in front of his set of tubs whilst riding with one foot on the chain and the other on the buffer of the first tub. 1st August, at Corrimal, when a wheeler had a leg broken by being jammed between empty tubs. 31st October, at West Wallsend, when a shiftman was knocked down and crushed, causing concussion of the brain, and collar-bone and five ribs to be broken. 22nd December, at Lambton, when the under manager's leg was fractured and bruised by full tubs. 27th December, at Hetton, when a wheeler had his arm broken by being jammed between an empty tub and a prop.

Although these injuries were received accidentally, in some cases the injured persons were riding on tubs in dangerous positions, which requires careful supervision on the part of officials to prevent.

By underground fires Mr. T. J. Evans and John Patmore, on 2nd December, were rendered unconscious by carbon monoxide gas in one of the Ferndale old shafts, where they were engaged taking out the tubbing cylinders.

*Sundries.*—There were seventeen accidents under this head, causing injuries to eighteen persons, all of which are explained in the list of non-fatal accidents.

#### ACCIDENTS ON Surface—Railways or Tramways.

Description.	No. of Fatal Accidents.	No. of Deaths.	No. of Non-fatal Accidents.	No. of Persons Injured.
While engaged in moving waggons .....	.....	.....	2	2
While engaged in coupling or uncoupling waggons .....	.....	.....	.....	.....
Run over while passing along or across railways or tramways.	1	1	.....	.....
Crushed between waggons or between waggons and structures.	1	1	1	1
In other ways .....	.....	.....	12	13
<b>Totals .....</b>	<b>2</b>	<b>2</b>	<b>15</b>	<b>16</b>

*Accidents on the Surface.*—There were two accidents, causing the deaths of two persons. One occurred at South Bulli, when a deputy named Alexander Learmonth was accidentally knocked down and run over by the waggons on the surface incline.

The other happened at Seaham Colliery, when John Richardson, traffic manager, was crushed between a waggon and a retaining wall whilst attempting to use the brake with his foot.

The non-fatal accidents on the surface are sufficiently explained in the list of non-fatal accidents.

All the accidents have been investigated and reported on by the Inspectors, and the inquests attended in the cases of fatal accidents.

SECTION IV.  
LIST OF PROSECUTIONS.

Name of Mine.	Description of Offender.	Contravention.	Result of Trial.	Penalty.	Costs.
(a) Prosecutions by direction of Minister for Mines.					
Centenary .....	Manager.	Breach of General Rule 1—failed to measure air in each split or current and enter same in book.	Conviction..	£ s. d. 2 10 0	s. d. 4 10
Do .....	do	Breach of General Rule 4—failed to cause a report to be entered in book before commencement of work.	do	2 10 0	4 10
South Greta .....	do	Breaches of General Rules 1, 4, 5, and 32, and Section 57 of the Coal Mines Regulation Act, 1896.	do	0 5 0	24 2
(b) List of Prosecutions by Owners, &c., against Workmen.					
Dudley .....	Miner	Breach of Special Rule 25—closing a regulator .....	Conviction.	1 0 0	5 6
Lambton .....	do	Breach of General Rule 23—working without sprags .....	do	0 10 0	*1 0
Do .....	do	Breach of General Rule 23—working without sprags .....	do	0 10 0	5 6
Metropolitan .....	do	Breach of Special Rule 201—neglecting to close a door.....	do	1 0 0	4 10
Burwood .....	do	Breach of General Rule 23—not upholding coal with sufficient sprags.	do	0 10 0	5 6
Do .....	do	Breach of General Rule 23—working without sprags .....	do	0 10 0	5 6
Do .....	do	Breach of Special Rule 25—going past a danger signal ...	do	0 10 0	5 6
Elmore Vale .....	do	Breach of General Rule 12 (d)—using iron tamping-rod...	Case with- drawn—not sufficient evidence.	.....	...
Burwood .....	do	Breach of Special Rule 25—did remove and go beyond a danger signal.	Conviction.	2 0 0	5 0
Do .....	do	Breach of Special Rule 25—did remove and go beyond a danger signal.	do	2 0 0	5 6
East Greta .....	do	Breach of Special Rule 28—going into a part of a mine other than where employed.	do	0 1 0	4 10
Metropolitan .....	Wheeler.	Breach of Special Rule 111—riding on limbers .....	do	0 2 6	4 10
Do .....	do	Breach of Special Rule 111—riding on limbers .....	do	0 2 6	4 10
Do .....	Miner	Breach of Special Rule 193—crossing danger boards .....	do	0 5 0	4 10
Do .....	do	Breach of Special Rule 211—carrying matches in a mine	do	0 10 0	4 10
Lambton .....	Deputy...	Breach of Special Rule 11—not reporting result of examination of places in book.	do	0 5 0	5 6
Metropolitan .....	Miner	Breach of Special Rule 211—carrying matches in mine ...	do	2 0 0	4 10
Do .....	do	Breach of Special Rule 211—carrying cigarette in mine...	do	0 5 0	4 10
Do .....	do	Breach of Special Rule 211—carrying match in mine .....	do	2 0 0	4 10
Do .....	do	Breach of Special Rule 211—carrying a match .....	do	2 0 0	4 10
Metropolitan .....	do	Breach of Special Rule 211—carrying a match .....	do	2 0 0	4 10
Do .....	Wheeler.	Breach of Special Rule 108—neglecting to close a trap-door	do	2 0 0	4 10
Hetton .....	Deputy and Inspector of places	Breach of General Rule 4—failure to enter a report of inspection by 11 a.m. on date of inspection.	do	0 10 0	5 10
Do .....	Roadman	Breach of General Rule 4—failure to enter a report of inspection by 11 a.m. on date of inspection.	Dismissed...	.....	...
Minmi .....	Miner	Breach of General Rule 23—neglecting to set a sprag .....	Conviction.	0 10 0	6 8

\* Professional costs.

SECTION V.

GENERAL REMARKS.

TRADE.

As the statistics show, there has been an increase in the output of coal from the Northern and Southern districts, and a slight decrease in that of the Western district.

During the latter half of the year the collieries, generally speaking, worked better than in the first half. In consequence of negotiations between the coal-owners and the miners, the price of the best Newcastle coal was raised from 6s. 9d. to 8s., f.o.b., after the 31st December, 1898, and at the same time the getting price for large coal was raised from 2s. 11d. to 3s. 2d. per ton.

SEAHAM COLLIERY.

At the end of the year the east side workings of this colliery were reopened, after having been sealed off since February, 1896, in consequence of an underground fire, caused by a naked light. This accident, which has caused serious loss to the proprietors, and some loss of work to the miners, points to the necessity of providing a naked light less exposed than the usual form of Scotch miners' lamp now commonly used, especially for those persons whose duties compel them to be moving about, such as drivers, wheelers, &c.

It is also worthy of the attention of colliery owners and managers to reduce the quantity of timber going into the mines which have loose barks of a highly inflammable nature. The use of non-inflammable brattice cloth, if obtainable of a good quality, might be used with a greater degree of security than the ordinary brattice cloth, especially for canvas doors, where open lights are constantly passing to and fro.

SYDNEY

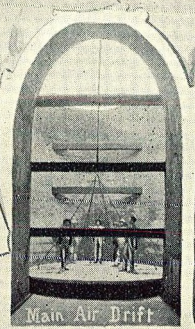




Headframe Birthday Shaft



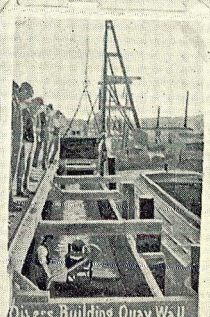
Interior Birthday Shaft



Main Air Drift

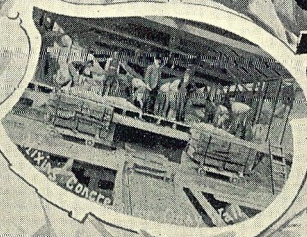


Sinkers Drilling ready for Blasting

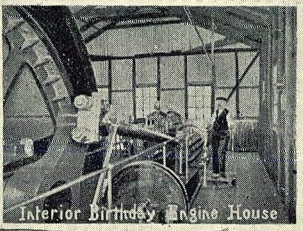


Dikers Building Quay Wall

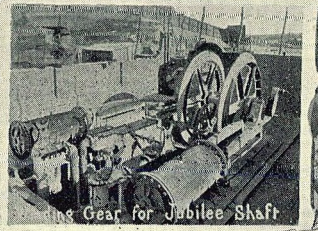
# SYDNEY HARBOUR COLLIERY



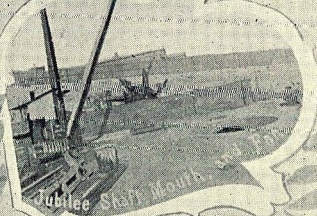
Interior Engine House



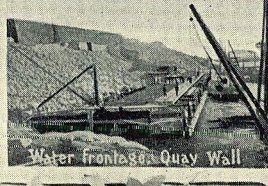
Interior Birthday Engine House



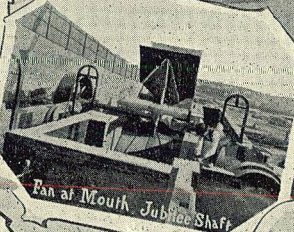
Large Gear for Jubilee Shaft



Jubilee Shaft Mouth

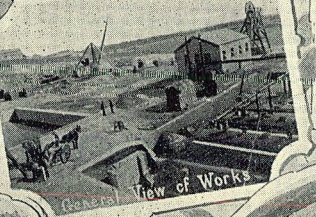


Water frontage Quay Wall



Fan at Mouth Jubilee Shaft

# WORKS



General View of Works

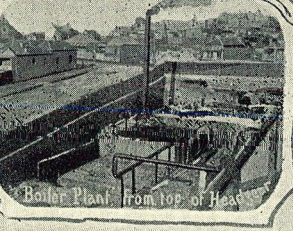


Sinkers Changing Shift



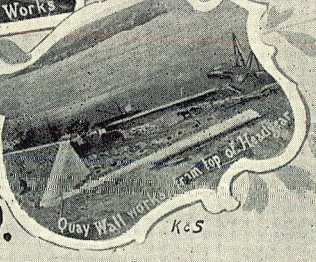
Headframe Birthday Shaft

# AUGUST



Boiler Plant from top of Headframe

# 1898



Quay Wall works from top of Headframe

Remy & Co  
Photographers  
Sydney



## SYDNEY HARBOUR COLLIERIES, BALMAIN.

During the year ended 31st December, 1898, a considerable portion of the permanent plant has arrived from England, and has been erected. Of this, five boilers, the ventilating-fan, and the electric lighting plant will be used during the further sinking of the shafts. Sinking work, which, pending the arrival from England of the boilers, was begun by using steam-cranes, was resumed at the end of June, and the depth of the Birthday shaft on 31st December was 585 feet, and of the Jubilee shaft 225 feet. The amount of water met with is so trifling that it is sent up in the sinking buckets. The shafts have been walled throughout with brickwork set in cement mortar, the thickness of walling being 9 inches. Both shafts are 18 feet diameter in the clear. The buntons for the permanent-cage guides are being built into the walling as it proceeds. The distance between the buntons is 6 feet, centre to centre, and one side of the shaft is being bratticed with tongued and grooved boarding for ventilating the sinking. The upcast area thus formed is 12 square feet, and this is connected in each case with the permanent ventilating fan. At present, however, only a small steam jet, playing into the upcast, is required to produce ample ventilation.

The building of the quay wall is nearing completion, and provision is being made for the berthing of the largest vessels at a distance of about 300 feet from the pit's mouth, the minimum depth of water at ordinary tides being 25 feet. The sinking engines at the Birthday shaft are of the horizontal coupled type, having cylinders 28 in. diameter x 5 ft. stroke and drum 14 ft. diameter, while at the Jubilee shaft the sinking engines, which are of the same type, have cylinders 30 in. diameter x 5 ft. stroke and drum 13 ft. diameter. Both have Cornish valve-gear. The boilers for use during sinking form the first section of the permanent installation. They are 30 ft. long x 8 ft. diameter, and are constructed for a working pressure of 120 lb. per square inch. The fittings are of the most modern type, and include wrought-steel steam and feed mains, forced draught apparatus, &c. The boiler feed-pumps, in duplicate, have H.P. cylinders 8½ in. diameter, L.P. cylinders 12 in. diameter, rams 8 in. diameter, the length of stroke being 9 in. The ventilating fan is of the Walker type, 24 ft. in diameter x 8 ft. wide. The fan engines are of the compound horizontal coupled type, having cylinders 19 in., and 33 in. diameter x 4 ft. stroke. On the crank shaft of the engines is a rope pulley 18 ft. diameter, driving, by means of eleven cotton ropes, a pulley 9 feet diameter on the fan shaft. The electric lighting plant consists of a Crompton dynamo of 230 volts, and 112 amperes output.

The dynamo driving engines are of the compound coupled horizontal type, having cylinders 8 in. and 15 in. diameter x 2 ft. stroke. The permanent steel headgear and capstan engines are expected to arrive from England shortly. The former will have a height from cage landing to centre of pulleys of 70 feet, while the capstan engines will have cylinders 14½ in. diameter x 2 ft. 6 in. stroke, with drums 6 ft. 4½ in. diameter driven by gearing having a ratio of 8 to 1, and capable of lifting a load of 8½ tons at the rate of 120 feet per minute. Each pair of capstan engines will have two cylinders and two drums, and will support the walling cradle in each shaft by two steel wire ropes, which will also serve as guides for the sinking buckets.

## VENTILATION.

After the close of the inquest on the Dudley Colliery explosion, it was deemed advisable, in consequence of the custom of stopping the ventilating fans during the week-ends, &c., to address the following circular letter on the matter to the colliery managers:—

Circular No. 60.  
98-7,621.  
Sir,

Department of Mines and Agriculture,  
Sydney, 1898

I have the honor to invite your attention to the provisions of General Rule 1, section 47, of the Coal Mines Regulation Act, 1896, respecting the ventilation of mines, and to request that you will be good enough to cause them to be strictly complied with.

I may point out for your information that, so long as a mine is being worked, it is necessary that an adequate amount of ventilation shall be constantly produced therein, even during the temporary suspension of work between shifts, at week-ends, &c.

I have the honor to be,  
Sir,  
Your obedient Servant,

The Manager,

Chief Inspector of Coal Mines.

In most of the small collieries, and in some of the larger, the stoppings put in to force the air nearer to the face workings are made with small coal and rubbish. Although this custom is probably prompted by motives of economy in the first place, it would generally pay better to erect stoppings which will give the least possible leakage of air, and thus ensure good ventilation in the face.

In some collieries very fair stoppings are made with stones and mortar, and in others bricks and mortar are used.

Fans are being erected, or are to be erected, at the Sydney Harbour Collieries, Brown's Minmi, Killingworth, and Burwood Collieries.

It is customary in many of the mining districts in England and America, where fans are used to produce the ventilation, to have a stroke counter attached to the engine, so that the manager may see for himself how many revolutions the fan has made during any period. Special Rule 72 in the Yorkshire inspection district on this matter is as follows:—"The fan and fan engine shall be carefully attended to by the person or persons in charge thereof, who shall keep the same running at the speed ordered by the manager, and a self-registering indicator shall be attached to the fan or fan engine."

At some collieries here the manager places written instructions about the speed of the fan in the engine-house, and this practice is to be recommended.

A form of ventilation report, which should be useful in those cases where fans are in use, is given below.

Colliery.  
Daily Record of Revolutions of Fans, &c.  
day of                      189 .

Time.	Revolutions of counter.	Revolutions per hour.	Revolutions per minute.	Pressure of steam in lb.	Water gauge	Barometer.	Thermometer.	Direction of wind.	Remarks indicating anything unusual, and stoppages (if any), &c.
						inches	degrees		
1 a.m.....									
2 ".....									
3 ".....									
4 ".....									
5 ".....									
6 ".....									
7 ".....									
8 ".....									
9 ".....									
10 ".....									
11 ".....									
12 ".....									
1 p.m.....									
2 ".....									
3 ".....									
4 ".....									
5 ".....									
6 ".....									
7 ".....									
8 ".....									
9 ".....									
10 ".....									
11 ".....									
12 ".....									
Total for day .....									
Average for day.....									

#### PLANS OF COLLIERY WORKINGS.

The regulations bearing on this matter are contained in section 23 of the Coal Mines Regulation Act, 1896.

In many of the colliery plans there is an absence of much detail, which detracts materially from the value of the plan as a guide when laying out workings, &c. If the plans were kept up by efficient surveyors, who had passed an examination and obtained a certificate approved by the Department, it is probable that this deficiency would be supplied, and more reliance could be placed on the accuracy of the plans than at present. In the case of a few collieries, however, the plans are accurately kept up, and full of useful details.

#### METHODS OF WORKING COAL.

All the coal in the Colony is worked on the "bord and pillar" system, or a modification, viz., the double or Welsh stalls.

Although coal is now being worked at much greater depths, the pillars in many cases are not being left of sufficient area, having regard to the extra pressure they are required to support, and the consequence is that they become crushed in the first working, and the coal in the pillars is therefore reduced in commercial value. Besides this, the success of a broken or second working (which is the removal of the pillars) is rendered much more unsafe by small pillars being left than is the case where the pillars are large. In the former case, if there has not already been any evidence of "creep" or "crush" in the first working, it is then much more likely to take place when a commencement is made to remove the pillars than when the pillars have been left large.

Where the surface conditions admit of the future removal of the pillars, the system known as "following up the whole with the broken" is much practised in Great Britain, and has many points to commend its adoption here. In such cases the removal of the pillars is commenced soon after they are formed, care being taken to have the "whole" places two or three pillars in advance of the broken, and to leave pillars of sufficient size to protect the intake and return airways.

In order that systems of working entailing a minimum loss of coal, and the production of the coal in the best marketable condition with a maximum of safety, may be arrived at, the whole question of leaving suitable pillars, and methods of working the pillars, deserves great consideration from the colliery managers.

#### WORKMEN'S INSPECTION OF MINES.

There are many collieries in the Northern and Western districts where the miners do not avail themselves of the privilege afforded by General Rule 39, of appointing two practical working miners to make an inspection of the mine on their behalf.

#### COMPLAINTS.

Several complaints have been received during the year, all of which, whether anonymous or not, have been carefully investigated.

BOILERS.

## BOILERS.

It is desirable, in my opinion, that the regulations as to the inspection of boilers should be more definite than is indicated in the special rules. In the regulations for mines other than coal and shale, we find that No. 17 General Rule states:—"And at least once in every six months every boiler shall be subjected to a hydraulic test." There is no regulation to this effect in the Coal Mines Act, and in those cases where the boilers are not under the charge of thoroughly qualified engineers, it is a good precaution to adopt, to have the boilers put under hydraulic pressure, to about double the working pressure, at stated intervals.

## COLLIERIES WORKING UNDER TIDAL WATERS AND UNDER THE SEA.

The special conditions contained in the leases for coal being worked under tidal waters or under the sea demand the special attention of the colliery owners and managers.

In the event of the necessity for increasing the size of pillars beyond those indicated, for any special local conditions, the manager should not refrain from doing so, if he thinks it advisable.

Special conditions under tidal waters are as follows:—

- a. The minimum width of pillars to be left shall be six yards,\* and the maximum width of bords or other excavations shall be six yards; but the lessee or manager of the colliery is free to exercise his discretion in altering the above by increasing the minimum width of the pillars or decreasing the maximum width of the bords or other excavations so as to increase the general safety.
- b. That the six-yard pillars shall be left unwrought.
- c. All headings and bords to be driven by plumb lines.
- d. All coal workings to be accurately surveyed every three months, the plan thereof to show the area worked out during the previous three months, and every year's workings must be indicated thereon by some distinctive colour. The dates of each survey must be noted on the plan.
- e. The colliery plans to contain a faithful and honest record of all dykes, fissures, and occurrences that are met with in the mine, and the workings delineated thereon as they are, and not as they are intended to be.
- f. In one road of every pair of winning-off or leading headings a bore shall be kept going ten feet in advance, for the purpose of foretelling the presence of any fissure, wash-out, open joint, fault, dyke, or otherwise, and all winning-off headings shall be driven at least fifty yards in advance of the working bords.
- g. Owing to the tendency that faults, dykes, wash-outs, and such like possess of weakening the roof and of permitting the passage of water through the broken material that is frequently found along their lines or through open fissures, or joints, the lessee, or his mining manager, must, on discovering a fault, wash-out, dyke, or fissure in a bore at the face or side of the leading headings or levels, take all necessary precautions against possible danger before opening it up by the drive.
- h. In addition to the special facilities which shall have been provided for the escape of the men by the shafts, the coal under the                    should not be attacked until after a large goaf has, if possible, been made by extensive coal workings under the mainland.
- i. That the most accurate and trustworthy information be obtained by the lessee or his mining manager, as to the thickness and character of the strata and estuary deposits overlying the coal seam before commencing to work it.

Special conditions under the sea are as follows:—

- a. The minimum width of pillars to be left shall be eight (8) yards, and the maximum width of bords or other excavations shall be six (6) yards; but the lessee or the manager of the colliery is free to use his discretion in altering the above by increasing the minimum width of the pillars or decreasing the maximum width of the bords or other excavations so as to increase the general safety.
- b. That the eight (8) yard pillars be left unwrought.
- c. All headings and bords to be driven by plumb lines.
- d. All coal workings to be accurately surveyed every three months, the plan thereof to show the area worked out during the previous three months, and every year's workings must be indicated thereon by some distinctive colour. The dates of each survey must be noted on the plan.
- e. The colliery plans to contain a faithful and honest record of all dykes, faults, fissures, and occurrences that are met with in the mine, and the workings delineated thereon as they are, and not as they are intended to be.
- f. In one road of every pair of winning-off or leading headings a bore shall be kept going ten (10) feet in advance, for the purpose of foretelling the presence of any fissure, wash-out, open joint, fault, dyke, or otherwise, and all winning-off headings shall be driven at least one hundred (100) yards in advance of the working bords.
- g. Owing to the tendency that faults, dykes, wash-outs, and such like possess of weakening the roof and of permitting the passage of water through the broken material that is frequently found along their lines or through open fissures, or joints, the lessee, or his mining manager, must, on discovering a fault, wash-out, dyke, or fissure in a bore at the face or side of the leading headings or levels, take all necessary precautions against possible danger before opening it up by the drive.
- h. In addition to the special facilities which shall have been provided for the escape of the men by the shafts, the coal under the ocean should not be attacked until after a large goaf has, if possible, been made by extensive coal workings under the mainland.
- i. That the most accurate and trustworthy information be obtained by the lessee, not only of the depth and character of the sea-bottom, but also of the strata overlying the coal seam, which strata shall be bored through, and proved a minimum thickness of thirty (30) feet at the face of the leading headings or levels so soon as they have driven one hundred (100) yards in advance of the working bords; and after the first borehole has been completed other bore-holes shall be so put up in advance of it at the face of the headings or levels at distances not exceeding twenty (20) yards.

## AMBULANCE.

\* Now eight yards.



## AMBULANCE.

The table below which affords information in regard to the classes formed during the year, may prove of interest:—

Name of Class.	Number of Successful Candidates.	Name of Surgeon-Instructor.	Name of Examining Officer.
West Wallsend .....	13	Dr. J. Preston Hocken .....	Dr. W. L'Estrange Eames.
Merewether.....	30	Dr. W. Clarke .....	Dr. G. P. M. Woodward.
Wallsend .....	22	Dr. H. K. Bean .....	do
Minmi (No. 2) .....	23	Dr. A. Crawley .....	Surgeon-Colonel W. D. C. Williams.
Lambton .....	16	Dr. Stapleton .....	Dr. W. L'Estrange Eames.
Stockton .....	7	Dr. J. W. Hester.....	Surgeon-Colonel W. D. C. Williams.
West Wallsend .....	8	Dr. J. Preston Hocken .....	Dr. W. L'Estrange Eames.

Only one class, and that a class at Wallsend, instructed by Dr. H. K. Bean, received the secondary or advanced course of instruction. It is gratifying to be able to state that all of the members of this class who presented themselves for examination were successful.

It is still a matter for surprise that a much larger number of the miners do not avail themselves of the advantages offered by the corps. The books, bandages, and blankets required by each class are supplied to it free of cost. The corps also provides an instructor and examiner, and, where it is necessary to hire a room for the use of the class, bears half the expense thereby incurred. Handsome certificates are awarded to candidates who are successful in obtaining the prescribed number of marks in the primary examination, while to those in the secondary or advanced examination silver medallions are awarded.

The sub-committee on life brigades at mines has held several meetings during the year, but has not been able to complete its labours. It has supervised certain experiments which were carried out at Newcastle during the year with the pneumatophor and Fleuss life-saving apparatus. As the experiments in connection with the pneumatophor did not prove satisfactory, the sub-committee urged that a sample of the Fleuss apparatus should be obtained. This was done, and soon after its arrival at Newcastle some experiments were made by the sub-committee, in the presence of a representative of Messrs. Siebe, Gorman, & Co.'s Australian agents (Messrs. Scott, Henderson, & Co.). As a result, certain alterations were suggested which it was thought would have the effect of reducing the weight of the apparatus and increasing its value as an agent in rescue work at mines. These suggestions have been duly transmitted to Messrs. Siebe, Gorman, & Co.

Inquiries were also made during the year with a view of obtaining an electric light and telephonic outfit suitable for use in mines in connection with rescue work.

## EXAMINATIONS FOR CERTIFICATES OF COMPETENCY UNDER THE COAL MINES ACT.

The constitution of the Board is as follows:—

Jesse Gregson, Esq., J.P. ( <i>Chairman</i> ), Australian Agricultural Company, Newcastle.	}	Mine Owners.
Wm. Sandford, Esq., Eskbank Iron Works, Lithgow ... ..		
Thomas Saywell, Esq., 16, York-street, Sydney ... ..	}	Mining Engineers.
D. A. W. Robertson, Esq., J.P., Metropolitan Colliery, Helensburgh... ..		
Richard Thomas, Esq., J.P., Brown's and Duckenfield Collieries, Minmi... ..	}	Miners.
L. B. Blackwell, Esq., The Vale Colliery, Lithgow ... ..		
Adam Cook, Esq., Wallsend ... ..	}	Miners.
J. G. Hutton, Esq., Thirroul ... ..		
David Leake, Esq., Lithgow ... ..	}	Miners.
John Dixon, Esq., F.G.S. ( <i>Vice-Chairman</i> ), Inspector.		
Secretary to the Board—H. D. Wood, Esq., B.A., LL.B., Mines Department, Sydney.		

During the year Mr. W. T. Philpot resigned his seat on the Board, having been appointed as the manager of a mine, and Mr. J. G. Hutton was appointed in his place. The appointment of Mr. Hutton took effect from the 10th October last.

The examiners appointed by the Board for conducting the examinations were:—

Messrs. W. Humble, F.G.S., H. Osborne MacCabe, J.P., and T. Cater.

Examinations were held at Sydney on the 19th, 20th, and 21st January, 1898, and at Newcastle on the 20th, 21st, 22nd, and 23rd July, with the following results:—

## RESULT of the Examinations for Certificates.

	First-class Certificates.		Second-class Certificates.	
	Number of Candidates.	Number of Passes.	Number of Candidates.	Number of Passes.
Sydney .....	7	2	18	15
Newcastle .....	11	2	19	16
Total .....	18	4	37	31

By permission of the Board for appointing Examiners, the questions put at the Examinations in 1898 are given herewith:—

EXAMINATION FOR FIRST-CLASS CERTIFICATE OF COMPETENCY—19TH, 20TH AND 21ST JANUARY, 1898.

First Day: Morning, 9 a.m. to 12 (noon). Technical College, Ultimo, Sydney.

Marks.

*Arithmetic.*

- 6 1. 1,800 tons of large coal, at 8s. per ton, are mixed with 1,200 tons of small, at 3s. per ton: At what price must the mixture be sold to realise  $7\frac{1}{2}$  per cent. profit?  
7 2. A mine reservoir covers 1 acre of ground, and contains 4,000,000 gallons of water: What is its average depth?

*Geology.*

- 5 1. When is strata said to be (a) conformable, (b) unconformable? Explain your answer by sketch.  
6 2. In which system of rocks are the Newcastle, Illawarra, and Lithgow Coal-seams found? Are these seams of the same geological age as the principal beds now being worked in Europe?

*Surveying.*

- 6 1. The full dip of a mine is due south, at the rate of 6 inches per yard: At what bearing must a place be started to dip 3 inches per yard?  
8 2. Plot the following to a scale of 2 chains to an inch:—

S. 30° E.,	5	chains.
N. 80° E.,	8.50	„
N. 4° E.,	6.00	„
N.	4.00	„
N. 85° W.,	9.30	„

and find bearing and distance of the "tie" line.

- 5 3. Why is it necessary to make deductions in the chainings to the rise and dip of steep workings; and how would you find the correct measurement?

*Ventilation and Mine Gases.*

- 9 1. A staple, situated near one of the return airways, is fouled with black-damp: Explain, by sketch, how you would remove this gas.  
10 2. A shaft is divided into two compartments for the purpose of ventilation; the area of one compartment is (say) 370 feet, and of the other 25 feet: Which, in your opinion, will naturally become the upcast?  
12 3. If sent to a colliery to report on the efficiency of a ventilating plant, to what points would you direct your attention?  
8 4. If, with a water-gauge of .25 inches, 40,000 cubic feet of air per minute is obtained, what height will the water-gauge be, when the quantity is 120,000 cubic feet per minute?  
11 5. What indications would you expect to get from the heating of gob débris, or from an incipient underground fire? Name the gases given off at such a time.

First Day—Afternoon: 2 p.m. to 5 p.m.

*Coal Mines Regulation Act, 1896.*

What are the requirements of the Act regarding—

- 7 1. Returns by owner, agent, or manager?  
6 2. Employment of boys?  
8 3. Duties and responsibilities of certificated managers?

*Winning and Working of Coal and Shale.*

- 13 1. You have to sink a 15-foot finished shaft through 400 feet of water-bearing strata: State the kind and thickness of lining you would use, and show by sketch how you would start and complete the work, so that it would be water-tight and safe.  
8 2. With a head of water 265 feet, what pressure would the lining have to resist? If tubing is used, how thick must it be to safely resist this pressure?  
10 3. What, in your opinion, is the best explosive to use in (a) shaft-sinking; (b) getting coal in dry and dusty mines; (c) damp and non-friery mines? Give the approximate composition of each explosive mentioned.  
10 4. If you had a hard roof and soft floor, how would you secure your pit-eye (bottom)? Would you adopt the same method if the floor was hard and the roof soft?  
8 5. If you are about to work a seam by long-wall in which the lines of cleavage (facings) are smooth and well defined, and bearing north and south, in what direction would you have your working face? Give your reasons.

*Machinery, Boilers, Pumps, &c.*

- 13 1. Enumerate, with appropriate dimensions, the machines which you would consider it necessary to have on the surface in order to deal with an output of 1,000 tons per day from a colliery 1,200 feet deep, and an underground haulage of an average distance of a mile.  
7 2. What size of pump would be required to drain a mine 600 feet deep, if the inflow was 9,000 gallons per hour? Give the horse-power.  
9 3. What should be the thickness of steel plate for a double riveted Lancashire boiler, 30 feet long and 7 feet in diameter, to work *safely* at 80 lb. pressure per square inch? Show how you arrive at your result.  
11 4. You wish the steam to blow off at 80 lb.: Sketch and describe the valve you would use, and give the weight you would apply to balance the above pressure.

Second Day—Morning, 9 a.m. to 12 (noon).

*Arithmetic.*

- 6 1. Find (a) the square root of 96,728,543; (b) the square of 799; and (c) the value of  $\frac{3}{4}$  of half a guinea +  $\frac{1}{4}$  of 25s.  
6 2. If 7 men and 5 boys get 350 tons of coal in 15 days, how long will 10 men and 3 boys take to get 250 tons, assuming that 2 boys are equal to 1 man?  
7 3 A shaft 18 feet in diameter and 500 feet deep is full of water: How many shifts, of 8 hours, will be required to take it out, with a bucket 40 cubic feet capacity, if 30 buckets per hour are raised?

*Geology.*

- 7 1. What is a dyke? Name the igneous rocks (if any) in your district, and say if they affect your coal-seams.  
7 2. What do you understand by the terms denudation, detritus, outcrop, strike, flora, fauna, trilobite?  
7 3. How would you distinguish between igneous and aqueous rocks?

*Surveying.*

Marks.

*Surveying.*

- 5 1. Find the area of a block of land 550 links square, in acres, roods, and poles. What amount of coal is under it in a seam 8 feet thick? 18 cwt. = 1 cubic yard.
- 7 2. Show how you would determine the tangent points of a curve of 20 chains radius on two lines meeting at an angle of  $150^\circ$ ; and show your tangential angles for chords 1 chain long.
- 5 3. The diagonal of a square pillar of coal is 3 chains: If the seam is 9 feet thick, how many cubic yards are there in the pillar?

*Ventilation and Mine Gases.*

- 7 1. If 90,000 cubic feet of air per minute passed through your workings with 2.75 inches of water-gauge, what would be the H.P. of ventilation?
- 12 2. It has been claimed on behalf of panel working, that the disastrous results of an explosion in one part of a mine, worked on that system, are not carried into other parts. In the light of recent events, is this claim a valid one? If not, why not? Answer fully.
- 11 3. Give the chemical symbol, composition, specific gravity, and characteristics of each of the gases usually met with in coal-mines. Give also their effect on human beings.

Second Day--Afternoon : 2 p.m. to 5 p.m.

*Coal Mines Regulation Act, 1896.*

What does the Act require concerning—

- 6 1. Ventilation?
- 8 2. Use of explosives below ground?
- 5 3. Use of safety-lamps in certain places?

*Winning and Working of Coal and Shale.*

- 8 1. Under what conditions does timber rapidly decay in mines? What methods have been proposed to preserve it?
- 14 2. Your upcast shaft is 8 feet in diameter, and you find it necessary to make it 12 feet in diameter; you wish the work to proceed day and night, but so as not to retard the output of coal at the downcast: How would you carry on the work so as to interfere with the ventilation as little as possible?
- 10 3. Two seams of coal, similar in quality, and separated by 80 feet of strata, are available for working: Which would you work first, and by what system, assuming that—(a) both seams are fiery, (b) the goaf is likely to yield water?
- 10 4. State what you know of Electricity as a force available for use under ground. Would you recommend its use in—(a) a fiery mine, (b) a non-fiery mine? Give the reasons for your answers.
- 9 5. The shaft of a ventilating fan breaks during working hours: What would you do, assuming the mine was fiery?

*Machinery, Boilers, Pumps, &c.*

- 13 1. Describe the class and size of engine boilers and other plant that you would put down to work 1 mile of road by endless rope, the road rising 1 in 50 against the load, and the output to be 700 tons in 9 hours.
- 10 2. Sketch the side elevation of a good head-gear; give also the measurements and strengths of all—(a) pieces of timber; (b) steel, used in its construction, supposing it to be required for a pit where the load is about 6 tons.
- 9 3. Sketch and describe the scroll or spiral drum, and state the advantages claimed for it over the ordinary cylindrical drum.
- 8 4. Do you know of any means to counteract the strain on the capping of a winding rope when the engine takes the lift? If so, describe and sketch the arrangement.

EXAMINATION FOR SECOND-CLASS CERTIFICATE OF COMPETENCY—19TH, 20TH, AND 21ST JANUARY, 1898.

First Day—Morning: 9 a.m. to 12 (noon).

*Arithmetic.*

Marks.

- 6 1. How many bricks would be required to put in 10 stoppings 9 in. thick, average size of each opening 7 ft. by 8 ft.?
- 5 2. How many yards of tramroad, laid with rails weighing 30 lb. per yard, would  $4\frac{3}{4}$  tons lay?

*Winning and Working of Coal and Shale.*

- 6 1. What means would you adopt for driving your headings and roadways straight?
- 8 2. Describe, in detail, the process of boring a shot-hole, putting in the charge, and firing it safely in—  
(a) A sinking shaft.  
(b) A working bord.
- 8 3. The roof of a main haulage road, 12 ft. wide, 8 ft. high, is to be secured. The immediate cover is 10 ft. of soft shale, and the thickness to surface is 350 ft. Describe the material you would use, giving dimensions.
- 6 4. If the sides of the road mentioned in Question 3 were weak, show by sketch, giving dimensions of material, how you would secure them.
- 6 5. Describe briefly one of the methods which have been proposed to keep down the dust in dry and dusty mines.
- 6 6. In working pillar and stall work, how would you guard against creep?

First Day—Afternoon : 2 p.m. to 5 p.m.

*Coal Mines Regulation Act.*

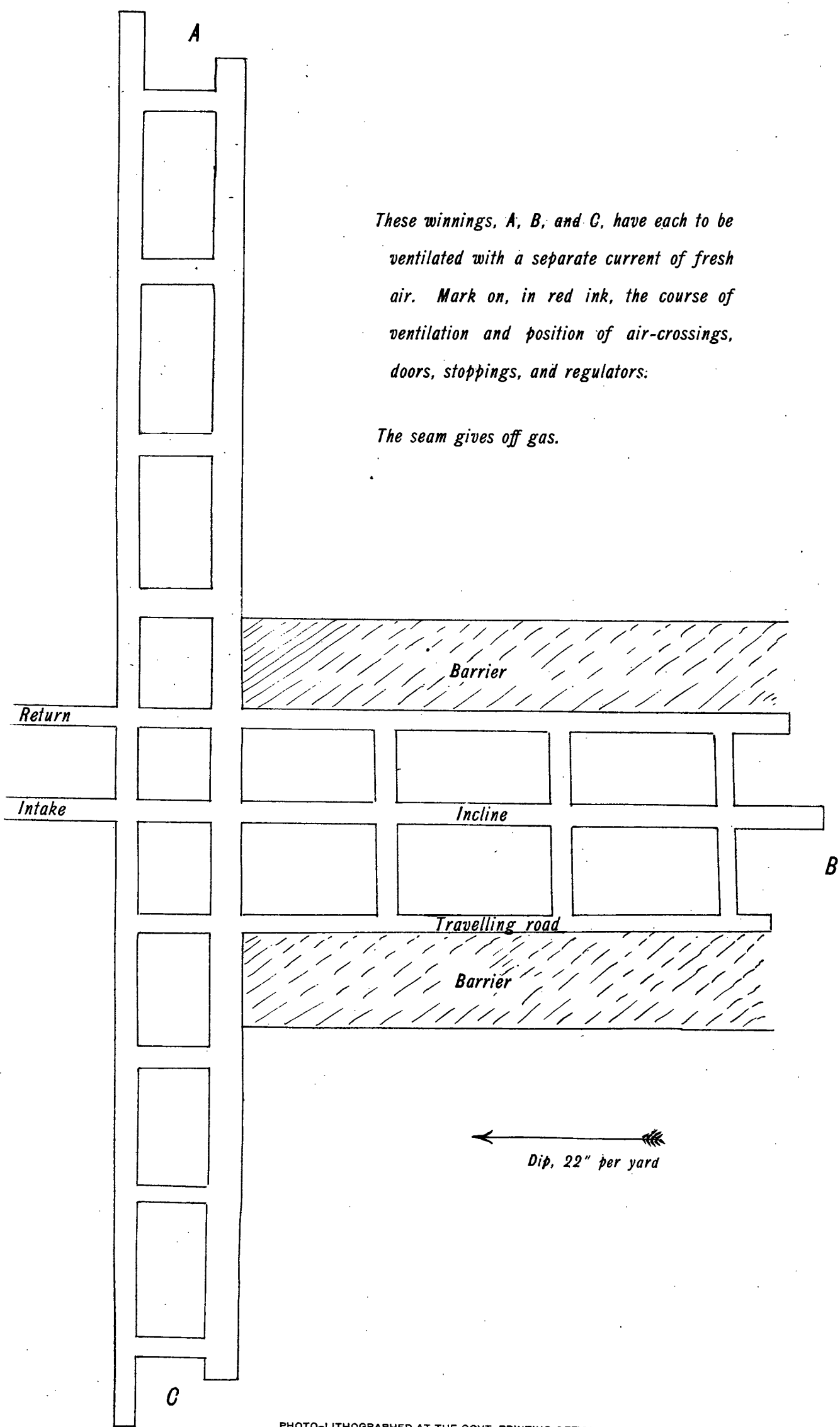
What does the Act require as regards—

- 7 1. Use of safety-lamps in certain places?
- 6 2. Fencing of entrances?
- 6 3. Boreholes in places approaching drowned workings?

*Ventilation and Mine Gases.*

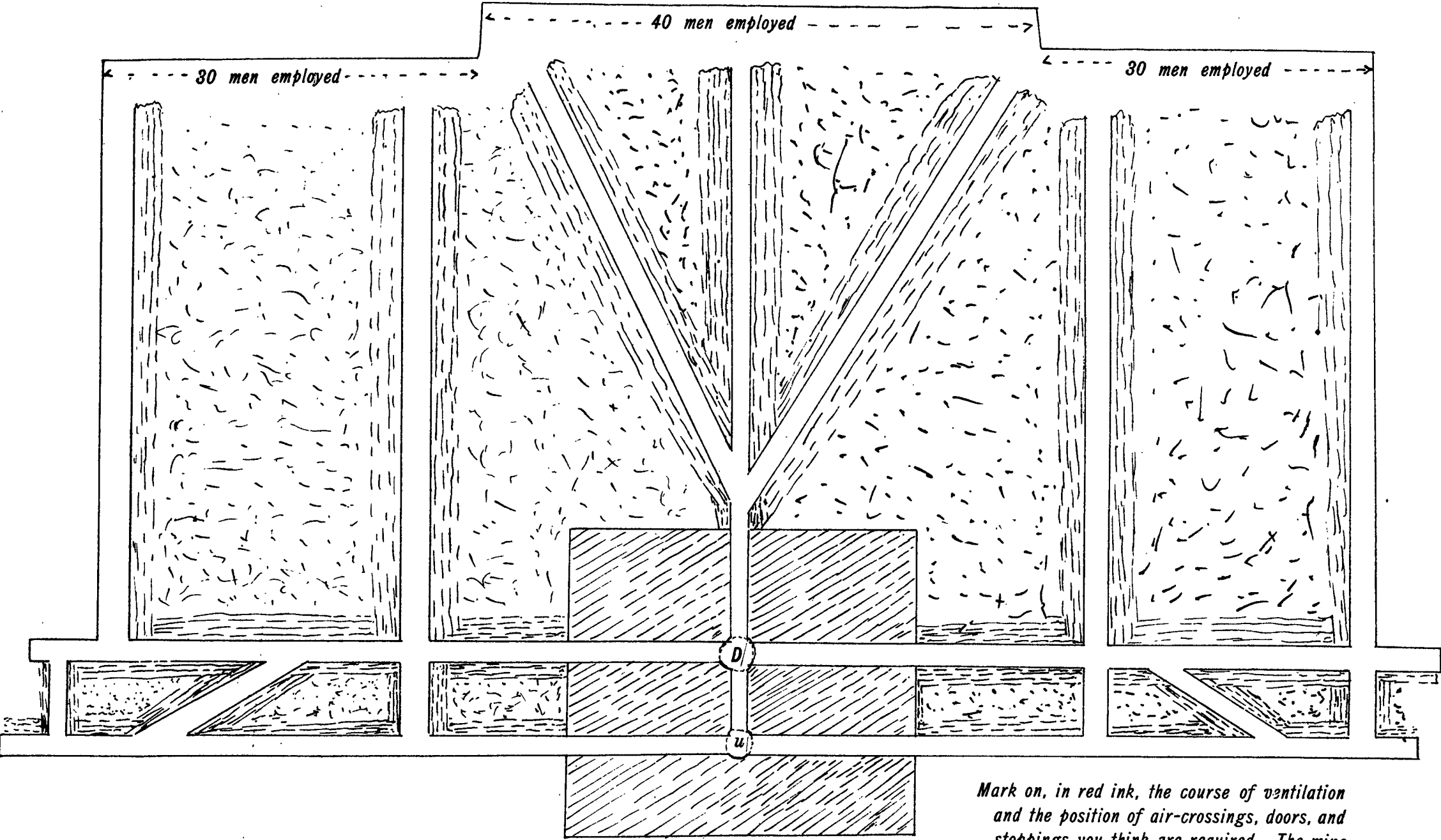
- 5 1. In an airway 7 ft. 6 in. x 8 ft. 6 in. the velocity of the air current is 390 feet per minute. What is the volume of air passing?
- 6 2. Describe the method of ventilating headings in process of driving.
- 6 3. Write down what you know concerning the properties and composition of black-damp and fire-damp.
- 6 4. Give the position which the various gases usually occupy in a mine.
- 6 5. What is the advantage of noticing the changes in barometer at a colliery?

Second



*These workings, A, B, and C, have each to be ventilated with a separate current of fresh air. Mark on, in red ink, the course of ventilation and position of air-crossings, doors, stoppings, and regulators.*

*The seam gives off gas.*



*Mark on, in red ink, the course of ventilation and the position of air-crossings, doors, and stoppings you think are required. The mine is fiery.*

PHOTO-LITHOGRAPHED AT THE GOVT. PRINTING OFFICE, SYDNEY, NEW SOUTH WALES.

Second Day—Morning : 9 a.m. to 12 (noon).

*Arithmetic.*

Marks.

- 6 1. Multiply £28 10s. 9d. by 307 and divide the product by 28.
- 7 2. An airway is 1,000 yards long, 7 feet high, 6 feet wide : What is the rubbing surface in square feet ?

*Winning and Working of Coal and Shale.*

- 6 1. A curve has to be laid on an engine plane. Explain by sketch how you would do it so that the rope may have a straight lead from the last binding sheave into the centre of the roadway.
- 5 2. If in driving in the coal you met with a fault which was perpendicular, how would you ascertain whether it was an up-throw or down-throw ?
- 8 3. Show by sketch how you would extract pillars 20 yards x 35 yards where the roof is—
  - (a) Hard.
  - (b) Soft.
- 8 4. If the roof was very strong in a 4-foot seam, giving no material for packs, how would you work it by long wall ?
- 7 5. Show by sketch how you would fix sprags to a tender coal 6 feet thick, so that it may be safely holed to a depth of 3 feet.
- 6 6. Show by sketch how you would fix a door so that it will close by itself.

Second Day—Afternoon : 2 p.m. to 5 p.m.

*Coal Mines Regulation Act.*

What does the Act require as regards—

- 6 1. Ambulance appliances ?
- 7 2. Timbering ?

*Ventilation and Mine Gases.*

- 5 1. How can you reduce the friction of air in mines ?
- 6 2. In your morning inspection as deputy you find a large quantity of fire-damp in a bord, and there are nine other bords on the return side of it ; the mine is worked with naked lights : What would you do ?
- 5 3. If a mine gives off 1,000 cubic feet of fire-damp per minute, how much air would be necessary to work this mine safely with 100 men, boys, and horses ?
- 5 4. Enumerate the rules you would enforce for the safe use of safety-lamps.
- 6 5. If a workman were rendered insensible by breathing after-damp, how would you treat him ?
- 8 6. Show by sketches two modes of constructing an air crossing capable of passing 30,000 cubic feet of air per minute—give dimensions of materials used, and area of opening.

EXAMINATION FOR FIRST-CLASS CERTIFICATE OF COMPETENCY.

First Day, 20 July, 1898—Morning : 9 a.m. to 12 (noon).

*Arithmetic.*

Marks.

- 5 1. I have to divide 54,000 cubic feet of air between 3 districts, A, B, and C ; leaving power, area, and friction out of the question, the quantity is to be so divided that A gets twice as much as B, and B three times as much as C : What quantity of air will each receive ?
- 8 2. A pit is sunk 18' 6" diameter and walled throughout with 9" ordinary sized bricks ; the diameter of the shaft when walled is 17 feet in the clear ; the pit is 600 feet deep : How many cubic feet of excavation will be taken out ? And if the S.G. of the stone is 2.4—(1) what will be the weight of stone excavated in tons ? (2) how many bricks will be required for walling ? and (3) how much would they cost at 36s. per thousand ?

*Geology.*

- 5 1. How do you account for the fact that in some districts the coal-seams are comparatively level, while in adjacent districts the same seams are highly inclined ?
- 6 2. (1) What is a basin ? (2) Show by sketch section the principal coal basin with which you are acquainted in New South Wales, marking on the localities where the coal-seams have been proved to exist.

*Surveying.*

- 6 1. A main engine plane is going north, and it is required to drive it east ; a 4-chain radius curve is required to connect the roads : State the bearings and lengths you would drive.
- 6 2. Plot the following survey to a scale of 2 chains to an inch :—N. 30° 45' E. 1,110 links, S. 70° E. 1,135 links, S. 50° 15' W. 1,610 links, N. 41° W. 340 links : What is the length and bearing of the line necessary to close the survey ?
- 7 3. You are provided with a plan of old workings connected to surface at well-defined points A and B ; the scale of the plan is unknown, and the direction of the north point is not shown ; a survey made by you determines that the point A is N. 20° E. 25 chains from B ; the distance from A to B on the old plan is 13 inches : How would you proceed to plot correctly to a scale of 2 chains to an inch the old workings on your new plan ?

*Ventilation and Mine Gases.*

- 11 1. Give (a) an illustrated description of one of the following lamps :—Marsaut, Museler, Hepplewhite Gray ; (b) upon what principle do all safety-lamps depend ?
- 12 2. State the chief constituents of pure air, and give their chemical properties. Give the chemical properties of fire-damp and black-damp, and their weights as compared with atmospheric air.
- 9 3. What methods have been tried to guard against outbursts of gas ? What is your opinion as to their efficacy ?
- 8 4. The total pressure on a separation door is 390 lb. ; the W.G. is 2.5" : What is the width of the door if its height is 6 feet ?
- 10 5. Ventilate the workings shown on the accompanying plans.

First Day, 20 July, 1898—Afternoon : 2 p.m. to 5 p.m.

*Coal Mines Regulation Act.*

What are the requirements of the Act regarding—

- 7 1. (a) Certificated managers ; (b) Under-managers ?
- 7 2. Notice by Inspector of causes of danger not expressly provided against ?
- 7 3. Notice to be given of accidents in mines ?

*Winning*



Marks.

*Winning and Working of Coal and Shale.*

- 13 1. Sketch a district of bord and pillar workings in a 6-foot seam of tender coal 600 feet from the surface. Show 13 working places of this district, which is supposed to contain the maximum number of men allowed by the Act. Show how you would ventilate the district generally, and each of these places in particular. Give dimensions of pillars and widths of working-places in yards.
- 10 2. Describe the method of putting in a bricking ring (walling crib) in a sinking pit, and putting in a length of bricking; also the method of putting in a water ring. What precautions should be taken during these operations—(a) if inflammable gas is given off; (b) if the sinking is in hard ground?
- 8 3. What would you suggest to prevent accidents by—(a) falls of roof and coal at the face; (b) falls of roof and sides on the roads?
- 10 4. Show by sketches how you would work two seams of coal, the top 8 feet, the bottom 5 feet thick, with 14 feet of stone between, and a cover of 400 feet.
- 8 5. A fire takes place in one panel of a gassy mine, necessitating the sealing off of that district. Bearing in mind the double danger from explosion, from poisonous gases given off by the fire, state how you would proceed to do the work with the utmost safety to the workmen engaged in sealing off the fire.

*Machinery, Boilers, Pumps, &c.*

- 10 1. What thickness of steel plate will be required for a Lancashire boiler 30 feet long, 8 feet diameter, which is required to work at 120 lb. per sq. inch; the longitudinal seams to be lap joints, double riveted.
- 10 2. (a) What is the object of annealing chains and couplings? (b) why is it necessary? and (c) how often should it be done?
- 10 3. What size of steam-pipe would you put in for a pair of 36" cylinder engines working with a piston-speed of 360 feet a minute?
- 10 4. A cistern 20 feet long, 10 feet wide, and 10 feet deep is full of water: Find—(a) pressure on each of the four sides; (b) pressure on base; (c) weight of water.

Second Day, 21 July, 1898—Morning: 9 a.m. to 12 (noon).

*Arithmetic.*

- 6 1. 200 tons of coal are taken from a bord 6 yards wide in a clean seam 7 feet thick: What is the distance driven if 1 cubic yard weighs 18 cwt.?
- 6 2. A heading 6' x 7' x 233' is filled with an atmosphere composed by volume as follows:—N., 79%; O., 20.96%; Co<sub>2</sub>, .04%: What number of cubic feet of each gas is contained in the heading?
- 7 3. In a geared winch the spur wheels have 120, 100, and 80 teeth; the pinions 24, 18, and 12 teeth; the barrel or drum is 24" diameter; and the length of lever handle 15": What power applied at the latter will balance 1 ton on the barrel (friction neglected)?

*Geology.*

- 7 1. Illustrate by sketches the way in which coal-seams are often "thrown" by faults and igneous dykes, and explain the common effects of such faults and dykes upon the adjacent coal.
- 7 2. (a) How do fossils aid in the search for coal?  
(b) Suppose in your search you found the surface strata to contain fossils belonging to the trilobite family—  
(a) Would you be likely to find coal?  
(β) If not, why not?
- 7 3. What do you understand by the terms—overlap, underclay, hade, delta, conglomerate, erosion, metamorphose.

*Surveying.*

- 5 1. How would you adjust a transit theodolite for collimation in azimuth?
- 5 2. How would you adjust a dumpy level?
- 7 3. How would you determine the width of a river across which your chain will not reach?

*Ventilation and Mine Gases.*

- 12 1. A stone drift, 9 feet square, has to be driven 400 yards at a rise of 1 in 6. The strata gives off a large amount of fire-damp. The maximum ventilating pressure being insufficient, state what steps you would take to provide efficient ventilation of the drift, and show, by sketch, your appliances.
- 9 2. Sketch a regulator, and state in what part of the workings you would fix it so that it may be most effective, and state why. Sketch, also, an air-crossing with dimensions sufficient to pass 32,000 feet of air per minute over a main haulage road 10 feet by 7 feet.
- 8 3. What, in your opinion, are dangerous explosives to use in dry and dusty mines? Where you permit explosives to be used in such mines, what precautions would you take, and what orders would you give?

Second Day—21 July, 1898—Afternoon: 2 p.m. to 5 p.m.

*Coal Mines Regulation Act.*

What does the Act require regarding—

- 7 1. Ventilation of mines?
- 7 2. Stations and inspection of conditions as to ventilation, &c.?
- 5 3. Places of refuge on hauling roads?

*Winning and Working of Coal and Shale.*

- 14 1. Write down a list of mine officials (from manager down to and inclusive of deputies) you consider necessary in a fiery mine employing 250 men and boys in one shift. Briefly enumerate the duties of each class.
- 10 2. Give your experience in taking out pillars. Describe how you would protect yourself from falls of coal and roof, illustrating by sketches.
- 9 3. Show, by sketch, how you would arrange your main and tail rope connections in order to work roads branching off at right angles to the main engine plane.
- 8 4. Give a section of a coal-field that is not adapted for long wall, and state why.
- 10 5. A pair of rise headings, 6 feet high, 9 feet wide, have been driven up to a fault in a seam with 2 feet of soft floor, when a feeder of 100 gallons of water per minute is released. This water has to be dammed back. Explain, by sketches if necessary, how you would do the work. (The head of water is about 300 feet.)

*Machinery, Boilers, Pumps, &c.*

- 13 1. Sketch a side and front elevation of pit head-gear, with pulleys, guide-rods, also frame and arrangement for detaching in case of overwind.
- 9 2. (a) What kind of ropes do you consider most suitable for colliery purposes?  
(b) What steps would you take in the care and preservation of winding ropes?
- 8 3. What amount of expansion do you expect in a vertical range of steam pipes 163 yards long? How would you provide for such expansion?
- 10 4. Sketch some suitable automatic contrivance for detaching the haulage rope from a set of tubs while in motion.

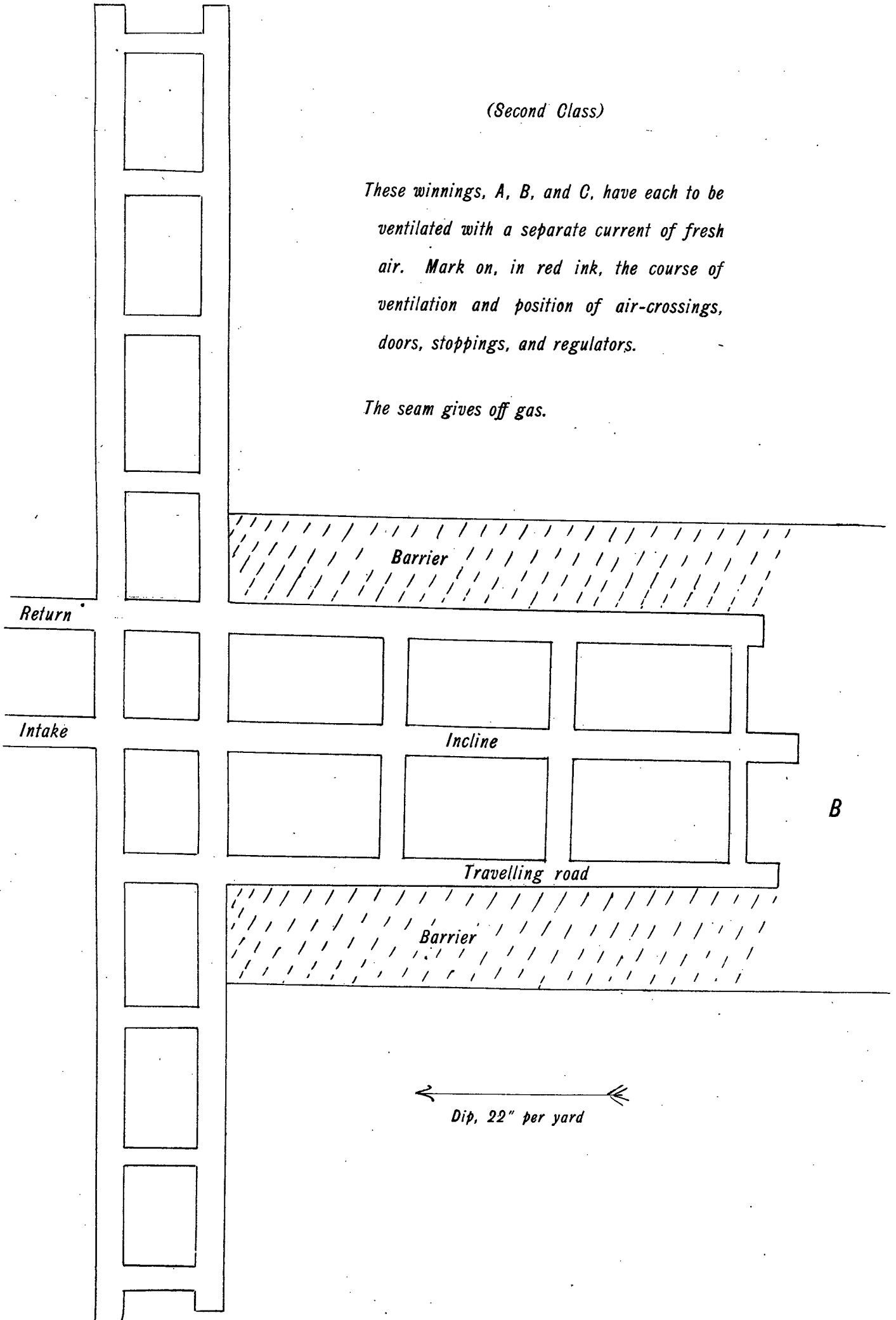
EXAMINATION

A

(Second Class)

These winnings, A, B, and C, have each to be ventilated with a separate current of fresh air. Mark on, in red ink, the course of ventilation and position of air-crossings, doors, stoppings, and regulators.

The seam gives off gas.



Return

Intake

Barrier

Incline

Travelling road

Barrier

B

← Dip, 22" per yard →

C

## EXAMINATION FOR SECOND-CLASS CERTIFICATE OF COMPETENCY.

First Day, 20 July, 1898—Morning: 9 a.m. to 12 noon.

Marks.

What does the Act require regarding—

*Coal Mines Regulation Act.*

- 6 1. Fencing of entrances?  
7 2. Examination of safety-lamps?  
6 3. Dimension of travelling roads?

*Ventilation and Mine Gases.*

- 6 1. What is indicated by the water-gauge? If the quantity of air be 72,560 cubic feet per minute, and the H.P. producing ventilation 12, what will be the height of W.G.?  
6 2. Whence arises the danger of using the Davy or Clanny lamp unprotected? What is the most explosive mixture of gas and air? And what is the mixture containing the least proportion of gas that will explode?  
6 3. In the event of an explosion on a main intake roadway, leaving men uninjured at the face, what is the best thing for them to do? Should they try to get out, which way would be safest for them to take?  
6 4. Give the dimensions, perimeter, and area of an airway through which a current of 35,000 cubic feet per minute will pass at a velocity of 6.5 feet per second.  
5 5. Ventilate the workings shown on the accompanying plan.

First Day, 20 July, 1898—Afternoon: 2 p.m. to 5 p.m.

*Arithmetic.*

- 6 1. If a set of timber weighs 176 lb., how many sets will it take to weigh 1 ton 19 cwt. 1 qr. 4 lb.?  
5 2. An airway is 7 feet high and 8 ft. 3 in. wide—what volume of air is passing when the velocity is 6 feet per second?

*Winning and Working of Coal and Shale.*

- 6 1. What, in your opinion, is the cause of the majority of accidents in our mines; and what suggestions have you to make for their prevention?  
8 2. Describe the method and precautions you would use in driving a place through a heavy fall of roof.  
6 3. When inspecting the workings of a colliery, to what points would you direct your particular attention? Assume a fiery mine with pillar extraction following up the boards.  
6 4. State what is the cause of a "creep," and show by sketch its effects on the roadways.  
8 5. What means would you suggest to guard against blown-out shots, and what is the great danger of such shots in a dry and dusty mine?  
6 6. If a miner whilst in his working-place is badly injured with a compound fracture of his leg, what steps would you take as to "first aid"?

Second Day, 21 July, 1898—Morning: 9 a.m. to 12 noon.

*Arithmetic.*

- 7 1. For a fortnight's work 2 men get 66 tons of large coal at 2s. 10½d. per ton, 21 tubs of slack at 6½d. per tub, set 9 slabs at 5½d., and wheel 65 skips at 2s. 6d. per score: What amount is due to them?  
6 2. Add together £513 10s. 3d., £72 6s. 9d., and £34 12s. 7½d., subtract £53 12s. 0½d., and divide the remainder by 17.

*Winning and Working of Coal and Shale.*

- 5 1. In long-wall working, what is the advantage of having the "weight" on the face? How would you get, and how keep it there?  
8 2. To ensure the greatest possible safety, what explosives would you use, and what regulations would you enforce, when firing shots in a seam of coal that gives off explosive gas, and is dusty also?  
6 3. Why is it necessary that Officials, such as Deputies, should periodically travel the main and branch return airways of a mine?  
7 4. Describe how you would timber a drift 12 feet wide and 7 feet high, rising 1 in 4 through a fault; the roof is shale, 6 feet thick, under 300 feet of cover. State the sizes of material you would use.  
8 5. An accident occurs in the working shaft during working hours, completely blocking it. The mine is ventilated by furnace. You are below-ground and in charge, and are required to give in detail the steps you would take to get the men out safely.  
6 6. Give a rough sketch of the system of working at any mine with which you are acquainted, stating thickness of seam, quality of roof, floor, &c.

Second Day, 21 July, 1898—Afternoon: 2 p.m. to 5 p.m.

*Coal Mines Regulation Act.*

What does the Act require regarding—

- 6 1. Water and boreholes?  
7 2. Timbering?

*Ventilation and Mine Gases.*

- 5 1. If with furnace ventilation you found it necessary to make a dumb drift, at what height above the furnace level would you connect it with the shaft? Give your reasons.  
6 2. What are the chief points to be kept in view when constructing an airway, with the object of passing a large quantity of air with a minimum expenditure of power?  
5 3. In what direction would you travel the returns of a fiery mine? Give reasons for your answer.  
6 4. If a mine is ventilated by four splits of air, how would you ascertain whether any split was passing more than its share of air? And if you found a split passing more than its share, how would you reduce it to its proper share?  
8 5. Describe the safety lamp you consider safest for use in a fiery mine, by (a) Miners, (b) Officials.  
5 6. In what proportion does the ventilating pressure vary in two airways, one 30 feet area and another 60 feet area, both passing the same quantity of air?

## LIST of Exemptions granted during the year 1898.

Date when granted.	Name of Mine.	Description of Exemption.
1898.		
26 January .....	Killingworth .....	From provision as to cover overhead. Expired 14th July, 1898.
1 April .....	Northumberland .....	From payment by weight. Expires 31st March, 1899.
12 July .....	Killingworth .....	From provision as to cover overhead. Expired 31st December, 1898.
14 September .....	„ A Pit.....	From provisions as to means of signalling for working shafts. Expired 31st December, 1898.
28 November .....	A. A. Company's No. 2. A new winning.	From so much of General Rule 12 as forbids the taking of explosives into mine, except in cartridges.

The following notices were received during the year of new mines opening out or in course of development, mines reopened, sinking pits, driving tunnels, change of ownership, and names of collieries; also, colliery management :—

On the 5th January, Mr. Archibald Fairley notified that, in accordance with clause iv, section 30, Coal Mines Regulation Act, 1896, that the Seaham Colliery Company (Limited) is now the owner of the Seaham Colliery; also that the principal office and agent of the company is Mr. Isaac Chapman, 38, Pitt-street, Sydney.

On 21st February, Mr. Frank Croudace notified that in future the Durham Colliery, the property of the Scottish Australian Mining Company, will be known as the Lambton Colliery, No. 2.

On 1st March, Mr. W. Hall, General Manager of the New South Wales Shale and Oil Company, gave notice that his company intended to reopen No. 1, or main tunnel, at Hartley Vale.

Mr. Percy H. Goldsmith, Superintendent of the Great Cobar Copper Mining Syndicate, notified that the above syndicate intend to sink trial shafts for coal prospecting purposes on land acquired from W. Sandford, Esq., situate at Lithgow.

Mr. John McKinnon notified, on the 7th July, that he was about to open the Bulli Pass Pit on a small scale.

On 27th July, Mr. W. W. Johnson notified that he had opened a tunnel on his property situate near Cardiff, and getting coal therefrom.

On 1st August, Mr. J. R. Henderson gave notice that he had made a start at the pit known as Louisvale Colliery, near East Maitland.

On 11th August, Mr. Frank Croudace notified having commenced sinking a new ventilating shaft at the Burwood Colliery, in close proximity to our present No. 3, or winding-shaft; also of having discontinued drawing coal at the Lambton B, but will shortly have men employed underground doing shift work.

Mr. Goodhew, manager of the Singleton Coal and Coke Company, gave notice of his intention to sink an air-shaft for the New Park Colliery, on what is termed Longworth's mineral lease, south side of Government road from the present tunnel.

Mr. James Erskine notified that work had been resumed at the South Hetton Colliery on the 25th July.

Mr. A. Thomas, manager of East Greta Colliery, gave notice on the 16th September that it was intended to resume operations at Stanford Greta Collieries. As only a few men will be employed, asks that a permit may be granted to Mr. Thomas Innis to act as manager under the Coal Mines Regulation Act.

Mr. A. Thomas notified on the 10th of October that they would commence working the upper seam, at a point near No. 2 tunnel (East Greta Colliery) during the week.

Mr. J. Campbell, manager, on 9th November, reported that operations had been commenced at Cardiff Colliery.

Mr. J. M. Sawyer gave notice, on the 5th December, that he had started to sink on land held by Mr. J. Ruttley, on the Newcastle Pasturage Reserve.

Mr. H. O. MacCabe, manager of the Osborne Wallsend Mine, Wollongong, gave notice on 13th December of his intention to drive two (2) headings in the 4 feet seam for water standage.

## APPOINTMENT OF COLLIERY MANAGERS.

*Bulli Pass Colliery.*—Mr. William Thompson Philpot notified on 15th August that he had been appointed manager of the mine.

*Hartley Vale Shale Mine.*—Mr. W. Hall, general manager, gave notice that Mr. Alex. Woodburn had been appointed, under the direction of Mr. John Blackley, to take charge of the above mine.

*Joadja Shale Mine.*—Mr. R. Vernon Saddington, on 6th October, gave notice that Wm. McMillan, from Capertee, had been appointed under-manager at Joadja; also that Joseph Edwards had been appointed manager of the Joadja mine.

*Genowlan Shale Mine.*—Also that Henry Williams had been appointed under manager at the Genowlan mine.

*Wickham and Bullock Island Colliery.*—Mr. James Fletcher, colliery manager, notified on 3rd June, that Mr. Joseph Packer Hindmarsh had been appointed under manager of the abovenamed colliery.

*New Lambton Colliery.*—Mr. Alex. Brown, on 4th November, notified that Mr. James Thomas would resume the position of manager of the New Lambton Mine, on and after Monday, the 7th instant.

## COAL-MINES ABANDONED OR OPERATIONS SUSPENDED DURING THE YEAR 1898.

On the 18th February, Mr. Archd. Gardiner gave notice, in compliance with clause 30, subsection III, that the working of Cardiff Colliery would cease, and likely to be so for over two months.

On 7th April, Mr. W. Mawks notified having closed his small pit, known as Mawk's Colliery.

On 20th May, Mr. James Salisbury notified that he had abandoned Hill End Colliery, near Bulli, Illawarra, on 17th December, 1897.

On 30th May, Mr. R. J. Taylor notified that he had abandoned Louisvale Colliery situate near East Maitland.

On 7th November, Mr. Benjamin Tonks notified that he had given up the Quarry Colliery as a non-paying concern.

On 10th November, Mr. Walter Jenkins notified having abandoned the colliery known as Jenkin's.

*Dudley Colliery.*—The Honorable Alexander Brown, M.L.C., Managing Director of Dalgety & Co., agents for Dudley Colliery, gave notice, under section 30 of the Coal Mines Regulation Act, 1896, of the intention of the owners of Dudley Colliery to discontinue the working thereof on and after Saturday the 1st proximo.

*Wallarah Colliery, Catherine Hill Bay.*—On the 9th January, Mr. William Scobie, colliery manager, gave notice of having stopped the D shaft mine on 31st December, 1898.

*Ferndale Colliery, Upcast Shaft.*—Messrs. Morrison and Bearby notified their intention to at once take out the cylinders from the Ferndale shafts, and had appointed Mr. J. J. Evans (a certificated colliery manager) to supervise the work.

In the performance of my official duties, I have at all times had the willing assistance of all the inspectors.

In addition to inspection of collieries underground, a considerable amount of time was taken up by attending the inquest and second inquiry into the circumstances of the Dudley explosion.

I have also had several special reports to write on different matters, and a good deal of work in connection with mineral leases, mining authorities, royalty accounts, &c., which pass through my hands in the ordinary course.

I beg to send herewith the annual reports of the Inspectors Dixon, Rowan, Bates, and Humble.

I have, &c.,

A. A. ATKINSON,  
Chief Inspector of Coal and Shale Mines.

Honorable Joseph Cook, Minister for Mines and Agriculture.

## Senior Inspector of Collieries' Report.

Merewether, 1 February, 1899.

To the Honorable Joseph Cook, Esq., M.P.,  
Secretary for Mines and Agriculture, &c., &c.,—  
Sir,

In accordance with the provisions of section 21 of the Coal Mines Regulation Act, 1896, I have the honor to submit my report for the year ending 31st December, 1898.

During the term embraced by this report I made 213 inspections, investigated 28 accidents, and travelled about 6,500 miles (exclusive of underground travelling). The collieries usually inspected by me are—22 in the Newcastle District, 1 in the Muswellbrook District, 2 in the Gunnedah District, and the Sydney Harbour Colliery.

Of the 28 accidents investigated by me during the year, 13 were caused by falls of coal, 2 by falls of roof, 1 by a runaway horse, 1 by a chip of steel from a skip axle, 2 by powder burns, 1 by premature explosion of a shot, 2 by loaded skips, 1 by bottom board of waggon falling on his arm, 1 by a blow from a pick, 1 by a blow from a hammer, 1 by falling from a screen platform at surface, 1 by machinery, and 1 by a slab of timber in a heading.

One of the accidents, I regret to say, proved fatal. This accident happened to a miner named William Walter Thomas in the Newcastle Co.'s B pit, on 2nd May, by a fall of coal. The poor fellow was removed to the Newcastle Hospital as soon as possible, and after great suffering he succumbed to his injuries on 12th of same month. I attended the inquest on the body, and heard all the evidence, and fully agree with the verdict of "Accidental Death," as returned by the Jury.

After visiting the scene of accident and obtaining the fullest information I made a full report as to cause, &c.

## COLLIERIES.

1. *A.A. Co.'s No. 2.*—In this mine, about 70 men, &c., are employed on the two shifts during the day. The whole of the face work is pillar coal extraction in the several districts. The officials and workmen are, however, well used to the intricacies of this work, and the utmost care appears to be taken by all concerned to avoid accident. The ventilation is produced by a Guibal fan, and about 45,000 cubic feet of air per minute is circulated in the mine.

2. *A.A. Co.'s New Winning.*—About 480 men, &c., are employed in this colliery. The ventilation is produced by a Schiele fan, and about 94,000 cubic feet of air per minute is circulated in the mine.

3. *Newcastle Co.'s A. Pit.*—In this colliery about 340 men, &c., are employed. The ventilation is produced by furnace, and about 90,000 cubic feet of air per minute is circulated in the mine.

4. *Newcastle Co.'s B Pit*.—About 312 men, &c., are employed in this colliery, and a current of about 98,000 cubic feet of air per minute is produced by furnace power.

5. *Burwood*.—In this colliery about 282 men, &c., are employed. The ventilation is produced by furnace, and a current of about 55,000 cubic feet of air per minute is circulated in the mine. In connection with this colliery another shaft is being sunk. A depth of over 300 feet has been reached. This shaft is known as No. 4.

6. *Waratah*.—About 170 men, &c., are employed in this Colliery, and a current of about 56,000 cubic feet of air per minute is circulated in the mine, and is produced by furnace.

7. *New Lambton*.—In this colliery about 46 men, &c., are employed and supplied with about 12,000 cubic feet of air per minute produced by furnace.

8. *Ebbw Vale*.—About 26 men, &c., are employed in this colliery, and the total quantity of air is about 10,000 cubic feet per minute, produced by furnace. The seam of coal worked at this colliery is the No. 2 or Burwood seam.

9. *Hillside, Merewether*.—In this mine about 6 men, &c., are employed, and about 6,000 cubic feet of air per minute is produced by natural ventilation. The No. 2 or Burwood seam is also worked at this colliery.

10. *Shortlands*.—The No. 2 or Burwood seam is worked at this mine. The mine is in close proximity to New Lambton Colliery. About 8 men, &c., are employed and supplied with a current of about 1,200 cubic feet of air per minute, which is produced by a small furnace.

11. *Lambton B Pit (late Durham)*.—About 36 men are now engaged in connection with this colliery. Some are employed in keeping the workings free from accumulations of water, and others are working at the surface, putting in sidings, &c., with a view to commencing full work at no distant date. During the year a few men have at times been employed below-ground getting fire coal for the steam-boilers at surface.

12. *Burwood Extended*.—This mine is still idle, and there is a great quantity of water in each shaft. During the year the headgear has been painted, and the machinery properly cleaned. I have visited this colliery a few times during the year to see that everything at the surface was kept secure.

13. Side Colliery, Waratah, Newcastle Pasturage Reserve, only 1 man employed.

14. Quarry Colliery, Waratah, 2 men employed prospecting for pillar coal.

15. Wright's Colliery, Waratah, 1 man employed below-ground.

16. Morris's Colliery, Lambton, 2 men employed below-ground.

17. Bayley's Reward, Lambton, 2 men employed below-ground.

18. *Jenkins's Lambton*.—This mine was under inspection during the year, but is now worked out and abandoned.

19. *Mawk's Lambton*.—This mine was visited by me during the early part of the year, but it is now abandoned.

20. *Rosehill, North Lambton*.—Only 1 man employed below-ground.

21. *Electric, North Lambton*.—One man employed below-ground.

22. *Kayuga, near Muswellbrook*.—Only 1 man employed below-ground.

23. *Centenary, Curlewis*.—About 20 men, &c., are employed in this mine and supplied with a current of about 8,000 cubic feet of air per minute. This current is produced by two fire-lamps at bottom of upcast shaft.

24. *Gunnedah Colliery, Gunnedah*.—About 17 men, &c., are employed in this mine, and supplied with a current of about 4,000 cubic feet of air per minute, produced by a fire-lamp at bottom of upcast.

25. *Johnson's Colliery, near Cardiff*.—This is a new mine where one of the upper seams is being worked. Two men are employed, and the ventilation is good.

26. *Harbour Colliery, Sydney*.—In connection with this colliery the "Jubilee" shaft has been sunk to a depth of about 220 feet, and the work of erecting machinery is being carried on. When this is completed, sinking will be continued. What is known as the "Birthday" shaft is now over 600 feet deep, and lined with brick and cement almost to the bottom. A Walker ventilating fan, 24 feet diameter and 8 feet wide, has been erected for the purpose of ventilating both shafts. Each shaft is connected by drift with the fan. Over 100 persons are employed in and around the colliery. A most interesting method of banking off has been adopted at this colliery. For instead of running the trolley over the shaft opening as is usually the case, folding doors are used, and, of course, must be closed before the trolley can be run over to receive the bucket. The following is a description of the doors, and how they are manipulated. The opening through the covering at the pit top is 10 feet by 9 feet. It is covered by two folding doors each 9 feet by 5 feet. Each door has three wrought-iron hinges keyed on to a shaft 3 inches diameter. The doors are exactly balanced by arms and balance weights, one arm being keyed on one end of each shaft. On the other end of each shaft is keyed a worm-wheel quadrant, and these quadrants are made to turn in opposite directions through a quarter of a revolution, by means of right and left hand worms. On one end of the worm shaft is keyed a pinion 5 inches diameter driven by a wheel 30 inches diameter. This wheel has a handle fixed in one of its arms, and this handle is worked by the banksman. The doors are fully opened by  $5\frac{1}{2}$  revolutions of the handle, and the time occupied is about 5 seconds. The doors will stand in any position, and cannot either be knocked, or blown shut. When open, the doors themselves fence in two sides of the opening. The worm-shaft fences in the third side, and the other side is fenced by rail.

This, in my opinion, is a splendid arrangement for safety in banking off at a sinking pit.

I have, &c.,

JOHN DIXON,

Senior Inspector of Collieries.

Mr.



### Mr. Inspector Rowan's Report.

To the Hon. Joseph Cook, Esq., M.P.,  
Minister for Mines and Agriculture,—

Wollongong, February, 1899.

Sir,

In accordance with section 21 of the Coal Mines Regulation Act, 1896, I have the honor to hand you my annual report for the year 1898.

The total number of collieries under inspection in the southern and western districts during the year was 33, and in addition I inspected several of the collieries in the Newcastle District during the month of December.

In carrying out my official duties I have made 190 underground inspections, and travelled about 10,060 miles.

All accidents reported have been investigated, and inquests attended, in the case of fatal accidents.

#### GENERAL REMARKS.

During 1898 several meetings have taken place between the colliery proprietors and miners of the Southern District, with reference to the weighing of coal, and it is to be hoped that before long a satisfactory settlement of the question will be arrived at, without causing any stoppage of work at the collieries.

The proprietors and miners are unanimous in their approval of the decision of Parliament to provide better harbour accommodation for the Southern District, by the construction of the Port Kembla Harbour. This will enable vessels of the largest size to be loaded, and the loading will not be so much at the mercy of the weather, as at present. This should give greater stability to the trade and enable collieries to work with more regularity.

I have, &c.,

JAMES ROWAN,  
Inspector of Collieries.

### Mr. Inspector Bates' Report.

To the Honorable Joseph Cook, Esq., M.P.,  
Secretary for Mines and Agriculture, Sydney.

Newcastle, 1 February, 1899.

Sir,

Pursuant to section 21 of the Coal Mines Regulation Act, 1896, I have the honor to submit my annual report on the coal-mines inspected by me during the year ending 31st December, 1898.

In the year under notice I have inspected at frequent intervals collieries in the Northern District, also the following collieries in the Western District, viz., Eskbank, Hermitage, Vale of Clwydd, Zig Zag, Lithgow Valley, Oakey Park, Vale, Folly, and Black Diamond Collieries.

I have also visited South Clifton, Coal Cliff, Bulli, South Bulli, and Corrimal Collieries and Wollongong in connection with the colliery plans.

#### COLLIERIES.

*Wallsend Colliery, Main Tunnel Workings.*—There are 529 men and boys employed underground in this portion of the Wallsend Colliery. The ventilation is produced by means of a Guibal fan and a furnace, and the quantity of air circulating through the workings is about 120,000 cubic feet per minute.

*Lambton Colliery.*—There are 173 men and boys employed underground in this mine. The ventilation is produced by a furnace, and the quantity of air in circulation is about 27,000 cubic feet per minute.

*Elemore Vale Colliery.*—About 48 men and boys are employed in this mine. The ventilation is produced by a furnace, and the quantity of air in circulation is 10,000 cubic feet per minute.

*Pacific Colliery, Teralba.*—There are 137 men and boys employed underground in this mine. A furnace is used for producing the ventilation, which amounts to 26,000 cubic feet of air per minute.

*Northern Extended Colliery, Teralba.*—About 52 men and boys are employed underground in this mine. The ventilation is produced by means of a furnace, and the quantity of air circulating through the workings is 23,000 cubic feet per minute.

*South Wallsend Colliery.*—There are about 35 men and boys employed in this mine, which is ventilated by means of a furnace, and the quantity of air in circulation is 17,000 cubic feet per minute. No coal has been drawn from this mine during the latter part of the year, owing to an influx of water. This water is now being pumped out, and operations will shortly be resumed.

*East Greta Colliery, West Maitland.*—There are 236 men and boys employed underground in this mine. The mine is worked in three shifts of 8 hours each. The quantity of air in circulation is about 30,000 cubic feet per minute.

*South Greta Colliery, Farley.*—There are 38 men and boys employed underground in this mine. The ventilation is produced by a furnace, and the amount of air circulating is 9,000 cubic feet per minute.

Greta

*Greta Colliery, Greta.*—There are 161 men and boys employed in this mine. The ventilation is produced by a Guibal fan, and the quantity of air circulating through the workings is 70,000 cubic feet per minute.

*New Park Colliery, Singleton.*—There are 36 men and boys employed underground in the two tunnels. The ventilation is produced by a furnace, and the quantity of air in circulation is about 13,000 cubic feet per minute.

*Dulwich Colliery, Singleton.*—There are 9 men and boys employed underground in this mine, which is ventilated by means of a furnace, producing about 4,000 cubic feet of air per minute.

#### COLLIERIES WORKING UNDER PERMITS.

*Cardiff Colliery, Cardiff.*—There are 19 men and boys employed underground in this mine. The ventilation produced by a furnace is of a satisfactory nature.

*Northumberland Colliery, Fassifern.*—There are 15 men and boys employed underground in this mine. The ventilation is satisfactory, and produced by a furnace.

*Rosedale Colliery, Singleton.*—Eight men are usually employed underground. The ventilation is satisfactory.

*Oakvale Colliery, Singleton.*—Four men are employed in this mine, the ventilation of which is satisfactory.

*Granbalang (Elliott's) Colliery, Singleton.*—Three men are employed in this mine. The ventilation is satisfactory.

*New Anvil Creek Colliery, Greta.*—Only one man is employed in this mine, attending to the steam pump and keeping the mine free from accumulation of water.

*Stanford Greta Colliery, West Maitland.*—Six men are employed prospecting for coal on the Stanford and Heddon Greta coal properties, about 8 miles in a southerly direction from West Maitland.

#### Accidents.

I have investigated 15 accidents in the Northern District during the year under notice.

There were 2 fatal accidents involving the loss of 4 lives, and 13 non-fatal accidents, causing injury to 15 persons. Of the fatal accidents, the first occurred to a miner named Edward Marsh at Greta Colliery on 21st April by a fall of coal. An inquest was held, which I attended, and the jury returned a verdict of "Accidental Death."

The second occurred at East Greta Colliery on 18th November by a fall of roof in the extension of the No. 1 tunnel, causing the deaths of D. Gronow, B. Moncrieff, and S. R. Barnes, miners. An inquest was held, which I attended, extending over thirteen days; but the jury failed to agree, and were accordingly discharged without a verdict being given. This accident necessitated my making 22 inspections from 18th November to the end of the year.

With regard to the non-fatal accidents, 4 were caused by falls of coal, 2 by falls of roof, 2 by skips, 2 by props or slabs, and 1 by premature explosion of shot.

#### Surface Accidents.

There were 2 surface accidents during the year, both being non-fatal.

The first occurred whilst shunting wagons at screens, and the second by a wire rope slipping whilst hauling small coal into hopper.

#### Prosecutions.

The manager of Lambton Colliery instituted proceedings against two miners on 18th February, for neglecting to set sufficient sprags whilst holing. Defendants were fined 10s., and 5s. 6d. costs of court each.

The manager of East Greta Colliery proceeded against a miner on 30th May, for "going into a part of the mine other than where he was employed." Defendant was fined 1s., and 4s. 10d. costs of court.

The manager of Lambton Colliery proceeded against a deputy on 5th August, for neglecting to make a report of his inspection of the working. Defendant was fined 5s., and 5s. 6d. costs of court.

Proceedings were instituted by the Department on 2nd June against the manager of South Greta Colliery for breach of General Rules 1, 4, 5, and 32, also a breach of section 57 of the Coal Mines Regulation Act, 1896. Defendant was fined 1s., and 4s. 10s. costs of court in each case.

#### General remarks.

In the discharge of the duties above-enumerated I have made 174 inspections, investigated 15 accidents, and travelled 6,711 miles to and from the various coal-mines, in addition to a considerable amount of walking underground.

I have, &c.,  
THOS. L. BATES, F.G.S.,  
Inspector of Collieries.

Mr.

## Mr. Inspector Humble's Annual Report for 1898.

Hamilton, 7 January, 1899.

The Honorable Joseph Cook, Secretary for Mines and Agriculture,  
Department of Mines, Sydney,—

Sir,

I have the honor to report that, in pursuance of section 21 of the Coal Mines Regulation Act of 1896, I have exercised the duties of an Inspector of Collieries in the Northern and Southern Districts during the twelve months ending 31st December, 1898.

In doing so, I have inspected the collieries set out in the following table, which shows also the number of days' inspection given to each colliery, and, for those in the Northern District, the approximate number of men and boys employed above and below ground:—

No.	Name of Colliery.	Approximate number of Men and Boys employed above and below ground.	Number of days' inspection given to each.
1	Stockton .....	350	24
2	Hetton .....	410	19
3	Wickham and Bullock Island .....	300	14
4	Co-operative .....	376	10
5	Wallsend, No. 2 .....	72	7
6	Maryland .....	40	5
7	Brown's, No. 2 .....	99	6
8	„ No. 4 .....	354	5
9	Duckenfield .....	334	9
10	Seaham .....	264	9
11	West Wallsend .....	296	10
12	Killingworth .....	40	9
13	Dudley .....	292	25
14	Wallarah .....	209	4
15	Morrisett .....	7	4
16	South Hetton .....	2	2
17	Thornley .....	4	4
18	Bloomfield .....	17	4
19	Marshall's .....	1	3
20	Louis Vale .....	2	6
21	Ingancee .....	3	5
22	Ferndale Shafts .....	5	8
	East Greta No. 1 tunnel (since accident on 18th Nov.) .....	.....	3
	In Southern District during December—Mount Kembla, 2 days; Metropolitan, 3; Bulli, 3; Osborne Wallsend, 1; Bulli B. Pit, 1; Bellambi, 1; South Clifton, 1; Mount Pleasant and Corrimal, 1 .....	.....	13
		3,477	208

In addition to the 208 inspections made, I have been in attendance at Court of Inquiry, District Court, and inquests, on 33 days; in Coal-fields Office, writing reports, &c., 54 days; engaged as one of the examiners in examination work for colliery managers' certificates of competency on 17 days; making in all 312 days work for the year.

*Accidents.*

I am sorry to say the number of accidents I have investigated is again large, the total being 4 fatals and 42 non-fatals.

The 4 fatals caused the death of 18 men and boys—15 at Dudley, by the explosion on the 21st March; 1 at Wallsend No. 2, by fall of roof; 1 at Killingworth, by drowning in sump; and 1 on the surface at Seaham, when the traffic manager was fatally injured by being crushed between a moving waggon and a retaining wall near to the screens. The 42 non-fatals are responsible for injuries to 46 persons; 15 of them were caused by falls of coal and stone, a considerable reduction on last year's number.

Of the others, 7 were caused by runaway and kicking horses, injuring 8 persons—7 at Stockton; and 1 at Hetton. As far as I could ascertain, some of these, from kicking, were brought about by harsh treatment on the part of drivers, who were prone to using the whip a little too freely; but in one case it was not so, and here I took the necessary steps to have the horse placed under greater restraint, which seems to have had the desired effect. Those under the heading "Miscellaneous" occurred from a variety of causes as set forth in the list given to the Chief Inspector for his report.

*Ventilation and Fans.*

At the time of last inspection of each mine the ventilation was fairly satisfactory. In my last annual report, I mentioned that a Waddle fan, 30 feet in diameter, was in course of erection at the Stockton Colliery. This fan was started on the 9th April, and is certainly an improvement on the furnace it superseded, although not giving the quantity of air that might reasonably have been expected. During the year Messrs. J. & A. Brown, of Minmi, have been engaged in enlarging one of their shafts from 6 to 10 feet in diameter, so as to use it as a fan shaft. Simultaneous with this work was the erection of a Schiele fan, 10 feet in diameter, which, when finished and the shaft ready, will be used to ventilate the whole of the No. 2 and part of the No. 4 colliery, the fan now at work at the latter doing the remainder, and probably helping in the ventilation of the Duckenfield Colliery also. All three mines are connected.

*Notable Work at Mines.*

*Stockton.*—In October and November last the Stockton Coal Company, in order to comply with the terms of its lease from the Crown, had soundings made of the ocean overlying part of the ocean takings. The data supplied to me shows that 304 of such were made, and that the depth of water varied from 16 to 60 feet. Subtracting this maximum depth from the levels taken for the Department by Mr. Mining-Surveyor Thomas, there remains about 200 feet of strata overlying the coal-seam now being worked.

*Killingworth.*—On the 14th November the sinking of the second shaft at Killingworth Colliery was completed, and a connection effected with the No. 1 shaft. Both are upwards of 600 feet deep, and a large fan is to be erected to ventilate the mine.

*Seaham.*—On the 24th December the east side workings of the Seaham Colliery were re-opened after being sealed up since February, 1896, because of a fire which was caused in the previous August by a naked light.

I was present on the day of re-opening, and have made two more inspections since then. Large volumes of explosive and other gases were successfully dispersed, and the workings explored by Mr. D. A. W. Robertson, manager of the Metropolitan Colliery (who was directing operations), Mr. Fairley, the manager, and his officials. The site of the fire was reached, and it is believed by those who got there that the fire has been extinguished.

*Ferndale abandoned shafts.*—In September last I invited the attention of the agent of A. A. Dangar, Esq. (owner of the land on which the shafts were sunk), to noxious gases issuing from one of them. These gases were coming from an underground fire, and I suggested that, in order to abate the nuisance, the shafts be sealed off. Subsequently, the agent agreed with Messrs. Morison and Bearby, ironfounders, of Carrington, for them to try and recover the cast-iron cylinders from the larger of the two shafts.

This work is now proceeding, and about 40 feet of the 150 feet of cylinders have so far been recovered, the shaft being filled in with sand and debris as each "ring" is taken out from the bottom upwards. The work is in the charge of Mr. T. J. Evans—a certificated colliery manager.

*Exemptions.*

Two exemptions were granted during the year, both for Killingworth Colliery. The management asked that the No. 1 shaft be exempt from the provisions of General Rules 26 and 28, which require that "Every working shaft used for the purpose of drawing minerals or lowering or raising persons shall, if exceeding 50 yards in depth, be provided with guides," and "a sufficient cover overhead shall be used for every cage or tub employed in lowering or raising persons in any working shaft."

Both exemptions expired on the 31st December, and I think their renewal will not be asked for. The wire-rope guides are now being hung, and the cages will probably be in in a short time.

*Prosecutions.*

In the last week of December the Hetton manager reported that on the 23rd of that month he proceeded against two of his firemen or deputies for failing to "record without delay in a book" the result of their inspections under General Rule 4.

One case was dismissed, and in the other a fine of 10s. was imposed, with 5s. 6d. costs of Court.

The manager of Brown's No. 4 Colliery, Minmi, also reports that on the 28th December he proceeded against a miner for failing to comply with General Rule 23, *re* spragging of coal while holing, with the result that the defendant had to pay a fine of 10s., and 6s. 8d. costs of Court.

*Distance travelled.*

In the performance of my duties during the year I have travelled (exclusive of the distance underground) 4,836 miles by train, tram, boat, coach, and saddle.

I have, &c.,

WILLIAM HUMBLE, F.G.S.,  
Inspector of Collieries.

## GEOLOGICAL SURVEY OF NEW SOUTH WALES.

Geological Survey Branch, Department of Mines and Agriculture,  
19 January, 1899.

Sir,

I have the honor to submit my report on the Geological Survey Branch for the year 1898. A considerable portion of my own time, and of that of the three geological surveyors, has, as usual, been occupied in routine work connected with the examination of mineral-bearing areas, with a view to recommending their reservation from conditional sale, or the modifying of existing reserves, so as to render such areas as are not required for mining purposes available for alienation, settlement lease, &c.

A large number of inspections has also been made in connection with the distribution of the Prospecting Vote; as, however, the Inspectors of Mines have now had definite districts allotted to them, and as two additional inspectors have been appointed, it is hoped that the services of the Geological Survey Staff will not in future be required, to any great extent, in connection with the administration of the Prospecting Vote, and that their time will be available for really scientific work, at which there will be no difficulty in keeping them fully employed.

*Publications.*—In 1897 a new series of publications was begun, entitled “Mineral Resources,” and two numbers were issued. No. 1 was entitled “Notes on Chromic Iron-ore,” and No. 2, “Notes on the occurrence of Tungsten Ores in New South Wales,” both being from the pen of Mr. Geological Surveyor J. E. Carne. The object of these publications was to draw the attention of the public to the valuable mineral deposits of the Colony, and it was thought that this would be best attained by publishing the information available in regard to each metal or mineral in a separate pamphlet of handy size. So eagerly were the first two numbers sought after that they were very soon out of print, and it was thought advisable to publish a second edition of No. 2 (Tungsten Ores). During the year just ended two more numbers were issued—No. 3, “Notes on Gold-dredging,” being by Mr. Geological Surveyor J. B. Jaquet; and No. 4, “Notes on the occurrence of Bismuth Ores,” by Mr. Geological Surveyor J. A. Watt. The pamphlet on gold-dredging caused a considerable amount of interest amongst mining men; it was republished in several leading journals, and there is no doubt that its circulation has led to the taking up of the beds of many of our rivers for dredging purposes. The issue of this pamphlet (No. 3) was expended in about a fortnight.

A fifth number, on “Copper Ores,” by Mr. Carne, will be ready for publication shortly, and others are in course of preparation.

Two numbers of the “Records of the Geological Survey of New South Wales,” viz., Vol. V, Pt. 2, and Vol. VI., Pt. 1, were published during the year, and a third, viz., Vol. VI., Pt. 2, is now going through the press.

One “Memoir” was issued in 1898, viz., a translation of the late Professor De Koninck’s Palæozoic Fossils of New South Wales,” the original manuscript being in French; and another Memoir, by Mr. Licensed Surveyor W. D. Campbell, on “The Aboriginal Carvings of Port Jackson and Broken Bay,” is in the press.

During the year I was at work in the field for ninety-three days, and I visited the following places in connection with my official work, viz.,—Cooma, Bulli, Tamworth, Narrabri, Moree, Colarindabri, Angledool, Fingerpost, Goodooga, Grawin, Warren Downs, Walgett, Warren, Corowa, Cherry Gully (Queensland), Inverell, Borah Creek, Elsmore Valley, Ashford, Fraser’s Creek, Bonshaw, Hexham, Woodford, Guyra, Emmaville, Harden, Trundle, Jumble Plain, Fifield, Barraba, Uralla, Hill End, Sofala, Albury, Coolac, Wattle Flat, Mudgee, Young, Chiltern Valley, Black Range, Gulgong, Sunny Corner, Lockhart, Gundagai, and Wongwibinda.

A considerable portion of my time was occupied in connection with artesian water; a number of samples of drillings were examined from time to time, and advice was given as to the advisability of staying or continuing boring operations. A large area of the artesian basin between the Barwon River and the Queensland Border was also geologically examined. A further detailed examination of the radiolarian rocks of Tamworth was made in conjunction with Professor David, and a paper on the subject of these interesting marine Devonian sediments was written by us jointly, and was read before the Geological Society of London on the 9th November.

Copies of a number of reports submitted by me during the year are appended.

*Work of the Geological Surveyors.*—During the year Mr. Geological Surveyor Carne has been engaged for a considerable period in investigating applications for aid from the Prospecting Vote, and in reporting on questions relating to the proposed cancellation or amendment of mining reserves. He has also furnished the following special reports, viz. :—

1. On the Bushy Hill gold deposits, Cooma.
2. On the coast between Seal Rocks and Smith’s Lake Bar.
3. On Gold Leases 34 and 37, Sunny Corner.

The remainder of Mr. Carne’s time was occupied in examining copper lodes in various parts of the Colony, with a view of preparing a report on the copper-ore deposits of New South Wales. This report is nearly completed, and will shortly be issued as No. 6 of the series on “Mineral Resources.”

The earlier portion of the year 1898 was devoted by Mr. Jaquet to the preparation of his pamphlet on “Gold-dredging,” which, as already stated, was published as No. 3 of the “Mineral Resources” series. The information embodied in this report was gathered by Mr. Jaquet during a visit to New Zealand in February last.

As the question of the extent and value of the iron ores of the Colony has for a considerable number of years excited much interest in the minds of commercial men, I deemed it advisable to obtain, as soon as possible, complete information on this point. I therefore deputed Mr. Jaquet to geologically examine and map all the known iron-ore deposits, and to report generally as to their quality and extent. A start was made with the Williams River and Port Stephens deposits, and Mr. Jaquet’s report has now been

been received, accompanied by a geological map of the district. It will be seen by the report, which is submitted herewith, that the iron ores in question contain a large proportion of Titanic acid. The effect of this substance is to render the ores very infusible, and they are not likely, therefore, to be of value for smelting purposes.

Mr. Jaquet, who is being assisted in his field work by Mr. L. F. Harper, is now engaged at the iron-ore deposits of the Southern District, and I propose that he shall continue at this class of work until the examination of all the known deposits in the Colony has been completed. A Memoir will then be published giving the fullest information in regard to this important subject. Careful assays are being made of each deposit examined, and samples of each ore are being forwarded to the Geological Museum as permanent exhibits.

Mr. Geological Surveyor J. A. Watt has during the past year devoted much time to the investigation of applications for aid from the Prospecting Vote, and in reporting on Lands papers referring to the cancellation or amendment of gold-field reserves. He also furnished the following special reports, viz. :—

1. On a deposit of Specular Iron Ore at Gobondry.
2. On the occurrence of Saddle Reefs at Hargraves.
3. On the Quartz Reefs of Hill End and Tambaroora.
4. On the Bald Hill, Hill End.

Mr. Watt has also written a brochure on "The occurrence of Bismuth Ores in New South Wales," which has been published as No. 4 of the "Mineral Resources" series.

As several years have elapsed since the publication of my report on the Wyalong Gold-field, and as mining operations have progressed considerably there in the meantime, I assigned to Mr. Watt the duty of making a thorough examination of the field. He was engaged at this work during the latter months of the year, and has furnished a comprehensive report, accompanied by a geological map of the field. These I propose to publish as No. 5 of the Special Series on "Mineral Resources."

Mr. E. C. Whittell has been occupied during the greater part of the year in connection with the Prospecting Vote. He was for a short time employed in collecting and arranging exhibits for the proposed Departmental display at the Greater Britain Exhibition, but relinquished this work when it was decided that New South Wales should not be represented at the Exhibition.

Mr. G. W. Card, Curator and Mineralogist, has, in addition to describing a large number of minerals and rock specimens, made good progress with the Geological Museum work. The Geological Museum is daily becoming of more value to students and mining men, and the Curator spares no effort to increase its usefulness. During the year a number of collections of rocks and minerals, chiefly for educational purposes at schools and country institutions, have been prepared by Mr. Card.

Mr. W. S. Dun, Assistant Palæontologist and Librarian, has also devoted much of his time to the museum, his special work being the arrangement of the collection of fossils. This is now classified in such a way that examples of the principal fossils from all the geological formations of the Colony can be readily referred to by the student. Mr. Dun has made up and named a number of collections for exchange with other institutions. He has determined a large number of fossils collected by the Geological Staff, and he has, as usual, attended to the routine work of the library, and to the correcting of proofs, &c., of the various publications.

Mr. Licensed Surveyor O. Trickett has devoted a considerable amount of labour to the preparation of a guide to the Jenolan limestones caves. There has been a considerable demand for a reliable guide-book to these caves, and I think that Mr. Trickett's efforts will be appreciated. The book is now going through the press.

Mr. Trickett has, in addition to performing a considerable amount of field-work, drawn all the plans and sections to illustrate the reports of the geological surveyors.

In conclusion, it gives me great pleasure to state that all the officers of the Geological Survey Branch have worked with enthusiasm during the year.

I have, &c.,

EDWARD F. PITTMAN,

Government Geologist.

The Under Secretary for Mines.

#### APPENDIX I.

##### Report on Coal Seams at Hexham.

I HAVE the honor to report that I have made an examination of the country between Minmi and Woodford, with the object of advising as to the probability of payable coal-seams occurring at the Ironbark Brush, viz., under portions 11 and 12, Parish of Hexham, County of Northumberland.

This country lies to the north of the outcrop of, and therefore geologically below, the Newcastle Coal Measures, and the surface rocks consist of those forming the Dempsey series, which separate the Newcastle or Upper Coal Measures from the Tomago or Middle Coal Measures.

The dip of the rock formations in the district examined by me is extremely variable, owing to the occurrence of numerous rolls in the strata; but the records of the work done by Professor David show that the general dip over this area is more or less to the south, and that it is probably a little to the east of south. It is clear, therefore, that a shaft put down on either portion 11 or portion 12 could not possibly intersect the "Borehole" or any of the seams belonging to the Newcastle Coal Measures, but would pass through all the seams included in the Tomago or Middle Coal Measures.

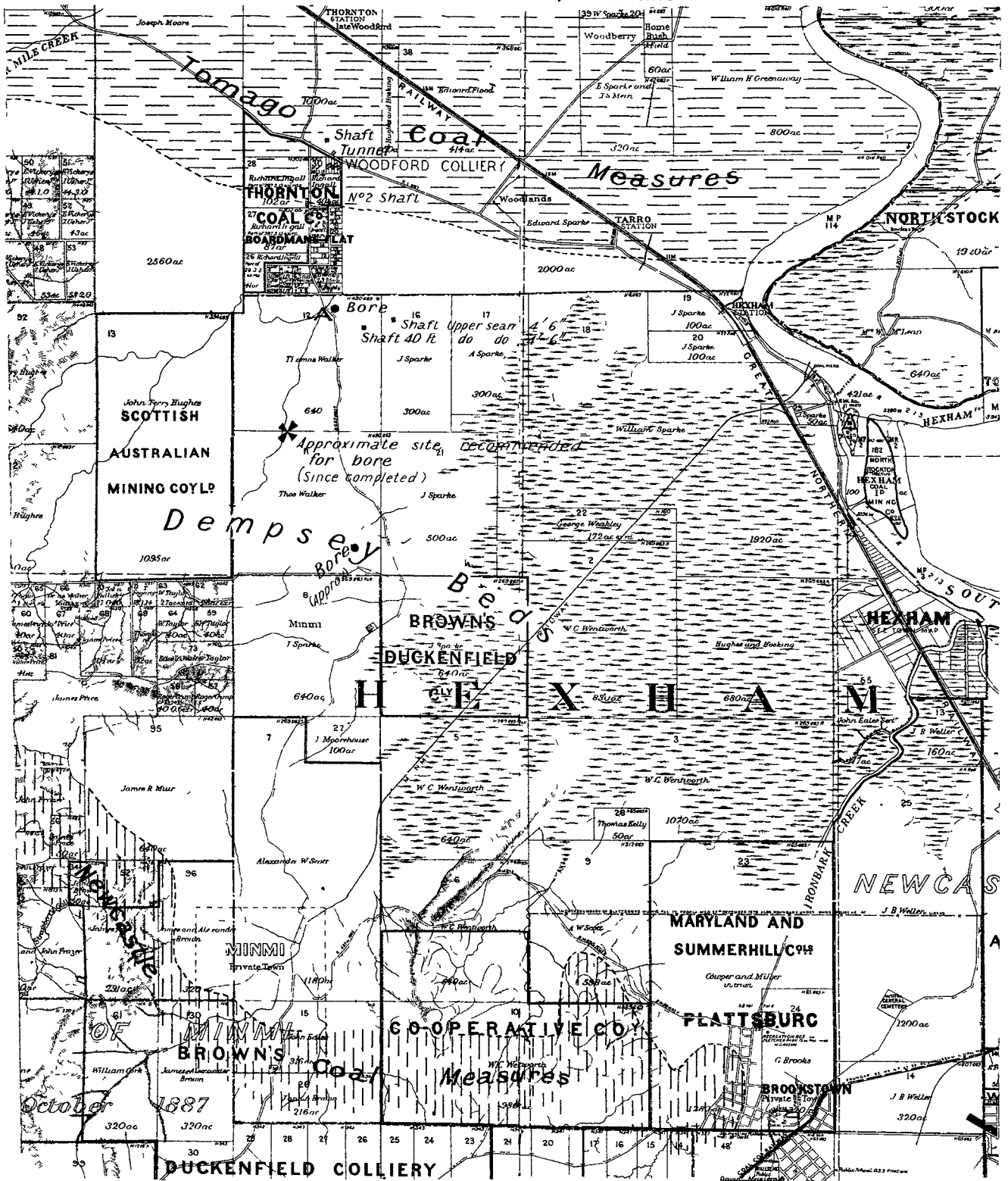
The old Woodford Colliery is situated about a mile to the north of portion 12, and here two seams were intersected in the shaft. The upper seam, which is said to be 4 ft. 6 in. thick, was passed through at 40 feet from the surface, while at a depth of 180 feet a seam, said to have been 7 feet thick, and known locally as "Big Ben," was worked. A considerable amount of coal was extracted from this seam, as shown by a plan of the colliery which I had an opportunity of inspecting, but the quality of the coal in both seams appears to have been inferior, and it was found that mining operations could not be conducted at a profit. The colliery was twice opened, but was finally abandoned about four years ago.

There is good reason to believe that the seam "Big Ben," which was worked in the Woodford Colliery, is identical with Marshall's seam in the Thornley Colliery, East Maitland, and if this supposition be correct, then the upper and lower Rathluba seams would be found beneath it.



PLAN shewing position recommended for a bore at  
Ironbark Brush near Hexham.

Scale 0 40 80 Chains



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S 528

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W A Gullick Government Printer  
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A bore, marked A on plan, was put down at Ironbark Brush in the year 1885 by the late Mr. John Coghlan, and a number of coal seams are believed to have been intersected by it. A portion of the core is still in the possession of Mr. S. E. Laidley, but some doubt appears to exist as to the value of the coal passed through, although Mr. Laidley has, I believe, a record of an analysis of coal from one of the seams which shows it to be of fair quality.

I am decidedly of opinion that the owners of this land would not be justified in incurring the expense of sinking shafts until at least another bore has been put down, with the object of proving beyond doubt the thickness and quality of the underlying seams. The real question to be decided is, as to whether there is sufficient justification for incurring the expense of boring.

The Tomago Seams generally have been proved to be decidedly inferior to the Borehole Seam, and operations at Ash Island have not resulted in the profitable working of these seams there. This was probably, to some extent, owing to the influence of intrusive dykes, as the bore at Ash Island showed that the coal seams had been considerably disturbed by them. It is possible, however, that at Ironbark Brush the same causes of deterioration may not exist, and that the lower Rathluba Seam, which Professor David's investigations show to be the best of the Tomago Series, may prove to be of workable quality under portions 11 and 12.

The Greta Coal Measures undoubtedly underlie this area, but the depth at which they would be met with must be so great (probably about 5,000 feet) that they may be disregarded in considering the possibilities of available coal under this area.

If, in view of the statements which I have made above, the Messrs. Laidley consider that the prospects are sufficient to warrant their incurring an expenditure of £400 or £500 in proving their property, I would recommend the putting down of a diamond-drill bore somewhere about the position indicated by a cross on the accompanying lithograph, viz., about the centre of their property.

EDWARD F. PITTMAN,  
Government Geologist.

14/7/98.

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#### APPENDIX 2.

The occurrence of Tellurium in the Prince of Wales Mine, Gundagai.

SINCE the discovery of the extremely rich telluride of gold deposits at Kalgurli, in Western Australia much interest has been excited by the question as to whether similar ores may not be found in this Colony, and with the object of enabling the miners to become familiar with the appearance of the telluride minerals, a collection of Kalgurli ores is being sent by the Department of Mines to the different mining centres in New South Wales for exhibition. Hitherto telluride of gold has not been recognised in New South Wales, although telluride of bismuth has been found in small quantity in several localities.

One of the products of the decomposition of the telluride ores of Kalgurli is a substance known as "Mustard gold." It consists of free gold in an extremely fine state of division, and it has the appearance of dull yellow clay until pressed with the blade of a knife, when it is readily burnished.

Mr. G. H. Blakemore, General Manager of the Prince of Wales Gold Mine, near Gundagai, recently recognised some "Mustard gold" in the ore of that mine, and presented a sample to the Department, at the same time suggesting that it might have been derived from the decomposition of telluride of gold. A portion of the specimen was accordingly forwarded to Mr. Mingaye, the Analyst to the Department, with a request that he would test it for tellurium. Mr. Mingaye has detected the presence of both tellurium and bismuth in the sample, and suggests that the two are most probably in combination.

In view of the great interest attaching to the occurrence, I visited the Prince of Wales Mine in the hope of being able to detect some of the undecomposed mineral in the lower levels. By the courtesy of Mr. Blakemore I was able to carefully examine the ore in the different parts of the mine, which has been tested to a depth of 500 feet, but did not succeed in finding the mineral sought for.

The mustard gold occurred in a small leader running into the country rock from the footwall of the lode at the 100-foot level, and this leader was not continuous to any depth. The gold throughout this mine is in a remarkably free state, the only minerals observable being occasional small quantities of carbonate of copper (malachite) and copper pyrites. A massive sample of the latter, which is rich in gold, is now being tested for tellurium.

The mustard gold found at the Prince of Wales Mine only differs from that occurring at Kalgurli in being of a dull reddish brown, instead of a dull yellow colour. A fact of considerable interest is that the Prince of Wales lode is associated with a rock of almost precisely similar character to that in which the telluride minerals occur at Kalgurli, viz., a quartz-felspar porphyry which has been much crushed and foliated.

In conclusion, I may state that the evidence appears to point to the probability that telluride of gold will be found at deeper levels than have yet been opened in the Prince of Wales Mine.

E. F. PITTMAN,  
Government Geologist.

The Under Secretary. 28/11/98.

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#### APPENDIX 3.

Report on the proposal to prospect, by boring, for Deep Auriferous Leads near Albury.

I HAVE the honor to report that in company with Mr. James Stirling, Government Geologist of Victoria, and his assistant, Mr. Hunter, I have inspected the country in the neighbourhood of Albury and Wodonga, with a view of considering the advisability of testing for deep auriferous leads by boring.

Four bores have already been put down on the Victorian side by the Wodonga Prospecting Association, and in these alluvial drifts with colours of gold were obtained. The depths of these four bores to bed-rock were 50 feet, 86 feet, 323 feet, and 323 feet respectively, and their positions are shown on the accompanying tracing at A. The deep lead whose existence is indicated by these bores may be the old main (Murray River) channel, or it may possibly be a tributary of the latter coming through the gap marked B. (The accompanying copies of reports by the Victorian officers refer to this question in detail.)

If

If a deep auriferous lead trends down the main valley of the Murray (and there are reasonable grounds for expecting that one does), it must pass through the comparatively narrow gap (at C on the tracing) between Doctor's Point, on the New South Wales side, and Huon's Hill, in Victoria, because this is the only place, within a considerable distance on either side of the river, where the elder rocks do not outcrop at the surface. This gap is about three-quarters of a mile wide, and its surface is composed of alluvial flats, through which the Murray River has cut its present course.

The rocks forming Doctor's Point and Huon's Hill consist of foliated mica schists, with dykes or sills of coarse pegmatite, containing much tourmaline. The dip of these schists is S. 15° to 20° E. at an angle of 25°, and they are thus seen to be shelving from Doctor's Point in the direction of Huon's Hill. Consequently, it is reasonable to expect that the deepest part of the old valley, along a cross-section from Doctor's Point to Huon's Hill, will be found near the latter point—or, in other words, on the Victorian side. At the same time there is no certainty about this; and the only way to ascertain where the lead, or, in other words, the deepest part of the old valley is situated is to put down a series of bores along the line shown in the tracing at C.

Mr. Hunter, Assistant Government Geologist of Victoria, states that these bores could be put down for about 3s. per foot, and he estimates that the total cost of the six bores necessary to prospect the gap would not exceed £300.

In view of the fact that the country on both sides of the Murray, above Albury, is of an auriferous character, and that the old river which received the drainage from this country must, apparently, have passed through the gap under consideration, I am certainly of opinion that the proposal to prospect for a deep lead by boring across this gap is a legitimate one, and is deserving of the assistance of the Government.

Mr. Stirling and I concur in recommending, therefore, that five or six bores be put down in the positions indicated at C on the tracing, and that the expense be borne jointly by the Governments of the two Colonies. All the bores except one (or at the outside two) will be on the New South Wales side of the river; but, as I have already stated, there is some probability that the deepest ground will be found to be in Victorian territory, an equal division of the cost would therefore be equitable.

It is probable that the Victorian Government will assist the Wodonga Prospecting Association to continue the line of bores at A, and will also put down some bores at B, with the object of proving whether the deep lead already found is the main Murray lead or a tributary; and as this work will probably provide some additional evidence, it will perhaps be advisable to await its completion before the other bores are started by the Governments of the two Colonies.

The Under Secretary.

E. F. PITTMAN,  
Government Geologist.

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#### APPENDIX 4.

##### Further Report of the question of a site for a Bore at Hill End.

I HAVE again visited Hill End for the purpose of ascertaining the best position for a bore to test the auriferous reefs at a depth, and I find that the question is surrounded with some difficulty. The average dip (to the east) of the productive reefs appears to be about 55°, and in order to intersect them at a depth of 1,500 feet below their outcrop it would be necessary to put down the bore somewhere in the vicinity of the lines VWXY which I have shown on the accompanying lithograph. The sites which would appear to have the best chances of success are those shown by the letters A and B. Of these, A is immediately to the east of the zone where the phenomenal yields of gold were obtained in Hawkin's Hill, in the year 1872, and the limits of which are shown by cross-hatching on the lithograph. The site A is on Crown lands, and a reserve of some extent could be made to cover it; but it must be remembered that the areas distinguished by hatched borders to the west of it are all held under gold-mining lease, and the majority of them are at present under offer to an English syndicate, whose proposal is to float them into a large company. It is necessary therefore to consider whether the putting down of a bore to the east of this leased land would confer undue benefits on the holders. Another point is, that the site A is on the side of an extremely steep spur, and at a distance of about 7 chains from the top. I have no doubt whatever that it would be possible to lower the diamond-drill plant to this position, but I am unable to state what it would cost to do so; and it is a question for the Board to consider whether the cost would be prohibitive.

The site B is to the east of another line of shafts in which productive stone was obtained down to a depth of several hundred feet; and this would also appear, therefore, to be a favourable spot in which to bore with the object of ascertaining whether payable shoots of gold do not make again at greater depths. Unfortunately it would not be possible to make a reserve here, as the land is all alienated in small areas. In this connection it may, I think, be questioned whether it is really necessary that a reserve should be proclaimed round the site for a bore. I take it that the primary object which the Minister has in view is to ascertain by boring whether payable gold exists at considerable depths in these reefs. If it were proved that payable gold does exist at any one point there would be every reason to expect that it would also be found at other points along the line, and encouragement would therefore be given to mining companies to thoroughly prospect the reefs by deep shafts. As this land is alienated in small lots, no individual holder would have a monopoly of a large area near the bore; and therefore I am personally of opinion that a reserve is not absolutely necessary. I think that a small allotment could be purchased by the Government, as a site for a bore, at very small cost.

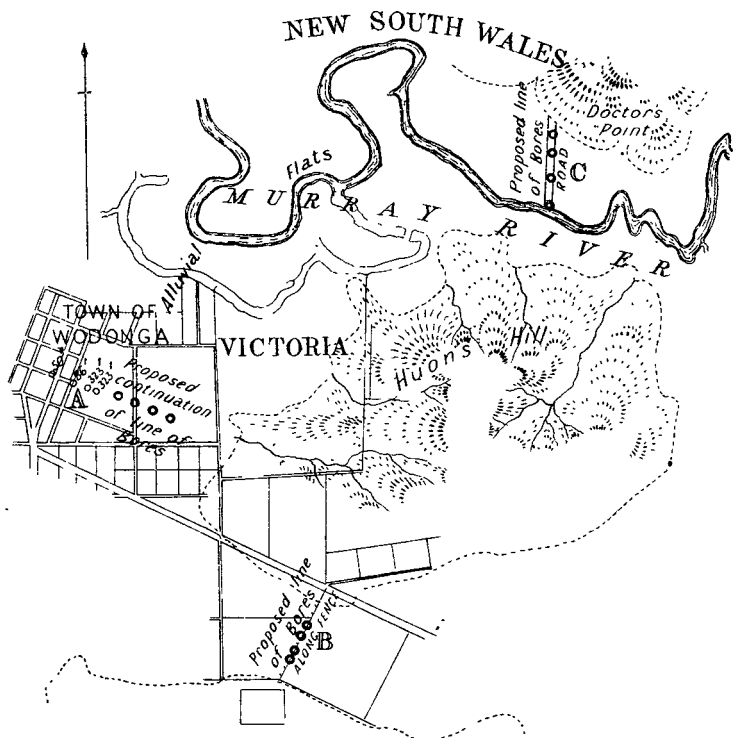
In conclusion, I would repeat that in my opinion the two sites, A and B, are those in which bores would be most likely to be successful, so far as it is possible to judge from the evidence available; and of the two I think that marked A is most worthy of a trial, provided the objections I have indicated be not considered insuperable. If a bore were authorised at the point A it might afterwards be considered, in the light of the evidence therein obtained, whether a second bore at B would be advisable.

The Prospecting Board.

E. F. PITTMAN,  
Government Geologist.

PLAN shewing sites of proposed Bores  
Near Albury

Scale  $\overline{\quad 40 \quad 80}$  Chains



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Photo-lithographed by  
W A Gault, Government Printer,  
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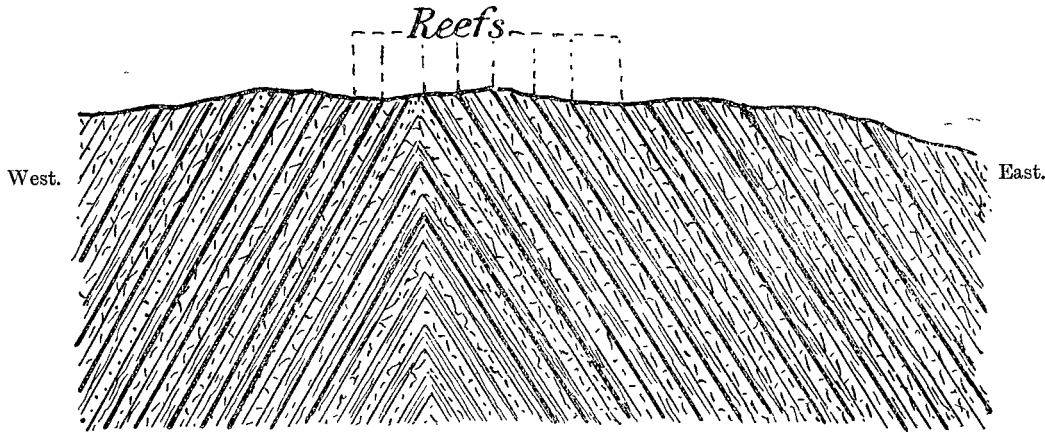
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## APPENDIX 5.

## Report on the proposal to bore for Auriferous Reefs at Hill End.

In connection with the proposal to grant aid from the Prospecting Vote to put down a diamond-drill bore at Hill End for the purpose of ascertaining whether auriferous saddle reefs exist at a depth, I have the honor to make the following report:—

In the year 1878–1879, I made a geological survey of the Hill End Gold-field, and showed that the reefs, which a few years previously had yielded very large quantities of gold, traversed the Hill End Gold-fields in a north and south direction, and that an anticline or acute fold of the rock formations extended right through the centre of the field tilting them in such a way that the reefs on one side of the anticline dipped at a steep angle to the east, while those on the other side of it dipped to the west.

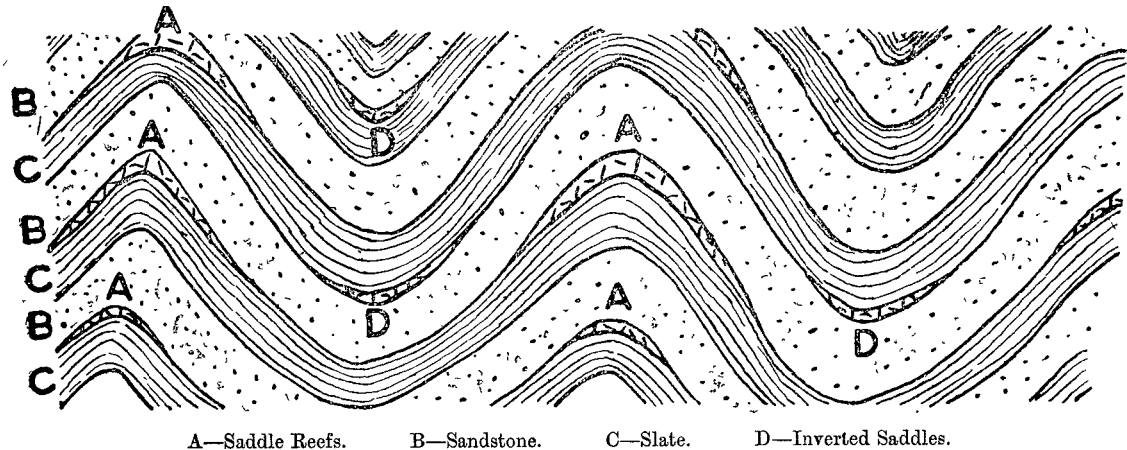


Section through Hill End from West to East.

Nearly twenty years have elapsed since my examination of this district was made, and I had not in the meantime revisited Hill End; when, therefore, it was recently suggested that saddle reefs, similar to those worked at Bendigo, in Victoria, existed on this field, it occurred to me that recent developments might possibly have thrown some new light on the character and mode of occurrence of these reefs. I therefore revisited Hill End on the 27th August, with the object of making a further examination of the deposits, and of choosing a site for a bore, in the event of there being any evidence of saddle reef formations.

After spending three days in inspecting the various parts of the field, I am of opinion that no such evidence exists. The Hill End veins are not similar in character to those known in Bendigo as saddle reefs.

In Bendigo the rocks have been crumpled and contorted in such a manner that a cross-section of the country shows a long series of *curved* arches and troughs (anticlines and synclines), while the spaces which have been formed between the beds, as a consequence of their folding, have been subsequently filled with auriferous quartz. These quartz deposits have received the name of saddle reefs because of their fancied resemblance, in cross-section, to saddles.



A—Saddle Reefs. B—Sandstone. C—Slate. D—Inverted Saddles.

These saddle reefs have several notable characteristics which bear directly upon the question of their value as auriferous deposits, and which are a direct consequence of their mode of origin. In the first place, they attain their greatest thickness in the upper part, or "cap," while the "legs" (which correspond to the "flaps" of a saddle) taper out to nothing as they are followed to a depth. Moreover, it is found that these saddle reefs recur, one below another, at greater or less intervals, and in this way a series of productive reefs has been worked within a depth of over 3,000 feet from the surface. The cap of one reef is not, as a rule, found quite perpendicularly below the one above it, but slightly to one side; nevertheless a vertical bore put down from the surface through the cap of a saddle reef would generally intersect several other similar formations within the limit of depth just mentioned, and if the Hill End reefs were similar in character to those of Bendigo, no better method of proving the productiveness of the field at great depths could be adopted than that of putting down a diamond-drill bore through the "centre country," or, in other words, through the cap of one of the reefs.

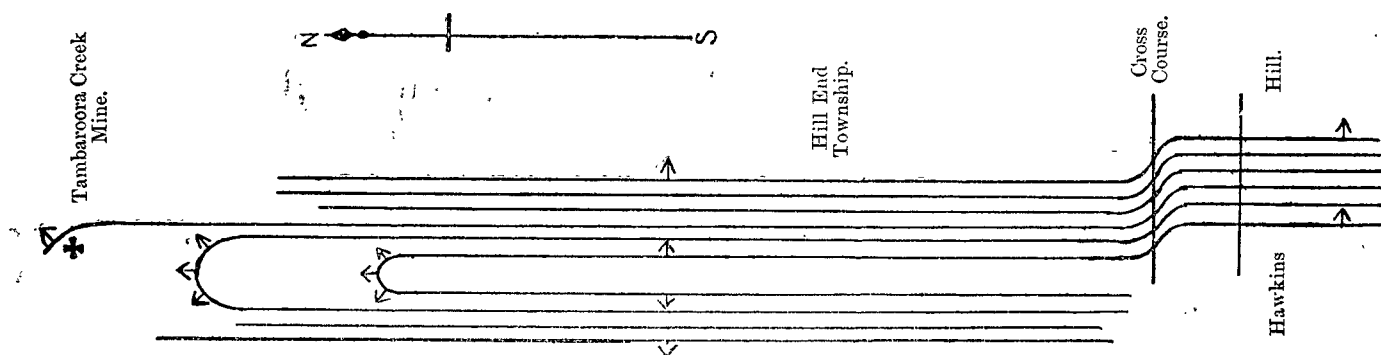
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If a comparison be made, however, between the two preceding sketches, the points of distinction between the saddle reefs at Bendigo and the reefs at Hill End will be apparent. Instead of the series of curved folds, repeated vertically as well as laterally, which characterises the Bendigo Gold-field, we have at Hill End one acute-angled arch or anticline, with the reefs dipping at regular angles to the east on the one side, and to the west on the other.

In my notes accompanying the geological map of Hill End Gold-field, I have described these reefs as lenticular in character; in other words, while following a course which is parallel to the bedding planes of the country rocks, they vary somewhat in thickness, now attaining a width of 8 or 10 inches, and again thinning out to a mere thread. Recent mining operations at Hill End, however, have resulted in the opening up of some of these veins at depths of 500 and 800 feet below the surface, and while their lenticular character has been maintained at these depths, their average width has been found to be quite as great as, if not greater than, it was at their outcrop. This fact alone is strong evidence against their being analogous to the Bendigo reefs, and shows that, on the contrary, they are fairly continuous in depth.

The lodes dipping to the east at Hill End have been the chief gold-producers; those with a westerly dip having been, as a rule, much poorer.

At the southern end of the township, in Emmett and Hughes' Mine, an east and west crosscourse occurs, and this has faulted the whole series of veins to the east—that is to say, that those known as the Hawkins Hill veins, and which extend southwards from the crosscourse, are a considerable distance further east than those running northwards from the crosscourse towards Tambaroora. As the veins approach the crosscourse (both from the north and from the south) they are curved or deflected out of their course, as shown in the following sketch, but they afterwards return to their normal strike of north and south:—



The crosscourse itself was exceedingly rich in free gold down to the water-level, and below that it differed from all the other reefs in this part of the field, in that it contained large quantities of massive and highly auriferous arsenical pyrites. Owing to the difficulty in dealing with the water, this crosscourse has only been worked to a limited depth (between 200 and 300 feet, I believe), and Emmett and Hughes' Mine is now idle.

Starting from the crosscourse the shoots of gold in the veins running southwards are said to have had a southerly dip, while in the veins whose course was northerly from the crosscourse the shoots of gold had, generally speaking, a northerly dip.

Another east and west line of fissure appears to have crossed the veins some little distance to the south of the one just alluded to. The country rocks in its immediate neighbourhood were found to be very soft and decomposed (as I am informed by Mr. Carver), and it is possible that the enrichment of the celebrated Hawkins Hill veins, from which such enormous quantities of gold were extracted in 1872, was due to auriferous solutions percolating this fissure.

All the veins, where they outcrop along the steep western side of Hawkins Hill, are seen to be lying nearly flat, as if affected by landslips. The normal dip in the settled country under the centre of the hill is  $E. 55^\circ$ , but here "slides" can be seen occasionally coming in downwards on the east or hanging wall. These slides are probably the cause of the flatness of the reefs near their outcrop, and mark the eastern limits of the movements which have altered the inclination of the veins, as seen in their outcrops on the western side of the hill. These slides have also faulted the veins in most cases—the extent of the throw being about equal to the width of the reefs—and between the slides rich shoots of gold have been found to occur. Each of the Hawkins Hill veins occurs in a narrow belt of dark-blue slate, and at or near its junction with an adjoining intrusive sill. As already stated, the course of the veins is parallel with the bedding planes of the slates, and they vary in width from a mere thread up to 8 or 10 inches. In the rich claims worked in 1872, the veinstuff or gangue consisted chiefly of mica (Muscovite), in which the gold was thickly studded, but at greater depths the mica had given place to quartz.

Carver and Party have driven a tunnel 600 feet long, from the western side of Hawkins Hill, and have cut the Hawkins Hill veins nearly 500 below the summit. This party received aid to the extent of about £135 from the Prospecting Vote, to enable them to drive this tunnel, and as a result of the assistance twelve men have extracted £10,000 worth of gold from the Hawkins Hill veins in about four years. The most productive vein in this mine was the one known as Paxton's, which has yielded as much as 9 oz. of gold per ton.

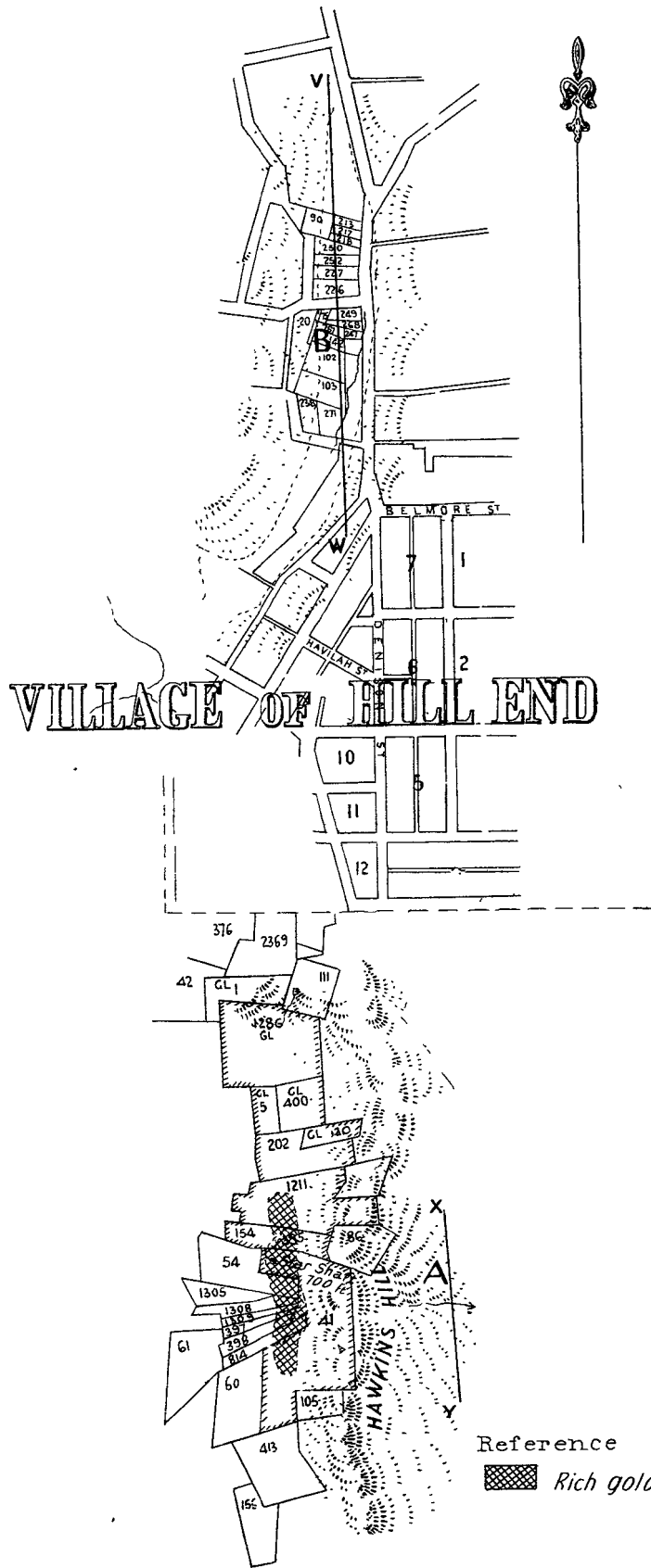
Between 300 and 400 feet below Carver's another tunnel has been driven in from the western side of Hawkins Hill. This has intersected a reef known as the "Amalgamated," and although the productive Hawkins Hill veins have not been met with, a number of clay streaks were observed to the east of the Amalgamated reef, and in about the position which the productive veins should occupy. It is quite possible that these clay streaks represent the productive veins which have pinched out at this point, in accordance with their lenticular character, and which may be expected to "make" again at a still greater depth. If a tunnel were now driven northwards along the amalgamated reef, and if crosscuts, towards the east, were put in from it at intervals, the productive reefs could be prospected immediately below the site of the phenomenal yields of 1872, and at a depth of 800 or 900 feet below the summit of the hill. I cannot, however, recommend that this work be aided from the Prospecting Vote, because the land is all

held



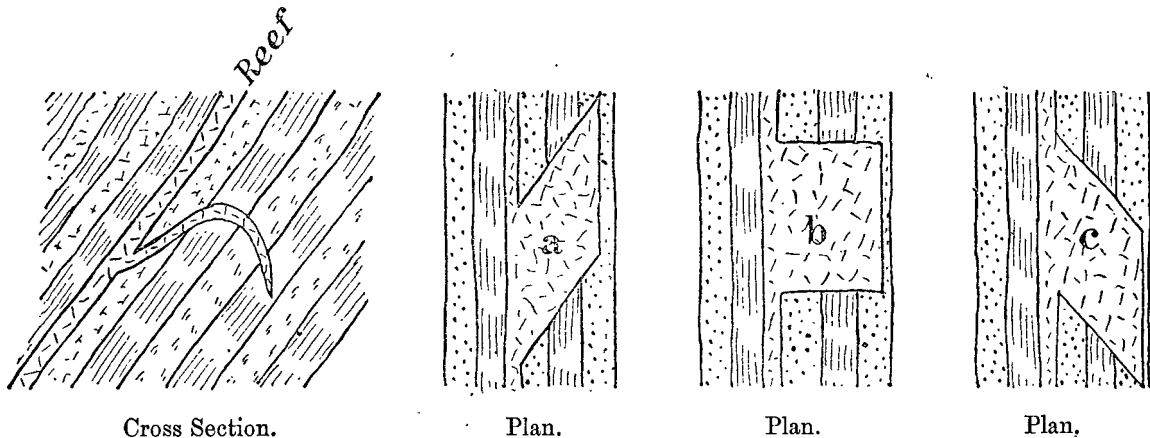
PLAN shewing sites recommended for bores at  
HILL END

Scale 0 8 16 Chains



held under gold-mining lease, and as it could only be regarded as development work, which it is only reasonable to expect should be done by the lessees themselves. The results which have followed the Government aid in Carver's tunnel should be quite sufficient to stimulate others to open out these reefs at the lower levels. At the time of my visit the whole of the Hawkins Hill leases were said to be under offer to an English Syndicate, and if the negotiations be carried to a successful issue it is probable that the work I have referred to will be undertaken.

At the Tambaroora Creek Mine, about  $3\frac{1}{2}$  miles north of Hawkins Hill, a number of peculiarly-arched leaders are connected with the main productive reef. These leaders, which are locally known as "droppers," junction with the main reef on its footwall. Although distinctly arched in sections, they differ materially from saddle reefs, for, instead of conforming with the bedding planes of the country rock, they cut across the latter, and do not succeed one another in regular order.



Cross Section.

Plan.

Plan.

Plan.

Moreover, they approach the main reef at all angles, thus in plan their projection would appear as shown above, "a," "b," and "c" representing "droppers" joining the main reef in three directions, and it is found that those having the general direction shown at "a" are, as a rule, the only rich ones, the others not being worth working. The "droppers" are only a few inches wide, and the maximum height of their arches is about 10 feet. The main reef, which is parallel to the bedding planes of the country rock, is seen to be here bending rapidly round towards the west,\* and it is probable that the "droppers" occupy fissures caused by the crumpling and consequent fracture of the enclosing slates and sills.

To the west of and adjoining the township of Hill End a line of old shafts extending in a northerly direction towards Tambaroora, shows that the reefs having an easterly dip were here highly productive; and further evidence of their richness is seen in the extensive areas of old alluvial workings which trend in all directions from their line of course. As far as I could ascertain, however, these reefs have not been worked to a greater depth than 200 or 300 feet, probably on account of the shoots of gold giving out.

Although I am of opinion that boring at Hill End would not result in the discovery of saddle reefs, much would be done towards reviving the mining industry in this almost deserted gold-field if it could be proved by boring that the shoots of gold recur at greater depths. I think that there is reason for expecting that they may do so; but in the present state of the district it is exceedingly unlikely that the necessary test will be made unless it be undertaken by the Government. Of course there is always the chance, in an operation of this nature, that the drill may intersect the reefs at some point where they are barren, although rich gold may occur in them both above and below the point. Still I can see no other way of settling the question at a moderate cost, and I would therefore suggest that the Prospecting Board should consider the advisability of putting down one, or possibly two bores to the east of the old line of workings just alluded to, and at such a distance from it as would enable the drill to intersect the reefs at 1,000, or 1,500 feet from the surface.

EDWARD F. PITTMAN,  
Government Geologist,

The Under Secretary for Mines and Agriculture.

10th September, 1898.

#### APPENDIX G.

##### Report on the Black Range Alluvial Lead.

I HAVE inspected the Black Range alluvial field, and have also visited the reefs whose denudation has supplied the gold which has been recovered from the upper and shallower portions of the alluvial lead. The principal auriferous reefs are the "Blackfellow's," the "May Day," and several others at the head of Portuguese Gully. The "Blackfellow's" reef was the richest, and is said to have yielded at the rate of 12 oz. per ton near the surface. Payable alluvial deposits were worked for a distance of nearly three-quarters of a mile south of this reef; immediately at the foot of the range the gold was obtained at the surface, but the depth of the lead increased as it trended southwards from the ranges, so that at the most southerly point where payable gold was worked a depth of 90 feet was attained. South of this point mining operations have failed, owing to the difficulty of dealing with the water by means of those appliances, such as whips and whims, which are within the reach of working miners. Moreover, there is no doubt that in several of the shafts which have been sunk and abandoned, as well as in the bores which have been put down for the purpose of locating and testing the lead, what has been regarded locally as "bed rock" is really a false bottom, and therefore it is to be expected that when true bed rock is ultimately reached the water will be found in even greater quantity than it has been hitherto. While small parties of miners have unsuccessfully attempted to prospect the deeper portions of the lead, large areas of the land have been held for a considerable period under "Authorities to Mine," by residents of Albury, who, however, have

\* Vide Diagram on last page.

have not succeeded in raising the necessary capital for so large an undertaking, and it is, I think, clear that unless the Government take some steps to practically demonstrate whether a defined auriferous lead does or does not exist in this locality, there is very little hope of the question being settled in the near future. The evidence available is favourable to the existence of such a lead, and in view of the benefits which would accrue to the mining industry in general, and to this important district in particular, by the development of deep alluvial deposits on the northern side of the Murray, similar to those which have been so successfully worked in Victoria, I recommend that the Government should endeavour to prove the lead by putting down a series of bores along the line shown on the accompanying lithograph.

Before any action in regard to boring is taken, however, I would suggest that all pending applications for gold-mining leases or authorities be refused, and that all existing authorities be cancelled. The land is already reserved (under Section 26 of the Mining Act of 1874) from occupation for residence under any miner's right or business license, and it should be similarly reserved from occupation for mining. The Warden should also be instructed to notify the public that until further notice no applications for gold-mining leases or authorities in respect of alluvial land in that locality will be granted. It would also be advisable to obtain from the owners of the land along the proposed line of bores consent in writing to the boring operations.

In the event of a defined auriferous lead being proved by boring, the question of the subsequent disposal of the land is deserving of careful consideration.

The present occupiers of the land, under "Authority" and "Application for Authority" cannot expect further consideration, inasmuch as they have not complied with the regulations by paying rent and survey fees respectively. It would, therefore, be at the discretion of the Minister, after clearing away their applications or titles, to dispose of the land in such a way as to secure the best results in regard to mining interests generally, and to ask, from future lessees, some satisfactory guarantee that mining operations on a suitable scale will be undertaken without unreasonable delay. I think, therefore, that whatever method be adopted in dealing with future applications for this land the date on which the reserve will be thrown open should be advertised a considerable period in advance, so as to permit of intending applicants raising the necessary capital for working the auriferous deposits. At the same time the fact should not be lost sight of, that for the successful working of this land, it is necessary that a liberal area should be granted to the persons who are to provide the capital.

With regard to the bores, I would suggest that the first be put down at the point A (*vide* lithograph), and the others at intervals of 10 chains in a direct line to the east. Tenders for the bores should be invited by advertisement in the local papers.

E. F. PITTMAN,  
Government Geologist,  
21st October, 1898.

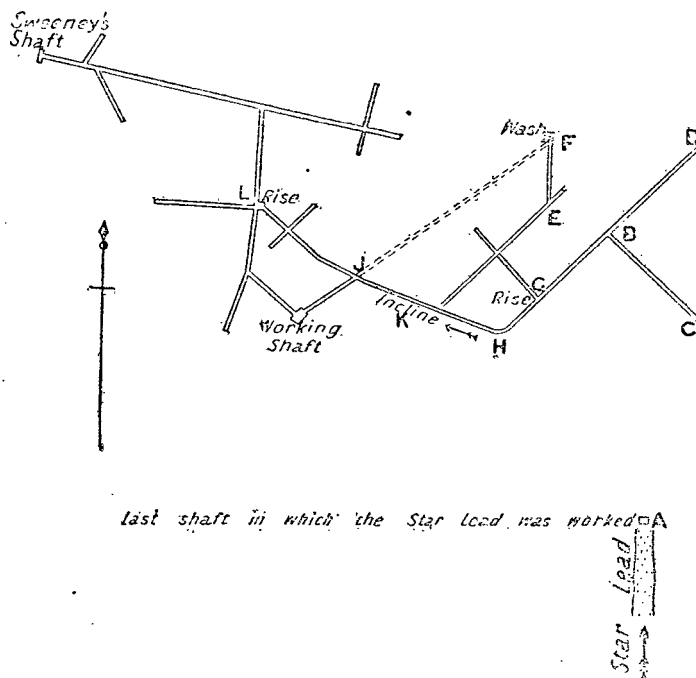
The Under Secretary.

#### APPENDIX 7.

#### Report on the Star No. 1 Lead, Gulgong.

I HAVE made an inspection of the workings of the Star Lead No. 1 Gold-mine at Gulgong, in connection with an application by Mr. R. M. M. Anderson, one of the directors, for a loan of £250 from the Prospecting Vote, and I have the honor to report as follows:—

The accompanying sketch plan shows approximately the underground workings of the mine.



Sketch Plan, showing underground workings of Star Lead No. 1 Gold-mining Company, Gulgong.

The Star Lead was worked with good results in the prosperous days of Gulgong, and was lost somewhere near the point A on the plan. The trend of the lead was northerly. According to Mr. Anderson's letter the present proprietors of the mine have expended about £8,000 during the past three years in more or less fruitless efforts to find the lost lead.

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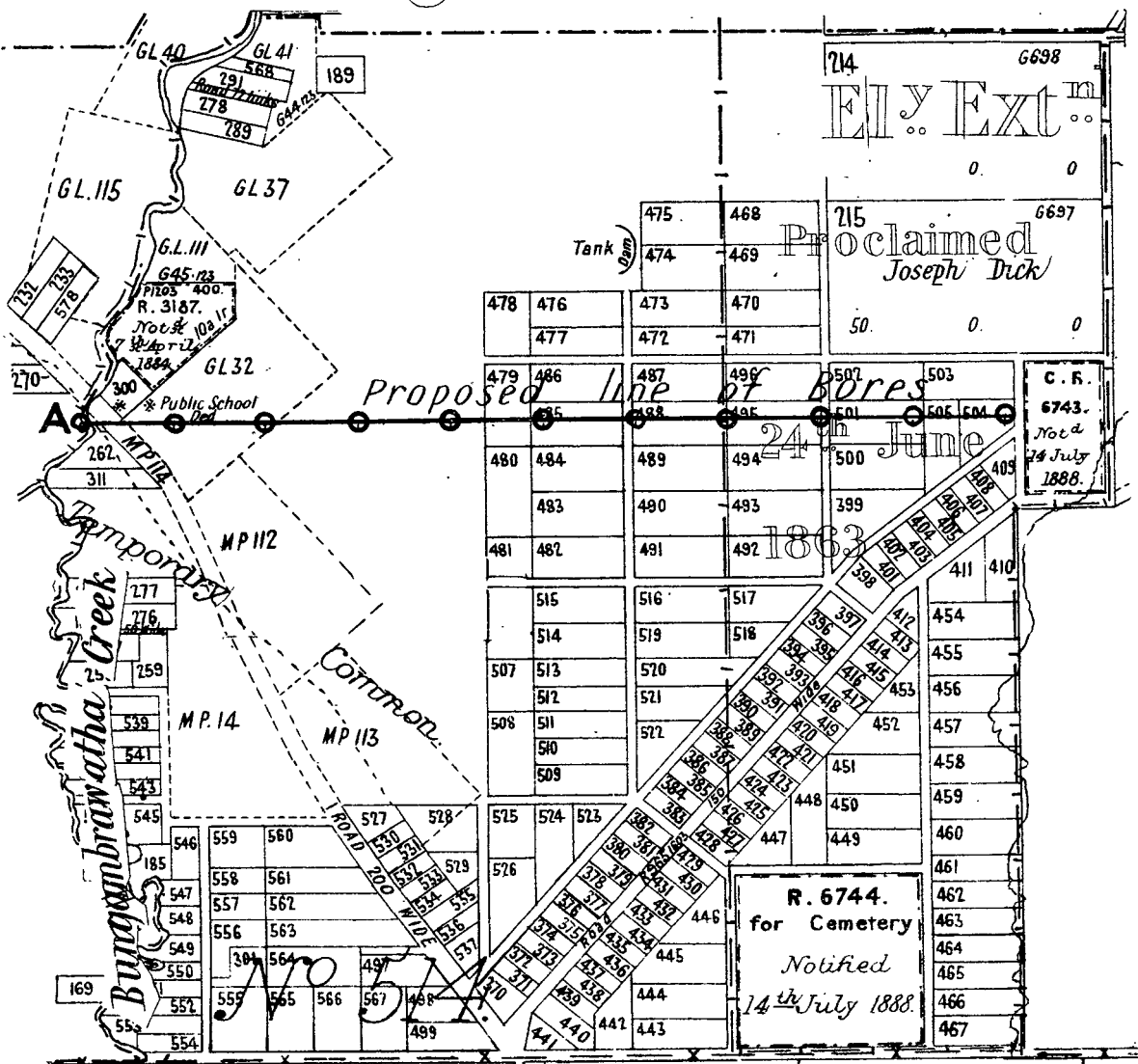
PLAN

Shewing sites for proposed Bores  
Parish of Albury. Co of Goulburn

Scale 0 10 20 30 40 Chains

Black Range

Gold Field



The plan indicates that these workings have been carried out on a rather haphazard system, the drives having been excavated in all directions. Moreover, an inspection of the underground workings reveals the fact that the character of the work done is, in some cases, extremely bad. In one position (at K) the floor of the drive instead of being nearly level, has been allowed to rise so rapidly that quite a steep incline has resulted. Not having levelling instruments with me I was unable to ascertain the total elevation of the drive at the head of this incline, but I should estimate it at, at the least, 7 or 8 feet. In addition to this evidence of bad work, I may mention that little or no provision has been made on the floor for the escape of the water, with the consequence that it is a matter of great difficulty to keep the drives in a fit state for work. It is only right to mention that the faulty work alluded to was carried out before the present manager, Mr. P. Egan, assumed control of the mine.

On the 23rd May last the Prospecting Board, acting on the report of Mr. Geo. Sur. Watt, recommended the granting of aid to the company for 150 feet of driving at the rate of 7s. 6d. per foot. This money was subsequently expended, but the drive, which is marked BC on plan, failed to intersect the lead.

Lately the company have carried drives from B to D, and from E to F. At the point F good-looking wash has been met, having a thickness of at least 6 feet, and it is said that prospects were obtained from this equal to about 7 dwt. of gold per load. The wash dips away rapidly from the floor of the level, and carries a strong body of water. The drive BD has not yet succeeded in striking wash, although water has recently appeared in the face. The manager informs me that he obtained fine wash in several places overhead by putting up bores through the roof of the drive.

It must be mentioned that there is a "rise" or "jump up" 9 or 10 feet high, at the point G, so that the drive EF is on a higher level, by, say, 9 feet, than the drive HD. Again the drive HD is on a higher level (by, say, 8 feet) than the point J, by reason of the incline which was previously alluded to. It is probable, therefore, that the point J is at least 16 feet lower than the floor of the drive at the point F, where the thick body of wash was obtained.

Mr. Anderson asks for a loan of £250 for the purpose of continuing the drive BD in a north-easterly direction. In my opinion the prosecution of this work is not advisable for the following reasons:—

(1.) In view of the discovery of wash in bores put up from the roof of this drive it seems probable that the lead crosses over the drive, as well as over the drive BC, which was put in with Government aid.

(2.) Owing to the tortuous course and uneven floors of the drives between the point D and the working shaft, the mine could not be satisfactorily worked by means of these roadways, even if further prospecting operations resulted in the discovery of the lead beyond D, which is not by any means certain.

(3.) If a lead were discovered beyond D, it might be found to dip below the floor of the drive BD, and in that case the difficulty of dealing with the water would again be fatal.

(4.) So much haphazard prospecting work has been already done without result that a continuance of that system is not justifiable, more especially as a thick body of wash has already been proved to exist at the point F.

In short, I cannot recommend further driving in an unproved direction when a considerable thickness of wash is known to exist at F which can be reached at a much lower level than the drive BD.

The connecting drive between the working shaft and the point J can be extended to F, and thus form a perfectly straight main drive which will be at a lower level than the drive BD by about 8 feet. In addition to obtaining this advantage in depth, which will be of considerable consequence in connection with drainage, this drive will do away with all the tortuous and uneven roadways, and will enable the mine to be more economically worked. The water can be allowed to drain along the side of the drive from F to J, whence it will flow to the rise L, and escape thence to the pump through the lower level.

The adoption of this proposal will involve driving for about 360 feet, but in view of the present unsatisfactory state of the underground workings I am of opinion that it is the most satisfactory step that can be taken.

The recovery of the lost auriferous leads at Gulgong is of the utmost importance, for I feel confident that considerable deposits of gold still await development in this district.

E. F. PITTMAN,

Government Geologist,

28th October, 1898.

The Under Secretary.

#### APPENDIX 8.

##### Report on samples of Ore taken from the Sunny Corner Mine.

In accordance with the Minister's instructions, I visited the Sunny Corner Mine on the 31st October, for the purpose of sampling the ore in the lode, and reporting definitely whether it contains a sufficient proportion of gold to warrant its being regarded as a payable auriferous deposit.

In the course of my examination I visited all the levels which were accessible. I was unable to examine the lowest excavations, as they were full of water.

In all, six samples of lode material were taken by me (the particulars of these are given below), and were assayed by Mr. Mingaye, in the laboratory of the Department.

The samples, with the exception of these numbered 5 and 6, were taken across the full width of the stopes, and are, therefore, representative samples of the face of the ore body in each case.

No. 1 sample, from the new stope, centre block, drive No. 1, yielded:—

Gold ...	...	...	...	...	Nil.
Silver...	...	...	...	...	2 oz. 8 dwt. 11 grs. per ton.
Copper	...	...	...	...	1.55 per cent.

No. 2 sample, from centre block, drive No. 1, 10 feet higher than the last, yielded:—

Gold ...	...	...	...	...	Trace, under 5 grains per ton.
Silver...	...	...	...	...	2 oz. 9 dwt. 13 grs. "
Copper	...	...	...	...	1.11 per cent.

No.

No. 3 sample, from No. 1 stope, drive No. 2, yielded :—

Gold ...	...	...	...	...	Nil.
Silver...	...	...	...	...	4 oz. 18 dwt. 13 grs. per ton.
Copper	...	...	...	...	1·89 per cent.

No. 4 sample, from No. 4 stope, between drives Nos. 3 and 4, yielded :—

Gold ...	...	...	...	...	Trace, under 5 grains per ton.
Silver...	...	...	...	...	7 oz. 18 dwt. 10 grs. „
Copper	...	...	...	...	1·71 per cent.

No. 5 sample was taken from along the full length of No. 9 kiln. This kiln contains a mixture of ore from all parts of the mine. The ore has been partially roasted, and when the mine is working the ore goes from the kiln direct to the furnaces. This sample yielded :—

Gold ...	...	...	...	...	Nil.
Silver...	...	...	...	...	5 oz. 10 dwt. 12 grs. per ton.
Copper	...	...	...	...	1·25 per cent.

No. 6 sample was a specimen, taken at random, of the massive sulphide ore which is characteristic of the mine. It yielded:—

Gold ...	...	...	...	...	Nil.
Silver...	...	..	...	...	2 oz. 2 dwt. 11 grs. per ton.
Copper	...	...	...	...	0·43 per cent.

It is evident that in view of the results of these assays the mine cannot be regarded as payably auriferous. I am well aware that when first opened the Sunny Corner Mine produced from its upper levels considerable quantities of ore which was payably auriferous, and although it has long been known that the ore in the deeper levels was poor in gold, I was extremely surprised to find the assay returns so low in all three metals in the samples taken by me.

In my opinion it would be inequitable to demand £1 per acre rent for the leases covering this mine; and even with a rent of 5s. per acre, it is evident that only the most extraordinary economy in mining and smelting operations will enable the lessees to work the mine at a profit.

E. F. PITTMAN,

Government Geologist,

10th November, 1898.

The Under Secretary.

#### APPENDIX 9.

Report on prospects of obtaining Artesian Water in the Hay District (Lower Riverina).

THE occurrence of underground fresh water in the Western country (Lower Riverina) is very capricious, and it is not at all uncommon to find that of a number of wells put down within a comparatively short distance of one another, some contain fresh and some salt water. As the geological formations underlying this country are, as a rule, entirely hidden by reason of the plains being covered by (Pleistocene) surface deposits of sand and silt, there is no evidence upon which I could advise as to the best localities for sinking. It is to be expected that the fresh water will occur in the sandy deposits, and the salt water in the clays,—the reason of this being that the sands permit of the percolation or circulation of the water, while the clays do not; and it is a well-known fact that underground water which has no outlet or circulation must ultimately become salt, because it is continually dissolving salt from the rocks or clays in which it is stored, and the bluish clays of the Western plains are heavily charged with gypsum (copi) and other salts.

I am afraid that no rule can be formulated that would be of much use, as a guide, to Mr. Davy, and that prospecting is the only means that he can rely upon to obtain his object.

It is probable that in many cases deep wells or bores would meet with fresh water below the clay-beds to which he refers in his letter. This was found to be the case in the Hay bore, where a pumping supply of good water was obtained at a depth of some hundreds of feet.

With regard to the geology of the country under consideration, it may be stated that the upper sediments consist of Pleistocene deposits of sand and clay. These deposits are of lenticular shape and irregular occurrence; that is to say, they thin out to nothing at the edges, and may be of considerable thickness at the centre; moreover, the clays and sands alternate in an irregular manner, so that it is often impossible to decide, from the evidence at the surface, whether clay or sand will be found below.

Underneath these Pleistocene deposits there occurs, along the Lower Darling, a considerable thickness of calcareous sandstone of Eocene (Tertiary) age, and underneath this again is the true bed-rock, which consists of granite in some localities, and Silurian slates in others.

E. F. PITTMAN,

Government Geologist.

#### APPENDIX 10.

Report on the question of Water Supply for Lockhart.

I HAVE made a geological examination of the country in the vicinity of Lockhart, with a view of ascertaining whether there is any probability of obtaining artesian water in that neighbourhood.

Lockhart is a rising township situated about 27 miles west of The Rock railway station. It has sprung into existence owing to the throwing open of a large area of land suitable for wheat-growing, and which has been occupied by homestead selectors. A great impetus has also been given to the town by the favourable report of the Public Works Committee on the proposed railway from The Rock to Lockhart.

The country traversed by me is mostly of a level or undulating nature, and is characteristic of Riverina. About 7 miles east of Lockhart the road crosses a low range in which Palæozoic rocks are seen to outcrop, and this is succeeded by level plains with patches of gilgai country until the township is reached. During the last two or three seasons water has been very scarce about Lockhart, and in 1897 the residents were



were obliged to cart their domestic supply a distance of 20 miles. A well has been sunk close to the town in search of water, and a bore was put down from the bottom of the well, the total depth reached being 216 feet. This well was sunk with Government aid. A small supply of water was obtained, but it was found to be too brackish for domestic purposes.

The spoil-heap of the well shows that the excavation has been for the most part in Silurian rocks (slates and shales), and a resident, who was present when the well was sunk, informed me that these rocks were met with at a depth of about 40 feet.

To the north of Lockhart, and at a distance of about 12 miles, is a range known as Galore, rising about 300 feet above the plain. This range is composed of quartz-grits and conglomerates, apparently of Devonian age, dipping about S. 20° W. at an angle of 5°-10°. The country between Lockhart and Galore is more or less undulating, and the bed-rock is probably within a short distance of the surface all over this area.

My examination of the district has convinced me that there is no probability of artesian water being obtained by boring in the neighbourhood of Lockhart, and I do not think there is any likelihood of a pumping supply of fresh-water being obtained from wells sufficiently close to the settlement to be of value as a source of domestic supply. It is just possible that near the foot of Galore Mountain, and on its southern side, springs of fresh water might be obtained by sinking, owing to soakage of rain water along the bedding plains of the Devonian sandstone, but in the neighbourhood of Lockhart Township the alluvial drifts forming the plains appear to be shallow, and therefore unlikely to contain any considerable supply of fresh water, while any water which may accumulate in fissures in the underlying slates and shales will probably be of a brackish nature, besides being inconsiderable in quantity.

It appears, therefore, that the only practicable method of securing a supply of water suitable for domestic purposes is by conservation in tanks.

I have, &c.,

E. F. PITTMAN,

Government Geologist,

22 November, 1898.

The Under Secretary.

#### APPENDIX 11.

Sir, Geological Survey, Department of Mines and Agriculture, January, 1899.

I have the honor to hand you the following notes on the work performed by me during the past year for insertion in the Annual Report of the Department, reserving my special report on the Copper Mining Industry, and the the distribution of Copper Ores in New South Wales for separate publication in the new issue entitled "Mineral Resources of New South Wales."

Attached to these notes are the following reports:—

1. Report on Bushy Hill, Cooma
2. " " the Coast between Seal Rocks and Smith's Lake Bar.
3. " " G.Ls. 34 and 37, Sunny Corner.

In January I visited the Victorian Border near Delegate to arrange for the disposal of the Border Prospecting equipment, in consequence of the discontinuance of operations. Portions of the plant realised almost cost prices, but the live stock were at a discount owing to the prevailing drought.

Whilst in the district, Mining Reserves at Currowong and Nelbothery were examined, and the boundaries amended. The Currowong Copper Mine on the west end of Black Jack Range, close to Currowong Homestead, was inspected. Copper ore was discovered here about seventeen years ago, and opened to a depth of 30 feet before abandonment. Owing to the recent advance in the value of copper, attention was again being directed to the locality, and prospecting was proceeding at the time of inspection, but so far without discovering any defined ore body.

During inspection of the Nelbothery Gold-field Reserve, the site of the late Nelbothery Gold-slucing Company's operations was visited. In preference to cutting a lengthy race for natural gravity sluicing, a pumping scheme was adopted for raising water to a sufficient elevation to furnish efficient fall and force for hydraulic sluicing, of an immense thickness—40 feet—of stranded drift, at an earlier and higher level of the present river channel. The water was forced through 2-ft. 6-in. and 3-ft. pipes to a reservoir from which it flowed by gravitation through pipes to the drift-bed, where it was distributed through hydraulic nozzles. Judging from the extent of the excavations and the reported time occupied, the effective force of the water must have been enormous. Unfortunately for the company and the district, the results obtained were very disappointing, and compelled abandonment. Perhaps an exaggerated estimate of the value of the drifts arose from the results obtained in the present river banks and bed, and in the small channels falling into it from the drifts or terraces; but the contents of the recent channels were the concentrated results of natural ground sluicing of an immense amount of the older drifts, and proportional enrichment of their gold contents. The powerful pumping machinery has recently been removed.

Reaching Cooma on the 21st, several days were devoted to an examination of the Bushy Hill and Middle Flat gold occurrences which were exciting considerable attention at that time. Several copper lodes were also visited. A separate report on Bushy Hill is appended.

Copper ores occur rather freely distributed in the Cooma District, though not in extensive deposits so far as tested.

The Dartmoor lode occurs in portion 135, parish Bunyan, county Beresford, within about 5 miles of Cooma. It occurs at the junction of Silurian slates and intrusive felsite. A second lode occurs a short distance east, with a more siliceous outcrop. The special feature of the Dartmoor ore is the association of payable silver ore to the extent of from 20 to 40 oz. per ton. Fuller particulars of these lodes, and of all others mentioned in these notes, will be found in my special report on copper.

North-east of Dartmoor, about 1 mile, is another copper deposit, in portion 25, parish of Montague, County Beresford, on the east margin of Middle Flat. The outcrop consists of gossan, with strings and colourations of copper carbonates.

The sulphides were struck with rather heavy water at about 50 feet; the grade, however, was extremely low. Prospecting is still in progress. Limestone is in abundance in close proximity to both this and the Dartmoor lode, but firewood is very scarce.

In

In the Cooma district a number of applications for aid from the Prospecting Vote were also dealt with.

The sedimentary formations in the vicinity of Cooma consists of Silurian slates, schists, and sandstones, and are intruded by numerous quartz felsite dykes. The west side of the town is on granite and gneiss. Extensive basalt downs extend southerly towards Bombala. The slates and limestones yield fossils of Silurian facies.

On the 26th January I inspected portion of the Jugiong Gold-field Reserve, on the Jugiong River, and Cunningham Creek. Near the junction of these streams a large number of miners were profitably engaged working terraces or drifts stranded at a higher and earlier level of the Jugiong River. Several small steam-pumps were in use coping with the inflow of water. No attempt was, however, being made to cope with the continuous flow of water in the present channel so as to work its bed. Considerable attention has been directed to this locality during the last half year in consequence of the inception of the New Zealand system of gold dredging, by Mr. C. L. Garland, on the Macquarie River near Muckerwa. Jugiong River and Cunningham Creek offer every facility for the successful operation of this class of mining, as they run through granite country, and their beds for long distances will be found soft and amenable to the dredge scoops.

Unfortunately for the prospective dredgers the operations of the smaller miners down to the stream banks, have prevented the issue of dredging leases for fear of infringement of existing rights. It is very doubtful whether the present miners with limited means and obsolete appliances can ever successfully cope with the flow of water continuously filtering through the sandy river channel even in driest seasons; hence the issue of dredging leases may be confidently looked for when the higher drifts of the banks have been exhausted of their gold contents.

The area under description affords valuable and instructive warning of the danger of too drastic curtailment or cancellation of Mining Reserves at times when little mining is being carried on. A few years prior to my last inspection a proposal was made to alienate the land; at the time about eight or ten men only were on the reserve, but in view of the objection raised by the Department of Mines the project was abandoned. Since that date over 200 miners have found employment on it at times, and there are in view prospects of years of work.

Considering that the provisions of the Mining on Private Lands Act afford means of entry on to private lands other than agricultural, opposition to alienation of Crown lands reserved for mining purposes may appear contentious, but practical knowledge of the subject justifies the strongest opposition in the interests more particularly of the migratory working miner, to cancellation of Reserves which afford a livelihood as fossicking grounds—if nothing better—for a large number of men and their families, when no better inducements offer. There are Mining Reserves throughout the Colony to which such men periodically return when their funds are exhausted in prospecting other fields. Others again take advantage of the shearing and harvesting seasons, whilst their families remain on the Reserves. A glance at the privileges of unrestricted access, and the disadvantages of the reverse will fully illustrate the wisdom of retaining certain areas. A miner, by virtue of his "right," for which he pays an annual fee, can enter Crown lands without restriction, enclose an area for residential and gardening purposes, keep sufficient stock to carry on his work, and have free use of water and timber. On the other hand, on private land he cannot enter without obtaining authority from the owner or, if he be unwilling, from the local Warden, who often resides at some distance. But first—in the latter case—he must ascertain the number of the portion, parish, and county, and present owner or his agent, all of which must be duly set out on proper forms—a preliminary proceeding not always as simple as it looks in print;—notice must then be served on the owner or his agent, and arrangements made (in the case of alluvial which is the principal class of mining in question) for a meeting of the warden, the owner, and the intending prospector, on the ground; and lastly the latter has to defray, before working, the surface damage based on the Warden's estimate. In certain other forms of alienation, contemplated or optional conversion, authority to enter must be obtained from the Minister for Mines. In addition to these restrictions the privileges of residence, grass, timber, water, &c., are denied him.

During the necessitous years of drought, &c., men flock to the gold-fields, as has been abundantly demonstrated during the past few years, and judging from the large amount of money returned by those assisted by the Department of Mines, and the Labour Bureau to reach the gold-fields, and the substantial increase in the output of gold, the wisdom of keeping certain auriferous areas for unrestricted resort in times of depression or need cannot be gainsaid. A living, if not more, is thus open to many industrious and necessitous men without the stigma attaching to relief work.

These remarks apply equally to Homestead and other leases which prevent unrestricted access, and cancel all residential, grazing, timber, and water rights.

In February I corrected the proofs of a paper on Chromite, its uses and value, and its distribution in New South Wales, being No. 2 of the new issue entitled "Mineral Resources of New South Wales." Afterwards I examined the Yalwal Gold-field Reserve, where metalliferous mining is confined to the Palæozoic rocks in the Yalwal Valley which denudation has exposed beneath the prevailing Carboniferous marine strata. At the head of Conjola Creek in the parish of Little Forest in the Milton Mining District, an occurrence of copper ore was examined in connection with the Prospecting Vote. It is exposed in the bank of the creek, and dips under it; at the outcrop, which is limited to a few feet, a little carbonate of copper is showing coating refractory sulphides. The assay values, both for gold and copper, apart from the difficult situation, discourages any further expenditure in prospecting. Flooded channels prevented any further continuance of the projected southern trip at this time.

Towards the end of February I visited the Armidale, Hillgrove, Wollomombi, and Enmore districts, in connection with proposed alienation of lands within restricted gold-fields, and the distribution of the Prospecting Vote.

The Sunnyside Copper Mine, on the Chandler River, was visited with reference to assistance from the Vote. The lodes occur close together on the river bank, near the foot of Hall's Peak, in the parish of Tiara, County Sandon, about 22 miles from Hillgrove. The country consists of massive intrusions of felsite in Palæozoic slates and quartzites, through which the river has cut a precipitous gorge, about 2,500 feet deep, rendering access to the mine very difficult. A cable tramway, similar to those in use at the Baker's Creek and Sunlight Mines, Hillgrove, will be necessary if the copper lodes prove sufficiently important to warrant the outlay. The lodes occur at or near the junctions of the igneous and sedimentary rocks. Loose shode stones were first discovered here by a Government prospecting party in the slipped shingle

shingle of the steep slopes, but the lode was not discovered at the time. The present owners—Messrs. Keys Bros.—succeeded, after considerable search, in locating it, and also several others in close proximity. The first discovered ore consisted of rich yellow sulphide, coated with carbonate, assaying from 39 to 47 per cent. of copper, and from 10 to 13 oz. of silver per ton. The later discoveries are, to some extent, associated with zinc sulphide. Systematic prospecting is now in progress, under aid from the Prospecting Vote.

At Tilbuster, near Armidale, I was enabled to detect the richest portion of a silver lode (proustite) being summarily discarded over the tip, whilst a poorer but more conspicuous mixture of blende and pyrites was being carefully bagged. An average sample of the ruby silver ore taken from the tip yielded, on assay, over 244 oz. of silver per ton.

At Wollomombi a number of small but rich silver-bearing veins occur in granite at Kessler's Mine. The richer portions, averaging 100 oz. and upwards per ton, are bagged and despatched to the Walleroo Smelting Works, the seconds remain at grass awaiting local treatment. Possibly a means of realising their values will shortly be provided at the Ruby Silver Mine, near Rock Vale, a few miles distant, where, it is understood, a metallurgical plant is to be erected, which should absorb all local supplies of ore, and induce greater outputs and renewed prospecting. Unquestionably, numerous small payable silver veins will be found in this locality when means are available for disposal or treatment of the ores locally. At the present time only the small proportion of high-grade firsts can be profitably despatched to distant custom plants.

In March I visited Tingha, and inspected numerous sites for which prospecting aid was requested, and also visited the Elsmore deep tin lead, the Boggy Camp Diamond Mines, and the Borah Creek Silver, Lead, and Copper Mine near by.

The English company operating at Boggy Camp, under the management of Mr. Barrington Brown, was systematically opening up the diamantiferous drifts, and erecting a washing plant on the South African model.

The drift dips into a ridge under a basalt cover, hence natural drainage is not possible save by adits at low-level, which, from the conformation of the country between the drift outcrop and Cope's Creek, would require to be of considerable length. At present steam power is used for draining the workings. The earlier workings were confined to shallow workings along the outcrops to such depths as the water could be coped with by primitive means.

The washing plant was completed before the close of the year, but before continuous work was inaugurated it was found essential to secure a permanent water supply from the Gwydir River by a pipe line about  $\frac{3}{4}$  of a mile in length. The results of the first washings are reported to have been satisfactory, though no figures have transpired.

The Bingara Diamond Mines were also visited, the Monte Christo alone was being worked, but on a very limited scale only, owing to the drought and consequent scarcity of water for washing purposes.

At Hall's Creek, about 14 miles from Bingara, a reported find of rubies was examined; these proved to be garnets in basalt, which received attention in the Rev. J. M. Curran's paper on the gemstones of New South Wales. (Roy. Soc. N.S.W., Vol. 30, 1897, pp. 214-285.)

At Crow Mountain, Upper Manilla, and Limbri, near Moonbi, applications for prospecting aid were dealt with.

In April Nundle was visited for the purpose of ascertaining whether a prospecting shaft, searching for the Mount Pleasant lead, was in bedrock or not. The material being sunk through was too highly decomposed for microscopic examination, but it possessed all the appearances of a decomposed basalt; the continuation of sinking was, therefore, recommended to the estimated channel-level. If not struck in the shaft, a short drive only should be necessary to reach it.

In May a tour of inspection, &c., was taken through the Monaro table-land as far south as Nimity-belle, thence to the coast, and back to Sydney, *via* Araluen and Braidwood.

At Collinton a proposed new road from the reefs to the railway line was reported on, and the reefs there and at Mickalago examined. Work was proceeding at Collinton, an Adelaide syndicate having secured possession. The lower levels of the old Collinton reef were being opened by shaft below the lowest tunnel level. The small battery on the Murrumbidgee River, close by, was working on stone from higher levels. Evidently the stone subsequently extracted from the shaft did not come up to expectations, for operations ceased shortly afterwards.

At Cooma several further applications for assistance from the Prospecting Vote received attention, and a further examination was made of the Busby Hill gold deposits and the adjacent copper lodes.

At Wagonga, on the South Coast, a number of proposed Homestead leases were inspected, and found opposed to mining interests.

In the vicinity of Wagonga a number of auriferous felsite dykes traverse the sedimentary slates and sandstones; for many years a little desultory prospecting has been done on the outcrops from which fine free gold is obtainable. On a previous occasion I recommended aid to test one of these close to the wharf. At about 40 feet, the free gold gave place to thinly disseminated pyrites. In May of this year, a substantial crushing and cyaniding plant was being erected under the supervision of Mr. J. K. Charlston, and preparation was being made for a thorough test of some of the principal dykes on a large scale. The plant consisting of a 20-head stamper battery, with all necessary adjuncts and cyanide vats, is most advantageously situated to allow of least handling; from the adjacent main shaft to the battery, tailings, and slime-pits there is a natural fall.

The main shaft is in a felsite dyke at its contact with a diorite dyke. Pyrites are disseminated rather sparingly through the stone. Samples were taken representative of the ordinary run of lode-stuff, and of the most pyritiferous, but the results were not at all encouraging; though the proprietors appear satisfied with the prospects, the erection of so costly and extensive a plant seems unwise in the absence of any adequate preliminary bulk tests.

A few miles down the Wagonga River Mr. Tornaghi was erecting his patent ball-mill, to treat stone from another felsite dyke.

A short distance from the stamper battery just described a powerful pumping-plant was being erected for the purpose of hydraulic sluicing a bed of drift at some elevation, which represents the level of an earlier drainage channel, probably at one time connected with similar elevated drifts on the coast at Corunna.

Water for the purpose was being conserved in a small over-shot dam near the drifts, but the supply would not be adequate unless the rainfall was above the average. At

At Moruya prospecting sites were examined, and an opportunity of inspecting the channel of the old Moruya Silver Mine, at the 120-foot level, was afforded by the pumping operations of Mr. F. Guy, sen., who is re-opening the mine. This mine is signalised as being the first opened for silver in the Colony. An interesting feature of the re-opening is the wonderfully preservative effect of the mine-water on timber and iron. The ore is essentially arsenical pyrites, hence the solutions are chiefly arsenical and sulphuric. Though some thirty years have elapsed since the timber and iron were introduced both are in an excellent state of preservation. The iron ladder-clips have in fact been re-forged, and used in the new fittings.

From Wagonga a visit was paid to the new gold discovery near Wandella, on the Tuross River, made by Mr. James Latty, who formed one of the Government Border Prospecting Party last year. On the disbandment of the latter, Mr. Latty directed his attention to the country lying between Wandello and Cobargo, and was successful in discovering four payable reefs, one on private land. The others are situated in the ranges about  $2\frac{1}{2}$  miles from the Wandella Battery, which the discoverer has been able to lease for crushing purposes.

No. 1 Reef strikes N.  $35^{\circ}$  E., and dips S.  $55^{\circ}$  W., in slate country. At surface it was about 9 inches thick, but blanks occur in the channel, the average thickness to 50 feet being about 6 inches; it has been driven on for about 40 feet southerly. The stone is rich, 28 tons crushed prior to inspection yielded 108 oz. of smelted gold.

No. 2 Reef has a parallel course 8 feet distant from No. 1, and a thickness of about 6 inches. It was opened to a depth of 35 feet, but no crushing had then been made from it; in the dolly tests free gold was not visible until the stone had received a preliminary roasting.

A short distance west of the first-discovered reefs, and within the one lease, is a very strong outcrop, known as the "Big Reef," having an approximate N. and S. strike. Its width is considerable; 2 feet of the reef-stone, divided from the main body by a thin "dig," has been taken out by a shallow open cut. Twenty-five tons yielded 22 dwt. of gold per ton. The gold shoot has been traced for about 2 chains. The gold lease embracing the above reefs offers considerable promise. The mine is most advantageously worked and the stone treated by a party of six, five of whom are brothers.

The Government testing operations under the control of the Prospecting Board, in the Araluen Valley, were examined. It is evident that the only chance of virgin ground lies in the direction now being proved. The main channel has undoubtedly been worked throughout its course, the present mining being confined to extensions into the old banks, probably not considered good enough to follow in the earlier and richer days of the field. The greatest drawback is not excessive water, as generally supposed, but rather the thickness of the stripping, which is removed by horse-drays. The soakage water is kept under by steam power chiefly, though one or two water-wheels are in use.

The chief difficulty encountered in the first Government test shaft was the running ground just above the bottom, which oozed through the timbering, and prevented firm packing being possible. A cylinder would be most suitable for such ground.

From Araluen inspections were made of church and school lands at Jembaicumbene, which had recently been brought under the provisions of the Lands Act; and also of a small reserve at the head of Jerrabat Gully, parish Oronmear, county Murray.

In June a reserve at the junction of Cotter and Paddy's River, in the Queanbeyan district, was examined, and a brief inspection made of a copper lode in limestone, which occurs close to the junction.

During June the Gundagai, Carcoar, Blayney, and Orange districts were visited. At Gundagai the old asbestos mine on Jones' Creek and the Mt. Kimo gold-mine were briefly inspected. At the latter a large amount of English capital was being expended in preparation for an extensive mining and treatment plant of most recent design, embracing all modern adjuncts.

The country consists of porphyry, and the lode-stuff also, though the latter appears more felsitic and siliceous under the microscope. Possibly the porphyry regarded as lodestuff, which has a thickness of about 30 feet, may be an independent intrusion of later date. Along its outcrop for a considerable distance some rich patches of gold have been obtained in years gone by; but it is doubtful whether these were from the porphyry itself. The appearances indicate the association of the gold with thin, irregular quartz leaders, outside of which it is extremely doubtful whether gold exists in sufficient proportion to pay for cost of extraction.

Considerable hope was centered in the pyrites, which is very sparingly distributed through the rock, and occasionally in small vugs and nests of crystals; but a particularly pure sample from No. 5 crosscut in the tunnel yielded under 2 dwt. of gold per ton.

The extreme hardness of the porphyry will greatly augment the cost of treatment. Apparently this mine has been restarted on the present extensive scale from estimates based on yields from the rich surface patches along the outcrop in the early workings instead of on adequate bulk tests from stone *in situ*, without which such large outlay is extremely risky.

The following notes on the microscopic character of the so-called lodestuff and the country, by Mr. G. W. Card, A.R.S.M., Curator of the Mining Museum, are of interest:—

"Rock specimens collected from the Kimo Mine by Mr. Carne have been examined, with the following results:—

"*Hanging Wall*.—Nos. 2,888, 2,890, 2,892, 2,894-6.

"2892—From No. 4 shaft—A porphyry showing junction with slate.

"2890—Tunnel entrance—Similar, but no slate.

"2888

"2895—Tunnel face, at 743 feet—Similar, but no slate.

"These are very similar, and are all black. They would be variously described as quartz-felsites, or as porphyries. Plagioclase felspar is sometimes present.

"2894—*Tunnel Face*.—A calcareous, coarse-textured rock, with a tendency to fissility. Under the microscope it shows a development of biotite; and some quartz grains have the appearance of having been crushed. The rock is undoubtedly very highly altered; but its origin is obscure.

"2896—No. 4 shaft.—A soft, earthy, greenish rock.

"2891-2893.—*Lodestuff from Tunnel*.—Quartz-felspar porphyry, crushed and slightly calcareous. These rocks are lighter in colour, more siliceous, and more distinctly felsitic in appearance under the microscope than the hanging-wall rock. It is questionable whether they are identical.

"2889—*Footwall*.—Quite similar to the hanging-wall rock."

In October copper lodes and prospecting sites in the Condobolin, Cugong, Melrose, Yellow Mountain, Bobadah, Nymagee, Mount Allen, Mount Hope, and Euabalong Districts were inspected, also a proposed Public Watering Place Reserve within the Platina Goldfield. The copper lodes will be fully described in a special paper.

In November I was engaged in connection with the initiation of the Colony's representation at the Greater Britain Exhibition, which, however, was abandoned in December on an adverse vote being recorded in the Legislative Assembly.

In December reserves were inspected at Mudgee, Capertee, Wellington, Stuart Town, Burrangong, Forest Reefs, Ophir, and Lewis Ponds. An examination of copper deposits was continued in the Blayney, Cow Flat, and Burruga Districts, which occupied me until the 20th instant, when I entered upon leave of absence.

During the year, in addition to a considerable number of typical rock and mineral specimens from various localities, fossils were collected from Bobadah, Elsmore, near Crow Mountain, Gilgai, near Inverell, and Cooma. The latter are described by the Palæontologist, Mr. W. S. Dun, in my report on Bushy Hill, the only addition being imperfectly preserved Brachiopods—*Rhynchonella*—from Rock Flat; and a coral from the limestone of Middle Flat.

The Bobadah fossils are of more interest, as they establish the Silurian Age of strata, which have usually been regarded as Devonian. Following are Mr. Dun's determinations:—

The fossils collected by Mr. Carne, at Bobadah, indicate rocks of Silurian Age. They are most imperfectly preserved as casts and impressions in a ferruginous rocks:—

Encrinite stems.  
 Cyathophyllum?  
 Pleurodictyum. (Young.)  
 Encrinurus (?) pygidium.  
 Rhynchonella cf. nucula. Sby.  
 " (? cuneata, Dalman.)  
 " (? var. of borealis, Schloth.)  
 Orthis, sp. ind.  
 " probably new species.  
 Spirifera, sp. ind.

Unfortunately the fossiliferous rock had a very limited exposure above the prevailing sandy soil, which prevented a larger and better preserved suite of fossils being obtained.

Close search for palæontological evidence of the age of the limestone beds between Bobadah and Nymagee failed to secure any determinative proof. Fragments of encrinites alone being recognisable.

From the clay beds overlying the important Elsmore Deep Tin Lead, at a depth of 225 feet; the following Tertiary plants were identified by Mr. Dun:—

Cinnamomum?  
 Piper cf. Feistmanteli. Ett.  
 Fagus, cf. Hookeri. Ett.  
 Artocarpidium Gregorii. Ett.  
 Sapotacites, sp. ind.  
 Quercus?

From Smith's Prospecting Site at Gilgai, near Inverell, the following Tertiary plants were also identified:—

Podocarpus præcupressina. Ett.?  
 Pseudopinus Wilkinsoni. Ett. (Very abundant.)  
 Phyllocladus asplenioides. Ett.  
 Bambusites arthrostylinus. Ett.

From portion 33, parish Eumur, county Darling, between Crow Mountain and Upper Manilla, the following Carboniferous limestone fossils were identified:—

Aviculopecten.  
 Spirifera convoluta. Phillips.  
 Bivalves ind.

During the year a very large amount of information has been collected for the preparation of a special paper on the copper industry, which I hope to have ready for submission at an early date.

I have, &c.,

The Government Geologist.

JOSEPH E. CARNE, F.G.S.,  
 Geological Surveyor.

#### APPENDIX 12.

#### Report on Bushy Hill, Cooma.

##### Minute.

In submitting Mr. Geological-Surveyor Carne's report on the recent gold discoveries in the vicinity of Cooma, I might remark that immediately after my return from Western Australia, the first samples of auriferous stone from Bushy Hill were brought to me for inspection, and I was at once struck with their great similarity in appearance and composition to the rocks in which the telluride ores occur at Kalgoorlie. Careful tests, however, have failed to reveal the presence of tellurium in the Bushy Hill ores, and also in ores of similar character from several other localities in this Colony. It is evident, therefore, that the character and appearance of the Kalgoorlie rocks are no absolute guide to the occurrence of tellurides of gold in other localities, and if these interesting minerals should be found to occur in New South Wales it need not necessarily be in rocks similar to those in which they are found at Kalgoorlie.

The gold found in the decomposed surface rocks at Bushy Hill has unquestionably been derived from the pyrites which occurs in the lower portions of the shafts. The first samples of pyritous ores from these mines, which were assayed in the Department, yielded at the rate of 9 oz. of gold per ton, and there seemed to be reason for assuming that the deposit was an extremely rich one. It is evident, however, that

the rich pyrites occurs in chutes or patches, for during a recent inspection of the mines I collected several samples, including some of the pyritous ore, which was indistinguishable in appearance from that previously alluded to, but which, on being assayed, yielded at the rate of only 17 dwt. per ton.

It is evident, therefore, that until more work has been done in these mines, it will be impossible to form an idea of the probable extent of the auriferous deposits, or to explain the causes of the enrichment of the pyrites in certain places.

There is every reason for supposing that, owing to the denudation of the surface of Bushy Hill, auriferous alluvial deposits must exist in the valleys on both sides of it, and I was surprised to see that little or no prospecting had been done there.

The Under Secretary for Mines and Agriculture.

E. F. PITTMAN,  
Government Geologist,  
28th February, 1898.

Sir, Geological Survey, Department of Mines and Agriculture, February, 1898.

I have the honor to report having paid a brief visit to the recent gold discoveries in the neighbourhood of Cooma, for the purpose of noting the geological features of the locality and the mode of gold occurrence.

*Previous mention.*—Mr. W. H. J. Slee, F.G.S., Chief Inspector of Mines, reported on the gold finds shortly after notification, about the middle of last year.

The earliest discovery was at Middle Flat in private land (portion 78, parish of Bunyan, county of Beresford), about 4 miles north-easterly from the town of Cooma; the latest at Bushy Hill, on the temporary common, within about  $1\frac{1}{2}$  miles of the town in the same direction.

The geological formations represented in the neighbourhood are:—

Igneous ... ..	{	Gneiss.
		Quartz porphyry.
		Quartz felsite.
		Felsite.
		Basalt.
Sedimentary ... ..	{	Schists.
		Claystones.
		Sandstones.

Gneiss is largely developed in the town of Cooma, forming massive outcrops on its western side. The quartz porphyry, quartz felsite, and felsite occur as intrusions in the sedimentary rocks largely developed to the eastward. Basalt forms a comparatively thin capping on the highest points of the treeless downs, being part of the great lava sheet covering the Monaro table-land between Cooma and Bombala and beyond.

The acid intrusives—quartz porphyry, quartz felsite, and felsite—are arbitrarily separated for the purposes of this preliminary notice of the field, according to characteristic field distinctions as they vary from fine-grained homogeneous rocks to coarsely porphyritic.

The Middle Flat quartz reefs occur in typical quartz porphyry. The weathered surfaces of the harder masses are characteristically studded with quartz crystals, as may be especially well seen in an outcrop near the western boundary of portion 78.

The Bushy Hill gold also occurs in quartz porphyry, but here dynamic metamorphism has imparted to it a schistose character, which is intensified by the development of secondary mica along the planes of shearing. Prepared sections of this rock under the microscope demonstrate the effects of tensile strain more abundantly than those of pressure. Individual mineral crystals have been elongated to fracturing point, the fragments being separated by interstitial fillings of felsitic material, as will be seen from the descriptive notes of the sections furnished by the Curator, Mr. G. W. Card, A.R.S.M. (Appended to this report.)

Between Bushy Hill and Cooma the rocks apparently shade from altered porphyry through schists into typical gneiss. Basalt caps these rocks near the railway station.

Between Bushy Hill and Middle Flat sedimentary rocks predominate. Separated from the former by a low saddle on the north-east a massive rugged outcrop of hard silicified quartz felsite forms a distinctive feature of the landscape, which is further enhanced by the presence of a few stunted eucalypts. According to some the local name—Bushy Hill—strictly applies to this ridge; but the discovery of gold on the closely parallel western ridge will definitely locate the name. References in this report will be understood to refer to the site of the gold occurrences only.

From the sedimentary rocks forming the west boundary of the Middle Flat porphyry intrusions a number of marine fossils were obtained, which have been identified by Mr. W. S. Dun, Assistant Palæontologist, as belonging to an acute and fine-ribbed species of *Rhynchonella*, probably of Silurian age. An interesting suite of fossils could, I believe, be obtained from this locality.

About a mile southerly from the Middle Flat Reefs is the Dartmoor copper and silver lode occurring at the junction of a felsite dyke in clay slates.

The most interesting features of the discoveries near Cooma are the nature of the matrix and the mode of gold occurrence at Bushy Hill.

The first indications obtained were in quartz, but prospecting soon demonstrated the latter to be a very insignificant part of the true matrix. Near the first discovery gold was found richly impregnating portions of the country itself, as much as 52 oz. being obtained from 4 tons of surface stone, which had undergone considerable weathering and oxidation. Subsequent discoveries have also all been identical in their mode of occurrence.

From even a cursory examination of the first hand-specimens that reached the Department it was evident that the gold in the oxidised zone had been liberated from pyrites, a fact amply demonstrated by subsequent prospecting. At a comparatively shallow depth unaltered pyrites is making its appearance and cloaking the gold. At 53 feet in No. 1 North pyrites is massively developed, through not homogeneous throughout the thickness of the lodestuff. Layers of country intervene, and in parts predominate as the pyrites become more separate and disseminated.

At 35 feet in the Prospector's shaft pyrites is making mixed with a little copper sulphide. In No. 1 South, at a similar depth, it is also appearing, but, judging from hand specimens, has not yet been met with in concentrated form.

The



The strike of the planes of schistose porphyry is about N. 19° W. Gold is obtained in prospects along the short course of the ridge, which ends northerly at the racecourse and southerly a short distance from No. 1 South, but sufficient data is not yet available on which to base an opinion of the existence of a continuous gold chute through the hill. The indications afforded by the very limited prospecting yet performed lead rather to the conclusion that the auriferous pyrites is likely to occur in short detached seams or impregnations through the country. From concentrated patches remunerative returns are likely to be realised, but in the mass of the auriferous belt it is probable that the pyrites will be too sparingly found either distributed or too poor to pay for raising and concentrating. The latter will form an essential feature of any adequate method of treatment. Reduction of the bulk prior to the necessary, but expensive, chlorination process will be imperative, if operations prove possible on a large scale.

There is every reason to anticipate the presence of other payable deposits parallel to those already discovered, and between the main line and Blackett and Party's on the west, where some rich stone has been obtained at surface, associated with copper ore, hence trenching and crosscutting are recommended.

The keen interest aroused in mining circles by the rich discoveries of gold associated with tellurium in West Australia, and the consequent natural desire to identify a similar association in New South Wales, renders it hazardous to even point to similarity in mode of occurrence of ore bodies, irrespective of contents, for fear of misconception. It is therefore judicious to raise again the note of warning contained in my Wolumla report, that "mere identity or similarity with known metalliferous rocks does not of itself involve similarity, or even presence, of metallic contents. The containing rocks frequently may be the accidental, not the specific, cause of metalliferous deposition, marking, as they do, simply lines of least resistance to earth movements, along which mineral solutions subsequently followed, impregnating the crushed and shattered material resulting from dynamic movement along the planes of weakness."

With the above caution, the amount of similarity of the Bushy Hill gold occurrences to that of Kalgoorlie, West Australia, may be pointed out, prefacing the statement, however, with the important notice that assays prove the vital distinction to be lack of tellurium at Bushy Hill.

The Bushy Hill gold occurs associated with pyrites as impregnations in an intrusive igneous rock-quartz-porphry—which has been rendered schistose by extreme tension and shearing, induced by earth movements. The rich gold and tellurium lodes at Kalgoorlie occur under almost exactly similar conditions, but on an immensely larger scale.

At Bushy Hill all things combine to render systematic, concentrated prospecting not only desirable, but necessary—isolation of the gold chutes, absence of a distinctive gangue, want of defined walls, and probably of strikes also. At least two advantageously situated deep test shafts, with levels following the strike of the country, and crosscuts across the ridge, should precede any attempt to establish a local treatment plant, a hazy idea of which appears to be hovering in the minds of some.

As before stated, gold occurs at Middle Flat in quartz reefs, traversing quartz porphyry. Three parallel reefs outcrop in the Prospector's Claim. The most easterly strikes north 60 degrees east, and is traceable for about 4 chains on the surface. The middle reef, distant about 170 feet from the former, strikes N. 20° E. The western reef has a similar strike at a distance of about 105 feet from the latter.

Each of the reefs dip westerly, the main reef at an angle of 56° from the horizontal. The approximate thickness of each is from 2 to 9 inches.

With the exception of a few holes a couple of feet deep, no prospecting has been done upon the middle and western reefs, though excellent results are reported from dolly tests. Certainly they appear equally worthy of trial as the eastern reef, which is now being tested under aid from the Prospecting Vote.

A shaft in the latter has been sunk to a depth of 50 feet, chiefly on the underlie, and the aid granted is for the purpose of continuing it to the 100-foot level, from which a drive is to extend along the course of the reef.

The veinstone consists of quartz (in parts highly crystalline) carrying a little galena, blende, and chalcopryrite (sulphides of lead, zinc, and copper).

A sample selected by myself yielded, in the Departmental Laboratory, at the rate of 2 oz. 14 dwt. 10 grs. of gold and 2 oz. 5 dwt. 17 grs. of silver per ton. This return, however, represents the better class of stone containing the sulphides.

From the upper levels 7 tons of veinstone, treated at the Clyde Chlorination Works, yielded 1 oz. 8 dwt. of gold per ton, and 5 tons of more carefully picked stone subsequently treated yielded 2 oz. 5 dwt. per ton.

A small gully heads at the reefs on the east, in which alluvial gold has been obtained, derived undoubtedly from the degradation of the former.

The following assays were made in the Departmental Laboratory of samples obtained by me from the field :—

Assay No. 323. Iron and copper pyrites, partly oxidised, from 35-foot level, Prospectors' Claim, Bushy Hill—

Gold...	...	...	...	...	...	...	17 dwt. 10 grs. per ton.
Silver	...	...	...	...	...	...	8 dwt. 17 grs. per ton.

(NOTE.—From this sample a portion showing free gold was removed before assay.)

Assay 324. Pyrites from No. 1 North, from 50-foot level—

Gold...	...	...	...	...	...	...	9 oz. 11 dwt. per ton.
Silver	...	...	...	...	...	...	11 dwt. 10 grs. per ton.

Assay 536. Pyrites from No. 1 North, from lower level—

Gold...	...	...	...	...	...	...	4 oz. 9 dwt. 12 grs. per ton.
Silver	...	...	...	...	...	...	9 dwt. 5 grs. per ton.

Assay No. 327. Schistose crushed porphyry, with disseminated pyrites, from No. 1 South—

Gold...	...	...	...	...	...	...	4 dwt. 8 grs. per ton.
Silver	...	...	...	...	...	...	3 dwt. 6 grs. per ton.

Assay No. 328. Schistose crushed porphyry, with disseminated pyrites, from No. 1 South—Neither gold nor silver.

Assay No. 325. Quartz, with sulphides of lead, zinc, and copper, from Prospectors' Claim, Middle Flat—

Gold...	...	...	...	...	...	...	2 oz. 14 dwt. 10 grs. per ton.
Silver	...	...	...	...	...	...	2 oz. 5 dwt. 17 grs. per ton.

(NOTE.—Portion showing free gold removed before assay.)

The neighbourhood of Cooma offers a most interesting field for geological research and systematic mapping. Within a short radius occur representatives of the acid and basic igneous groups as intrusives and flows, metamorphic, igneous, and sedimentary rocks, and fossiliferous sedimentary, and organically formed rocks (slates, sandstones, limestone, and tripolite), metalliferous impregnations (gold and copper), auriferous quartz veins, and potable mineral springs. This report of a brief visit may serve to indicate some of the special geological features enumerated.

I have, &c.,

JOSEPH E. CARNE, F.G.S.,

Government Surveyor.

The Government Geologist.

#### Appendix.

Sir,

I have the honor to report as follows on some intrusive rocks collected from the district of Cooma by Mr. Carne.

In so doing, I would wish to point out that examinations of this kind, while accurate so far as the determinations go, are in no way exhaustive. Required, as they usually are, for incorporation in reports that they are urgently required, expedition is necessary, and detailed examination is, therefore, not possible.

With the exception of the gneiss that underlies the town of Cooma and its neighbourhood, the specimens now under examination consist of acid intrusives. The gneiss itself would appear to be of much interest, appearing, as it does from the facts adduced below, to be involved in an area of regional metamorphism.

The acid intrusives can be mostly classed as quartz porphyries. They have been collected from Middle Flat, some 4 or 5 miles from Cooma, and intermediate places, and will be dealt with in point of order of distance.

#### Middle Flat.

Specimens 2,722, 2,725, 2,729, 2,723, 2,724.

The existence of three distinct types of acid intrusives is here indicated.

2,729. A dark-coloured porphyritic rock in which quartz and hornblende (in good crystals) are conspicuous to the eye. Under the microscope it is seen that the crystal contents constitute a very large proportion of the mass of the rock, there being very little base. Quartz occurs as large corroded crystals; feldspar, apparently orthoclase, is abundant, but much altered; hornblende occurs as green idiomorphic crystals containing inclusions of apatite.

2,722, 2,725. A lighter-coloured rock from another dyke. It is to some extent pyritous, and has a felsitic texture in places. Macroscopically, quartz is very conspicuous; it is not corroded. Plagioclase is present in small and frequently fresh fragments. A little greenish mica and some calcite occur. Some silicification (secondary) has taken place. 2,722 has a somewhat slabby structure. There are indications that this rock may have undergone some amount of brecciation.

2,723, 2,724. Another dyke of rather typical quartz porphyry. Both specimens are greenish in colour, and contain blebs of quartz, easily noticeable to the naked eye. The quartz is much corroded. Feldspar is abundant, but inconspicuous by reason of the alteration it has undergone. Some pyrites is present in 2,724. In the ground mass of 2,724 a crystal of apatite was detected, and there are other indications that this dyke may have caught up portions of an older mass which contained ferromagnesian minerals.

#### Approaching Bushy Hill.

2,718. A light-coloured quartz-like rock. Under the microscope it is seen to possess a felsitic texture, and to contain a few crystals of quartz. Can be classed as a quartz-felsite.

#### Bushy Hill and Cooma Common.

With the possible exception of 2,722-2,725, there has, so far, been no evidence whatever of dynamic influences, the only changes noticeable being those attributable to chemical action. 2,715 from Bushy Hill shows the clearest indications of dynamic metamorphism, and this action is, if possible, even better shown by 2,716 and 2,717 from Cooma Common.

To the unaided eye these are green rocks, showing a rough schistosity, and containing numerous blebs of quartz. The divisional surfaces have the sheen usually attributed to sericitic mica. Under the microscope it is evident that these rocks are quartz porphyries that have undergone deformation as an effect of crust movements. Quartz is very abundant, and where it still retains its original outline sufficiently intact, exhibits the characteristic corrosion. Generally the original grains of quartz have yielded to a stretching force, which has drawn them out into spindle-shaped or lenticular areas. Sometimes this action has been accompanied by fracturing only, but very generally there has been a certain amount of crushing action as well, which has reduced portions to powder. In this way the apices of the spindle-shaped masses, or the whole area of some of the lenticles is occupied by mosaic of quartz granules.

It would appear as if the strain in this region had a directly-stretching effect, whereby the rock occupies now, perhaps, a greater space than it did originally. This stretching action is beautifully illustrated in 2,716 by both quartz and feldspar crystals. Concurrent with this stretching and crushing has been the development of streaks and films of sericite (?), which wind round the lenticles and crystals, interlacing with each other and giving to the rock its rough schistosity.

An interesting point about the Cooma Common rock is the way in which the pyrites present is invariably associated with magnetite, from which it may, indeed, possibly, be an alteration product.

Crushing has been referred to here, but it is not meant to imply that it has been very severe. As a matter of fact, some of the phenocrysts of quartz are hardly affected in any way, if at all.

GEORGE W. CARD,

Curator and Mineralogist.

The Government Geologist.

## APPENDIX 13.

## Report on the Coast between Seal Rocks and Smith's Lake Bar.

Sir, Geological Survey, Department of Mines and Agriculture, 16 August, 1898.

I have the honor to report having, in accordance with your instructions, visited the coast between Seal Rocks and Smith's Lake Bar, in connection with an application by Mr. J. Windross, of Waratah, for special mining concessions as regards area, rental, and labour conditions, for certain supposed auriferous beaches between the points mentioned.

Applicant accompanied me during inspection, it being his first visit to the site.

The application embraces about 4 miles of the coast by a width of 20 chains, but examination proved that between Seal Rocks and Smith's Lake Bar it consists mainly of high precipitous rocks. Disregarding a few narrow fringes of sand at the foot of the cliffs, which are covered at high water, about 60 chains of the coast-line only are available for the purpose required. The average width of the suitable areas is about  $2\frac{1}{2}$  chains, and the total area about 15 acres; or, if the full width of the application be taken, an area of 120 acres. The latter, however, could not be granted, even if desirable in a mining sense, without damage to the Seal Rocks to Bungwall Road, which traverses the coast within half a chain of the backs of the main beaches.

The restricted area—15 acres—embraces three beaches,—the first and nearest to Seal Rocks has a length of 19 chains; the second, about half a mile distant, a length of 32 chains; and the third, about 2 miles distant from the second, a length of 6 chains. The latter is shut in by high land, rising steeply about 200 feet above sea-level. Here the machine referred to has been erected, but little or no work has been done, owing to the scarcity of a fresh-water supply, which is preferred for working it. A well has been sunk about 15 feet deep at the back of the beach at the foot of the rise, but the quantity of water available is apparently not sufficient for continuous work. Sea water will have to be used on all the beaches if operations are to be on a large scale, as proposed.

A little black sand is visible in thin streaks in the sand of this beach, and four fine particles of gold were shown me in a prospect from the machine site. On the other beaches, however, this characteristic associate of the gold is conspicuous by its absence.

Bordering the beaches landwards for the greater part of their longitudinal extension are accumulations of boulders, which will materially interfere with any mechanical means of working, and add greatly to the manual labour required.

Another difficulty to be encountered is the probability, if not certainty, of high tides or stormy conditions almost completely covering the sphere of operations.

The beach sands between Seal Rocks and Smith's Lake Bar are similar to those farther north between Cape Hawke and the Manning River, but less extensive. The second (32 chains) beach was pegged out by claim-holders a number of years ago, but if any work was done all trace of it has been entirely obliterated. I am strongly of opinion that the beach sands of this locality cannot be profitably worked owing to their poverty in gold.

As regards the "Owen Blakett Patent Gold-saving Machine and Ore Concentrator" erected on the small beach described, no alterations have yet been effected to remedy its admitted defects, at all events for this class of mining. Personally, I am of opinion that it cannot be rendered efficient for this class of work.

As, however, applicant still has faith in the proposed enterprise, and is prepared to spend money in effectively testing both the machine and the beach sands, whatever concessions are possible under the circumstances should, perhaps, be allowed. It will, however, be seen that a correct knowledge of the local physical conditions so modifies the scope of the application as to render the amount of rental and labour necessary to secure fullest protection a matter of little moment.

Two special leases, aggregating about 12 acres, and a prospecting claim by virtue of a miner's right would adequately secure the two larger beaches and the present machine site.

Special leases would be the most suitable form of tenure for the larger beaches because proportional dimensions are not defined under their provisions, thus the area could be reduced to absolute requirements as regards width.

The supposition that the gold extends miles back from the beaches is, in my opinion, entirely erroneous. The beaches are walled in by high land, consisting of Lower Carboniferous rocks; the weathering and denudation of the sandstone members of the series have covered the surface of the country over large areas with loose sandy soil, which has probably been mistaken for the auriferous beach sand.

I have, &c.,

JOSEPH E. CARNE,  
Geological Surveyor,  
Department of Mines and Agriculture.

The Government Geologist.

## APPENDIX 14.

## Report on Gold Leases 34 and 37, Sunny Corner.

Sir, Geological Survey Branch, Department of Mines and Agriculture, 14 July, 1898.

I have the honor to report that, in accordance with your instructions, I inspected gold leases 34 and 37, at Sunny Corner, parish Castleton, county Roxburgh (taken up 20th February, 1895, and 17th November, 1894, respectively), with a view to ascertaining whether any objections exist in the interests of mining to granting a special lease for quarrying purposes for the area embraced by the gold leases and in lieu thereof. The contention of the applicant, J. K. Charleston, is that the reef covered by the leases is not payably auriferous, and only suitable for fluxing purposes in connection with the smelting of Sunny Corner silver ores; the objectors—C. and J. Cook—contending, on the other hand, that it is payably auriferous.

The leases embrace a portion of Bob's Creek and one of its short tributaries. Bob's Creek from a point just above gold lease 37 has been largely worked for gold down its course from the earliest days of mining in the district, and still gives employment to fossickers, some being engaged at the present time just outside the south boundary of gold lease 37. The creek being non-auriferous a short distance above  
the

the site of the lease mentioned is clear evidence of the derivation of its gold contents below that point from the numerous adjacent reefs. In gold lease 73 a quartz reef is being worked just at the north-west corner of gold lease 34, a small battery being erected at the site; this is probably the same or a closely parallel reef to that in the leases under consideration.

In gold lease 9 on the east another reef has been extensively prospected. I understand some 4-oz. stone was obtained from it, but it is not now being worked. Numerous other flat-lying reefs occur in the quartz porphyry, one just at its junction with slate.

The quartz reef traversing porphyry in gold leases 34 and 37 strikes about N. 22° E., with a wavy dip to the eastward at from 20 to 35. In thickness it varies from 4 inches to 2 feet, averaging for about 150 feet in the tunnel about 7 or 8 inches. It is mostly of a kindly banded appearance, the bands being lined with arsenical pyrites. At the tunnel level—which is in the north bank of Bob's Creek in gold lease 37—probably little or no free gold occurs.

From local report and surface evidence the reef was worked for gold to a shallow depth in the early days of the field.

In the presence of the applicant's representative, the objectors, and the Warden's clerk, I carefully sampled the reef by breaking portions across its thickness at intervals of 2 or 3 feet for about 150 feet along its exposure in the tunnel, and from outcrops at surface and a heap ready stacked. The selected material was then broken up and bagged. At the Government Metallurgical Works it was further broken in a stone-breaker, then passed through a small crusher, and afterwards through the Stanfield-Clarkson Rapid Sampler. The assay results of the average sample from about 1 cwt. 1 qr. of reef-stone have just been received, viz. :—

Gold	...	...	...	...	...	...	...	8 dwt. 6 grs per ton.
Silver	...	...	...	...	...	...	...	9 dwt. 6 grs. "

Taking into consideration the strong well-defined nature of the reef, this yield must be considered, if not strictly payable, at least very approximately so under careful and economic treatment. Under any circumstances it must, I think, be regarded as an effectual bar to granting of a special lease for quarrying purposes, which has a currency of fifteen years and carries no labour conditions.

In smelting matte silica is necessary for fluxing purposes; certain classes of Sunny Corner silver ores being deficient in this substance, resort is had to quartz vein-stone; naturally it is to the advantage of the smelters to use stone which is of itself more or less profitable, as in the present instance.

It is, I think, clear that the working of the leases in question by applicant entirely depends upon renewals of operations in the silver leases wherein work has ceased for the past eighteen months. Quite recently suspension of labour conditions was granted in them for two months. I would, therefore, respectfully suggest that matters be equalised by granting a similar period of suspension on gold leases 34 and 37, and that the granting of a special lease be objected to.

I have, &c.,  
JOSEPH E. CARNE,  
Geological Surveyor.

The Government Geologist.

APPENDIX 15.

Goulburn, 3 January, 1899.

Sir,

I have the honor to forward you my progress report for the year 1898.

On the 2nd January I left Sydney for Boorowa, and afterwards inspected the gold-mines at Kenyu.

From 8th January until the end of the month I was absent on leave.

During the month of February, and during the early portion of March, I was engaged in making an inspection of the system of gold-dredging in vogue upon the New Zealand auriferous rivers, and in preparing a report upon the same. This report has been published in pamphlet form. I visited the Cobar Districts during the latter portion of March in connection with proposals to curtail the gold-field reserve, and applications for aid from the Prospecting Vote.

Upon the 18th of April I left Sydney for Clarence Town, and commenced making a detailed examination of the Williams River and Port Stephens ironstone deposits. I was shortly after joined by Mr. L. F. Harper, Field Assistant. During the remainder of the year I have been chiefly engaged with Mr. Harper in mapping and testing the ironstone deposits of the Colony in connection with the memoir which you have instructed me to prepare, showing the extent and value from a smelting point of view of these deposits.

This work will probably necessitate an examination being made of several hundred deposits, and each deposit will have to be sampled and surveyed in order that its composition, dimensions, and position may be determined. So it may be expected that I shall be occupied for some considerable time.

We have practically completed our examination of the Williams River and Port Stephens deposits, and have geologically mapped an area of about 190 square miles within which the ironstone occurs. Unfortunately every one of these deposits was found to contain an excessive quantity of titanium, and it is doubtful, on this account, if the ore could be profitably reduced by ordinary smelting processes.

We have already sampled and mapped several large deposits of brown ore of good quality in the Goulburn District. During the year a considerable quantity of iron ore has been despatched from this district to the smelting works at Dapto and Cockle Creek, where it has been used as a flux.

I propose collecting and sending down to the Geological and Mining Museum for exhibition bulk samples of (say) 56 lb. each from each deposit capable of yielding a large supply of good ore.

From time to time I have had to leave the work in connection with the iron-ore deposits, in order to make inspections having reference to various other geological survey work. During my absence on these occasions Mr. Harper has done much useful work by locating and tracing deposits as a preliminary to our mapping them.

I have, &c.,  
JOHN B. JAQUET,  
Geological Surveyor.

The Government Geologist.

## APPENDIX 16.

## Ironstone Deposits near Clarence Town, Williams River District.

Geological Survey, Department of Mines, New South Wales,  
Sydney, 20 June, 1898.

Sir,

I have the honor to hand you, in accordance with your instructions, a preliminary report upon the ironstone deposits occurring in the vicinity of Clarence Town. Accompanying the report will be found a geological sketch map and sections. (This map will be published with the final Report on the Iron Ores of New South Wales.)

*General Geology.*

The ironstone occurs in the Carboniferous formation interstratified with sandstones, conglomerates, shales, claystones, and tuffs (?). The sandstones are very felspathic, and are probably composed almost entirely of material derived from the degradation of acid igneous rocks. In the field one is sometimes at a loss to decide whether some of the rocks should be classed as arkose sandstones, or whether an igneous origin should be assigned to them.

The general dip of the strata at Glen William, where the ironstone is first met with towards the north, is from 25 to 35 degrees in a direction a little east of north. As Clarence Town is approached the direction of dip swings round to the east; in this town it is south-south-east; and in the south-western portion of the parish of Uffington the rocks are found to be dipping at a very low angle towards the south-west.

There is evidence in all portions of the area examined of considerable local disturbances having taken place, and abrupt alterations in dip and strike are frequently met with.

*Glen William Beds.*

I propose, for descriptive purposes, to give this name to an important band of fossiliferous rocks which attain their greatest development in the vicinity of Glen William. These beds are for the most part composed of a bluish-grey siliceous claystone. They also include grits and sandy shales. The claystones are more or less calcareous in places, and near the 5½-mile post upon the Glen William Road a narrow bed of oolitic limestone is interstratified with them.

At Glen William the beds have a thickness of 1,400 feet; opposite the 2½-mile post they have thinned to 1,100 feet; and where they cross the Dungog Road they are only 330 feet thick. At some point between the Dungog Road and Wallaroo Hill they apparently thicken again, but are not sufficiently exposed to justify one in recording exact measurements. We were unable to trace them to the south of the latter-mentioned locality.

*Palæontology.*

The shales and claystones, and occasionally the sandstones and conglomerates, yield abundant fossil remains. Mr. W. S. Dun, Assistant Palæontologist to the Survey, has identified the following forms which were collected by Mr. C. Cullen, Fossil Collector to the Survey, by Mr. L. F. Harper, Field Assistant, and by myself:—

## 1. From Quarry on Glen William Road, about 1½ mile from Clarence Town.

Lepidodendron, sp.	Leptæna rhomboidalis, var. analoga, Phillips.
Zaphrentis, sp. indet.	Spirifera lata, McCoy.
Stenopora, sp.	Spirifera striata, Martin.
Fenestella, indet.	Spirifera, sp. indet.
Crinoid stems.	Productus, sp.
Rhynchonella pleurodon, Phillips.	Aviculopecten (close to the form referred to by De Koninck as <i>A. granosus</i> ).

## 2. From ridge, left-hand side of road from Clarence Town to Glen William, 4¼ miles from Clarence Town.

Trachypora.	Spirifera striata (?).
Cyathophyllum (?).	Orthotetes cremistria, Phillips.
Zaphrentis, sp.	Orthis resupinata, Martin.
Actinocrinus (distorted calyx).	Cardinia, n. sp.
Crinoid stems.	Pterinea, n. sp.
Fenestella multiporata, McCoy (De Koninck).	Murchisonia.
Polyzoan (gen. indet.) <i>a</i> .	Bellerophon (Euphemus).
Polyzoan ( " ) <i>b</i> .	Conularia, sp. indet.
Productus semireticulatus (?).	Conularia, n. sp.
Spirifera, sp. indet.	Orthoceras c.f. martinianum (De Koninck).
Spirifera, young form of <i>S. grandicosta</i> (McCoy).	Orthoceras, sp. <i>a</i> .
	Orthoceras, sp. <i>b</i> .

## 3. From quarry near school-house on Glen William Road, 4¼ miles from Clarence Town.

Lepidodendron veltheimianum, Sternberg (?).	Spirifera, sp. indet.
" " (Knorria stages).	Productus c.f. longispinus.
" (Knorria).	Orbiculoidea nitida, Phillips.
Fenestella, 2 species indet.	Petrinea, sp.
Encrinite stems.	Allorisma, <i>a</i> .
Branching Polyzoan, indeterminate.	Allorisma, <i>b</i> .
Phillipsia, sp., young form.	Indeterminate Gasteropod.
Phillipsia, c.f. dubia, Eth.	

The presence of worm tracks and plant remains in association with marine corals, polyzoa, mollusca, &c., would seem to point to the rocks having been deposited in shallow salt water.

Mr.





when it is lost to view under the alluvium of a gully running up into the range. Between this point and the next one where we found the ironstone outcropping a long distance—100 chains—intervenes. It is possible, however, that isolated outcrops may occur about the dotted line shown upon the accompanying map, though after a careful search we did not succeed in finding them. In some places we found tuffaceous sandstones more or less impregnated with magnetite apparently upon the horizon of the ironstone. The bed can be seen crossing the Dungog Road in a cutting a little south of the 2-mile post, and upon the western side of Stony Creek we found two parallel lines of outcrop distant from one another about 6 chains, which we traced for distances of 11 and 12 chains respectively. Between the two beds a quartz-felsite, sill (?) a chain wide, occurs. Still travelling southwards, we find the ironstone outcropping for the short distance of half a chain upon the top of Wallaroo Hill. It is next seen upon Portion 87, and exposed for a length of 3 chains, and finally upon Portion 54, Parish of Barford, where it forms a prominent ridge running down a precipitous hill-slope. A parallel bed occurs here about 3 chains below the main bed. Only upon the last two outcrops did we find exposed sections which enabled us to accurately measure the width of the bed; elsewhere the apparent width is probably in excess of the actual width. The average thickness along the two outcrops named is about 2 feet.

Samples of the ore which I obtained from various points along the outcrops have been assayed by Mr. J. C. H. Mingaye, Analyst of the Mines Department, as under:—

No. of Outcrop.	Metallic Iron.	Silica.	Phosphoric Acid.	Titanic Acid.
1 and 2 .....	44·25	10·85	.....	Trace.
3 .....	51·96	20·80	0·095	”
5 .....	52·9	11·97	0·381	”
6 .....	42·57	15·35	0·095	”
7 .....	49·77	17·38	0·248	”
9 .....	36·41	28·75	0·192	”
10 .....	48·44	19·62	0·057	”
1 and 2 .....	49·35	9·70	.....	”
1 and 2 .....	48·50	12·70	.....	”

The Prospecting Board have recommended that a sum of money shall be expended in putting a few shallow shafts and trenches upon the beds, and I shall be better able to systematically sample the deposits after this work has been completed. Before concluding I should like to record my indebtedness to Mr. L. F. Harper, Field Assistant, for the assistance he has rendered to me.

I have, &c.,

JOHN B. JAQUET,  
Geological Surveyor.

The Government Geologist.

#### APPENDIX 17.

#### Ironstone Deposits in the Port Stephens District.

##### *Minute.*

In last year's Annual Report of the Department of Mines a preliminary report on the iron-ore deposits of Seaham was made by Mr. Jaquet, and this report appeared to show that these ores were free from titanitic acid. The more detailed report now submitted by Mr. Jaquet proves that the Seaham ores contain considerable quantities of titanitic acid, which will render them unsuitable for smelting,

E. F. PITTMAN,

Government Geologist.

The Under Secretary.

9/1/99.

Geological Survey Branch, Department of Mines,

New South Wales, 18 November, 1898.

Sir,

I have the honor to hand you a second progress report of the geological survey of the ironstone deposits of the Colony, which is being carried out by Mr. L. F. Harper, Field Assistant, and myself.

We have now practically completed our examination of the ore-bodies in the Port Stephens and Williams River Districts. As an appendix to this report you will find a tabulated statement showing the dimensions, value from a smelting point of view, and quantity of ore in each deposit.

There is also attached a geological map which embraces the area covered by the deposits (about 190 square miles), and which shows the position of each deposit, and its mode of occurrence. This area comprises rocks of Carboniferous age, and numerous igneous intrusions. In this progress report I propose to only briefly refer to these rocks. A more detailed account of them will be given in the memoir upon the iron ores of the Colony, which you have instructed me to prepare.

##### *Sedimentary Rocks.*

The Carboniferous formations consist of arenaceous fresh-water beds which are interstratified with more argillaceous marine beds. The former consist of sandstones, conglomerates, tuffs (?), and bands of cherty shale. They yield in places abundant remains of the fern *Rhacopteris*; hence their name *Rhacopteris* Beds. The marine beds consist of clay-stones, shales, and fine-grained argillaceous sandstones which yield *Lepidodendron*, *Calamites*, and a varied marine fauna.

The occurrence of worm tracks and the association of plant remains with molluscs, corals, cephalopods, &c., points to the marine beds having been formed under shallow water, and the fact that we find these beds interstratified with others of fresh-water origin would seem to indicate that during the Carboniferous Period the land was alternately rising and falling.

##### *Igneous Rocks.*

The igneous rocks consist of basic quartz felsites and andesites, which vary considerably in composition. Some specimens are normal quartz felsites, consisting of felspar crystals in a micro-crystalline base; others contain but little quartz, and perhaps might be described as felspar-porphyrries; others again contain a considerable quantity of hornblende or hypersthene, and are more or less typical andesites. However the field evidence goes to show that the variations are local, and that these rocks are probably the result of one period of eruptive activity. In the vicinity of Booral and Stroud, we found large masses of rhyolite, basic andesite, and basalt. We did not thoroughly investigate these rocks; but there is evidence to show that they have no connection with the quartz felsites, &c. The

The first named group of rocks seem to have been for the most part intruded along paths of weakness in the bedding planes. They appear in fact to be present in the form of sills. However, in some instances, they undoubtedly pass across the bedding planes. Thus we found near the head of Barnes Creek a narrow dyke running across deposit of ironstone No. 25, and passing from the Rhacopteris into the marine beds.

A most interesting occurrence of sills is to be seen in the parishes of Wilmot and Karuah. Here we found two sheets of igneous rock, separated from one another by a band of sandstone and conglomerate about 10 chains wide, running with the strata and parallel to one another from Wallaroo Mountain to a point north of Stony Creek, a distance of 9 miles. Another interesting intrusion occurs in the northern portion of the parish of Karuah, and extends northwards into the Australian Agricultural Company's Port Stephens Estate. It attains a width of 2 miles upon the boundary of the parish, and extends north and south a distance of 7 miles. There is evidence to show that this mass has been intruded between the bedding planes, and that the sedimentary rocks have been forced outwards on either side of the point where it attains its maximum thickness.

Upon the banks of the Karuah River, near Stroud, a seam of coal can be seen outcropping.

#### *Iron-ore Deposits.*

We have examined, mapped, and sampled twenty-five deposits of ore altogether. It is possible that there may be other deposits which have yet to be discovered, and which are not charted upon the geological map. Such deposits, however, would probably prove to be of insignificant extent—it is not likely that any of the larger ones have escaped our notice—and a consideration of their contents would not be likely to materially alter the estimate which we have given of the total quantity of ore in the district.

The ore-bodies closely resemble one another both as regards their mode of occurrence and the character of the ore which they yield. The ore consists of a granular titaniferous magnetite with a fine texture and steel-grey colour. It has associated with it variable quantities of quartz and felspar grains. The sandstones and tuffs in the vicinity of the ore-bodies often contain a considerable quantity of magnetite, and these rocks can be seen in some instances passing by insensible gradations into compact iron ore. Indeed the ironstones may, perhaps, be regarded as sandstones or tuffs in which the magnetite grains occupy a prominent position to the exclusion of the sand and felspar grains.

The deposits are stratified and conformable with the formations which accompany them. They do not, however, extend as a continuous body either in a horizontal or vertical direction for long distances, and they are liable to abrupt alterations in thickness. Thus deposit No. 14 where exposed in a trench is 10 feet wide, and in the next trench, but 11 yards distant along the line of outcrop, it has thinned to 3 feet. Again deposit No. 6, as seen in a trench at the surface, is a compact bed 2 ft. 6 in. thick, and where cut by a shaft at a depth of 25 feet upon the line of dip it is only 3 inches thick.

The ore-bodies, though not continuous, are sometimes found occurring at intervals along one horizon. Thus deposits No. 20 to No. 25, which are situated west of Booral and Stroud, crop out in succession along a certain well-marked band of rocks for a distance of 9 miles. On the other hand, after making a geological survey of the district, I am of opinion that the ore is not confined to one horizon; and that the ore-beds are in some instances separated from one another by several thousand feet of intervening strata.

All the ore-deposits examined by us were situated in the Rhacopteris Beds; in no instance did we observe magnetite in the marine beds.

#### *Estimation of Quantity of Ore in Deposits.*

Owing to the erratic way in which the ore-bodies vary in width, or disappear altogether, it is impossible to estimate with accuracy the quantity of ore which they contain. The estimates given in the tabulated list must only be regarded as rude approximations. The total quantity of iron ore in the Williams River and Port Stephens Districts is estimated in round numbers at 2,000,000 tons. I have assumed that each bed of ore extends as far downwards along the line of dip as it can be traced at the surface along the line of strike. Thus in the case of a bed 200 feet long, and possessing an average width of 2 feet, I should estimate the quantity of ore at (200 x 200 x 2) 80,000 cubic feet.

The specific gravity of several samples was determined as under:—

No. of Deposit.	Specific Gravity.
8	4.233
14	3.968
9	3.880
20	3.923
16	3.903
24	3.875
Average.....	3.963

We have taken 1,000 feet, measured along the dip, as a maximum depth in the case of beds exceeding this distance in length. The estimate of the quantity of ore in deposit No. 16 has been copied from the report of Professor T. W. E. David (Annual Report Department of Mines for 1891, p. 248). I am inclined to the opinion that our estimates are, if anything, too high; at any rate, one would be justified in saying that the area examined is not capable of yielding more than 2,000,000 tons of ore.

In order to enable us to more accurately estimate the dimensions of the various ore-beds, a series of trenches and shallow shafts was sunk with the aid of the Prospecting Vote.

Fresh assays for titanium have recently been made in the laboratory of the Department from portions of the samples collected by us from the Clarence Town and Seaham deposits (Nos. 1 to 11 and 13), with the result that in every instance the sample was found to contain an excessive quantity of the objectionable ingredient.

Having regard to the tabulated list (Appendix 2) showing results of assays taken from twenty-five deposits in the Williams River and Port Stephens Districts, I am of opinion that the whole of the magnetic ore is unfit for treatment by the ordinary processes of smelting.

I have, &c.,

JOHN B. JAQUET,  
Geological Surveyor.

The Government Geologist.

*Appendix 1:*

## Appendix 1.

Fossils collected by us, and determined by Mr. W. S. Dun, Palæontologist:—

1. From Stony Creek, north-west corner of portion 18, parish Wilmot—  
Asteroalamites scrobiculatus, Schlotheim.
2. Foot of Skid Hill Range, near south boundary, parish Horton—  
Small bivalve, most probably Edmondia.
3. A. A. Company's Port Stephens Estate, east of Booral Wharf, Karuah River—  
Spirifera, internal casts.
4. From near Booral, on road junctioning with Raymond Terrace—Stroud Road, 6 miles from Stroud—  
Rock much fractured with numerous plant fragments. The fern is interminable, but judging by the fragments preserved it is not Permo-Carboniferous.
5. On traverse of 4th August. Near head of Wallaroo Creek, parish of Wilmot—  
Orthis resupinata, Martin.  
Leptæna rhomboidalis, var. analoga, Phillips.  
Orthotetes crenistria, Phillips.
6. Between Limeburner's Creek and Stroud Road, parish of Tarean—  
Rhacopteris inequilatera, Gæppler.  
Lepidodendron Veltheimiamum, Sternberg.
7. Between Ten-mile Creek and Caswell's Creek, parish of Wilmot—  
Lepidodendron Veltheimiamum, Sternberg.
8. East bank, Karuah River, near Booral—  
Rhacopteris septentrionalis, Feistmantel.  
Cardiopteris (?).
9. From about 4 miles south-west of Stroud, on track to Thalaba, A. A. Company's Port Stephens Estate—  
Athyris.  
Fenestella.  
Spirifera.  
Leptodomus (very abundant).  
Euomphalus.  
Crinoid stems.  
Productus sp. indet. close to spinulosus, Sowerby (very abundant).

## Appendix 2.

## PORT STEPHENS and Williams River Iron Deposits.

No. of deposit upon map.	Locality.	Chemical composition.*				Dimensions of ore-bodies.		Estimated quantity of ore in tons.
		Metallic iron.	Silica.	Titanic acid.	Phosphoric acid.	Length in feet.	Thickness in feet.	
1	Parish of Barford, portion 54 .....	49·77	17·38	6·60	0·248	1,026	2	225,700
2	„ Uffington, portion 69 .....	42·57	15·35	5·20	0·223	180	2	7,100
3	„ „ F. R. 19,078 .....	52·92	11·97	5·60	0·381	20	1	Less than 300
4	„ „ portion 5 .....	32·86	22·10	15·78	0·115	159	1	2,700
5	„ „ portion 5 .....	40·69	20·80	8·38	0·102	165	1	2,900
6	„ „ portion 13 .....	40·69	18·70	11·72	0·140	66	1	400
7	„ Wallarobba, portion 20 .....	46·65	10·40	10·90	0·077	165	1·25	3,700
8	„ „ portion 21 .....	46·11	11·99	9·18	0·370	1,056	2	232,300
9	„ Wilmot, 2 miles N. E. of Seaham .....	38·99	17·60	8·10	0·524	1,000	0·5	55,000
10	„ „ near Nine-mile Creek .....	46·19	20·60	.....	0·31	75	1	600
11	„ „ top of Mount Gilmore .....	48·44	19·62	2·80	0·057	.....	.....	Less than 300
12	„ „ portion 17 .....	40·75	20·10	6·44	0·299	60	1	300
13	„ Horton, near S. boundary .....	36·41	28·75	10·30	0·192	.....	.....	Less than 300
14	„ „ E. of portion 50 .....	43·79	14·13	13·99	0·096	528	3	91,900
15	„ Karuah, portion 10 .....	48·33	12·45	9·40	0·466	60	1	300
16	„ „ Ironstone Mount .....	46·18	12·00	10·36	0·422	1,980	3	876,000
17	„ „ portions 4 and 7 .....	44·78	26·60	6·90	0·102	60	1	300
18	„ „ portion 1 .....	43·69	18·00	11·90	0·639	60	1	400
19	A. A. Company's Port Stephens Estate .....	43·60	19·00	7·86	0·240	660	1	47,900
20	„ „ „ „ .....	43·76	21·42	7·57	0·180	1,875	1	206,200
21	„ „ „ „ .....	47·04	17·30	6·30	0·360	30	1	Less than 300
22	„ „ „ „ .....	45·34	16·80	9·40	0·380	60	1·5	500
23	„ „ „ „ .....	47·56	16·38	6·60	0·170	102	10	11,400
24	„ „ „ „ .....	45·79	22·30	6·64	0·120	1,500	1	165,000
25	„ „ „ „ .....	47·25	16·05	7·10	0·255	2,400	25	39,600

\* Analyses by Mr. J. C. H. Mingay and assistants, in the Laboratory of the Department of Mines.

## APPENDIX 18.

## Deep Lead, near Corang River.

Sir,

31 December, 1898.

I have the honor to inform you that, according to your instructions, I have made an examination of the recently-discovered "deep lead" situated near the Corang River, about 7 miles from Nerriga.

A considerable amount of gold has been won from workings in the shallow portions of the lead; but these workings are practically exhausted, and miners are now directing their attention to tracing the lead into deep ground. Monaghan and Party, after sinking through 64 feet of a fine sediment (locally known as lignite), have struck payable gravel, and having erected a stump-pump, are now raising and stacking wash-dirt. About 600 yards further down the supposed line of lead, Huxley and Party, assisted by a grant from the Prospecting Vote, are sinking a shaft. It is now down over 100 feet, and has not yet penetrated the "lignite." Beyond the site of Huxley and Party's shaft an extensive flow of basalt occurs; and in my opinion it is important that an answer should be given to the question—"Does the deep ground now being worked by Monaghan and Party extend through Huxley's claim and under the basalt?" This can only be done by sinking a shaft or shafts, and in my opinion the circumstances warrant the putting down of a deep shaft. Owing to the great width of the alluvial deposits and the general absence of data, one can only speculate as to the course of the deep ground beyond Monaghan and Party's shaft. However, the site of Huxley and Party's shaft would seem to be well chosen, and the miners upon the field with whom I discussed the matter acquiesced in this view.

Huxley

Huxley and Party are already receiving aid. They have carried their shaft down over 100 feet, and will probably have no difficulty in reaching the top of the gravel. All the circumstances, however, would seem to indicate that a great volume of water will be encountered when the shaft enters the gravel; and, having regard to the depth of the shaft, it would certainly not be possible to keep down this water by means of a bucket and windlass. A steam-pump will be required, and the party have not sufficient means to buy or hire one.

The miners ask, in the event of a heavy flow of water being encountered, that in lieu of granting an increased rate of aid the Government should provide a steam-pump, and keep the shaft unwatered until such time as the bottom has been reached and drives have been carried across the lead as far as the exigencies of ventilation will permit.

I think, having regard to the depth of the ground, and the large quantity of unproved country beyond the shaft which would be available for prospecting, that the request is a reasonable one; but I am not sure whether the Board have any precedent for adopting such a course. In any case nothing can be done in the matter until the shaft enters the gravel and the flow of water is roughly estimated.

The Government Geologist.

I have, &c.,

JOHN B. JAQUET,  
Geological Surveyor.

APPENDIX 19.

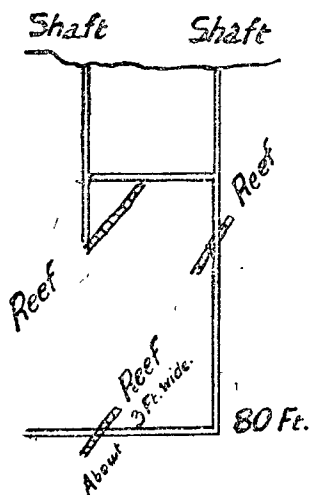
Kenyu Mine, Burrowa.

Geological Survey Branch, Department of Mines and Agriculture,

Sydney, 8 January, 1898.

Sir,

I have the honor to inform you that in accordance with your instructions I have examined the mine upon Jas. Russell's conditional lease, referred to in the attached letter of Mr. Thos. Stevenson, and given Messrs. W. Dromgold and Party advice as to the best method of prospecting the same.



The above sketch sufficiently explains the work which has been done.

In the crosscut at 80 feet, at a distance of about 27 feet from the shaft, an irregular reef about 3 feet wide has been cut, which would seem to be the continuation of the reef encountered immediately below the crosscut at 23 feet. This reef is composed of anastomosing quartz veins with included masses of country rock. Assays made in the laboratory of this Department of the quartz have yielded from 8 dwt. to 5 oz. of gold per ton. These assays give one no idea of what the reef is likely to yield *en masse*; and I would advise the owners to drive a short level upon the reef and obtain 10 tons of quartz, and have the same crushed at a battery provided with concentrators. Should the reef be found to contain half an ounce of gold per ton for the full width of 3 feet, the mine might certainly be considered a payable one. In the absence of any levels one can form no idea as to the length of the reef.

The Government Geologist.

I have, &c.,

JOHN B. JAQUET,  
Geological Surveyor.

APPENDIX 20.

Sir,

Geological Survey, Department of Mines and Agriculture, 7 January, 1899.

I have the honor to hand you the following report on the work performed by me during the year 1898:—

During January I visited Mudgee, Windeyer, Hill End, Wattle Flat, Parkes, Condobolin, Bobadah, Carlisle, Fifield, Alectown, and Forbes, and dealt with applications for aid from the Prospecting Vote, and examined mining reserves which were proposed to be thrown open for settlement.

From 1st to 7th February I was engaged at the office in writing reports, and on 8th of the same month I left Sydney, and was absent until 5th March.

During that time the following places were visited, where either sites were examined for which aid was applied for, or mining reserves inspected, viz., Young, Woodstock, Burnt Yards, Trunkey, and Fifield.

At the last-named place an effort was made to discover the source of the platinum. This metal occurs at Platina, near Fifield, with gold in alluvial deposits, which are probably of Tertiary age, and at Jack's Look-out in a grit which may be of Pre-Tertiary age. There are large developments of coarse hornblende rocks in the neighbourhood of Fifield and Platina, which may possibly have been the source from which the platinum was derived. All efforts, however, made to detect its presence in these rocks by washing dishes of the decomposed and disintegrated rock were unsuccessful.

While in the vicinity of Fifield I made an examination of a deposit of iron ore at Mount Gobondery, about 7 miles E.N.E. of Fifield. The ore consists of crystallised hematite or specular iron ore, and may at some future time have a considerable economic value.

My report on this deposit forms Appendix 21.

On

On the 9th March I left Sydney for Burragorang and Mount Werong, and examined the silver-mines at these two places in connection with applications for aid, and returned to Sydney on the 15th of the same month. Between the 15th and 29th March I was absent from the office on leave.

From 18th April to 21st May I was in the field and visited the following places, viz., Gundagai, Muttama, Barmedman, Mandurama, Orange, Ophir, Wyagdon, Wattle Flat, Gulgong, Tallewang, Windeyer, Hargraves, Porter's Retreat, and Forbes.

While at Hargraves a few preliminary notes were made on the saddle-reefs, and these appeared in a paper printed in the "Records of the Geological Survey," Vol. V, Part IV.

I again left Sydney on 3rd June, and was away until 21st July, visiting the following places, viz., Eurunderie, Hargraves, Windeyer, Wellington, Stuart Town, Muckerawa, Parkes, Tichborne, Forbes, Cookamidgera, Murga, Rockley, Hill End, Tambaroora, and Lue.

During this second visit to Hargraves I made a more detailed examination of the saddle-reefs; a report was written, and is now being printed in Part II of Vol. VI of the "Records of the Geological Survey."

My visit to Hill End was made in accordance with your instructions to advise as to the best way to sink for the lost reefs. In order to be in a position to do this it was necessary to study the mode of occurrence of the reefs. It was found that the rocks in the neighbourhood of Hill End, which consist largely of slates and intrusive sills, have been thrown into folds, which have an approximately north and south trend. The centre of one of these folds lies to the west of the town, and between that and Bald Hill. In this field two main series of reefs are to be made out—one on the east side of the centre of the fold, whose members dip to the east, and the other on the west side of it, whose members dip to the west. While between the two series, and along the centre of the arch, are seen at intervals flat-lying or gently-arched masses of quartz.

All these reefs lie along the bedding planes of the slates, and are thus conformable with the stratification of the rocks.

To account for these and other features of the reefs I put forward in my report, which forms Appendix 22, the saddle-reef theory as giving a rational explanation of the facts.

No other known theory seems to explain how the spaces (now occupied by the reefs), which dip away on each side, from the centre of the arch, could have been formed.

The whole matter was one of such economic importance, for if the Hill End reefs were saddle-reefs, and a descending series of them occurred as at Bendigo (where saddle-reefs are being worked at a depth of 3,500 feet below the surface), there was a possibility of opening up an extensive gold-field.

To solve this question it was recommended in my report that bores should be put down, and the late Minister approved of this being done.

It has, however, now been decided to put down one or at most two bores on the east side of the rich reefs on Hawkin's Hill, and, therefore, considerably to the east of the centre of the arch, so that no solution will be obtained of the important question whether saddle-reefs occur at Hill End or not.

During the greater part of August I was engaged in the office in writing reports on the saddle-reefs at Hargraves and on the bismuth deposits of the Colony. The latter was published in pamphlet form, and issued as No. 4 of the Mineral Resources.

During September and October I was engaged at Wyalong in making a geological examination of that gold-field, and collecting data for a geological map.

The two following months, with the exception of about a week, have been spent at the office in writing my report on the Wyalong Gold-field.

I have, &c.,

J. ALEX. WATT,  
Geological Surveyor.

The Government Geologist.

See subsequent report of the Government Geologist on this question dated 10th September, 1893.

#### APPENDIX 21.

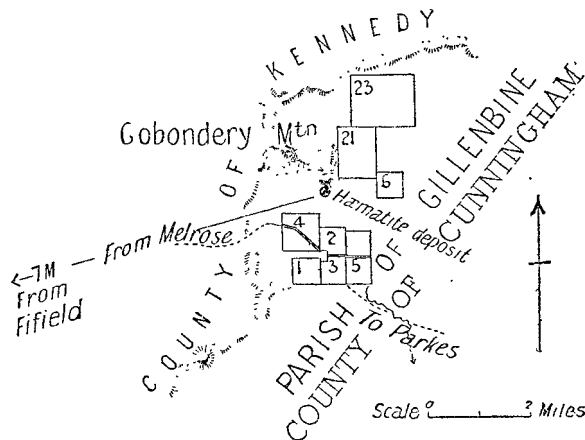
##### Notes on a deposit of Specular Iron Ore at Gobondery.

Sir,

Geological Branch, Department of Mines and Agriculture, 27 May, 1898.

While in the Fifield District my attention was directed by Mr. C. T. Metcalfe to a deposit of iron ore occurring at the foot of Mt. Gobondery, in the parish of Gillenbine, county of Cunningham. The results of the observations made during a short visit I now beg to submit for your perusal.

The accompanying sketch shows the approximate position of the deposit and its situation with regard to Fifield, from which it is distant about 7 miles in a direct line, and in an E.N.E. direction.



The iron ore occurs at the junction of sedimentary strata (slates, quartzites, marble, &c.), with a large granite mass, which has intruded the slates, &c., and considerably altered them. Little can be said as to the form and size of the deposit, as only natural exposures are visible, while no exploratory work has been done on it; but if we may judge by the bold, well-defined character of the outcrops it should prove of considerable extent.

The

The area over which the hæmatite is exposed at the surface, though not continuously, is about 500 feet in length by 200 feet in width, the several outcrops being separated by soil, which prevents the true form and size of the deposit from being determined.

The largest of the outcrops is that marked A (*vide* plan and section), which assumes the form of a terrace 200 feet long and 45 feet wide, with an abrupt easterly face 8 feet in height. The whole of this area is occupied by massive specular iron ore of good quality, of which there is at least 7,000 tons already naturally exposed.

Another large mass, marked B (*vide* plan and section), occurs 180 feet west of the southern end of the deposit just described. This mass stands 7 feet above the surrounding soil, and is 36 feet long.

There are other outcrops of smaller dimensions, several of which are shown on the plan. Some of these contain ore of good quality, while in others the ore seems to be somewhat siliceous.

At C (*vide* plan) an excavation was made some years ago to determine whether the quartzite and slates, which are there highly charged with oxide of iron and veined by quartz, are gold-bearing. Some of the material, I believe, was found to contain about 2 dwt. of gold per ton.

To roughly determine the quality of the hæmatite, three samples, which were made as representative as possible, were taken, two from deposit A, and the third from B, and the percentage of iron in them determined in the Departmental Laboratory.

No. 1 (S. 1), taken from the southern end of the terrace-shaped deposit A, gave 57·72 per cent. of metallic iron, corresponding to 82·45 per cent. of hæmatite ( $\text{Fe}_2\text{O}_3$ ), with also traces of gold and silver.

No. 2 (S. 2), taken from the northern end of the same outcrop, gave 61·29 per cent. of metallic iron, corresponding to 87·55 per cent. of hæmatite ( $\text{Fe}_2\text{O}_3$ ).

No. 3 (S. 3), taken from outcrop B, gave 58·98 per cent. metallic iron, corresponding to 84·26 per cent. of hæmatite ( $\text{Fe}_2\text{O}_3$ ), with traces of gold and silver.

The average iron contents of the three samples was, therefore, 59·33 per cent., which equals 84·72 per cent. of hæmatite ( $\text{Fe}_2\text{O}_3$ ).

As to the quantity of the ore, there is already about 8,000 tons in sight, while the surface indications lead one to believe that if prospected this would prove a deposit of considerable dimensions.

Before concluding, a word might be said about the possible origin of the deposit. As already mentioned, the deposit seems to lie at the junction of granite, with highly altered sedimentary rocks. Among the outcrops of these latter are several somewhat large blocks of highly crystalline marble, the presence of which suggested to my mind the possibility that the hæmatite may occupy cavities produced by the dissolving out of masses of the marble, or that possibly it may owe its origin to a metasomatic replacement of the carbonate of lime by hæmatite.

Should this genetic association of the marble and hæmatite be a reality it would have a considerable influence on the form and size of the deposit and the quality of the ore.

It was thought advisable to draw attention to this deposit, as those of a similar character already known in this Colony are not numerous or of considerable economic importance, and although the present deposit is in a rather inaccessible part of the Colony, being 25 miles from Bogan Gate Railway Station, on the Parkes-Condobolin line, circumstances may at some future time arise that would lead to a demand for ore of this nature for use within a reasonable distance from Gobondery, when this deposit would assume considerable importance.

I have, &c.,

J. ALEX. WATT,

Geological Surveyor.

The Government Geologist.

#### APPENDIX 22.

##### Preliminary Report on the Quartz Reefs of the Hill End and Tambaroora District.

Geological Survey Branch, Department of Mines and Agriculture,

Sir,

Sydney, 28 July, 1898.

In accordance with your instructions to "visit Hill End, and advise as to the best way to sink for the lost reefs," I proceeded to Hill End and made a brief examination of the general geological features of the district.

Particular attention was directed to ascertaining the mode of occurrence and probable origin of the gold-bearing quartz reefs.

The key to the solution of these problems was furnished by previous observations made in the neighbourhood of Hargraves, a mining township situated about 20 miles nearly due north from Hill End.

As the strike of the Silurian strata over this portion of the Colony is, on the whole, nearly north and south, it was thought that the same series of strata would be found to occur at the two places, and to have been somewhat similarly affected by the forces which have folded and otherwise acted on the rocks.

It has been shown in the case of the Hargraves District that the movements to which the rocks there have been subjected have resulted in the production of saddle-shaped cavities between the strata, which have later become filled with auriferous quartz by the infiltration of mineral-bearing solutions. In this way reefs have been produced which resemble in all their essential features the famous "Saddle Reefs" of Bendigo, in Victoria.

Before the examination of the Hill End Gold-field had proceeded far, it became clear that the phenomena of the Hargraves saddle-reefs were there produced as far as the general facts of their mode of occurrence and origin are concerned, though there are some very noticeable and important differences.

As my visit was such a short one, I do not feel justified in entering upon a detailed description of the reefs, but must limit myself to a general statement of their main features.

#### *Nature of the Rocks.*

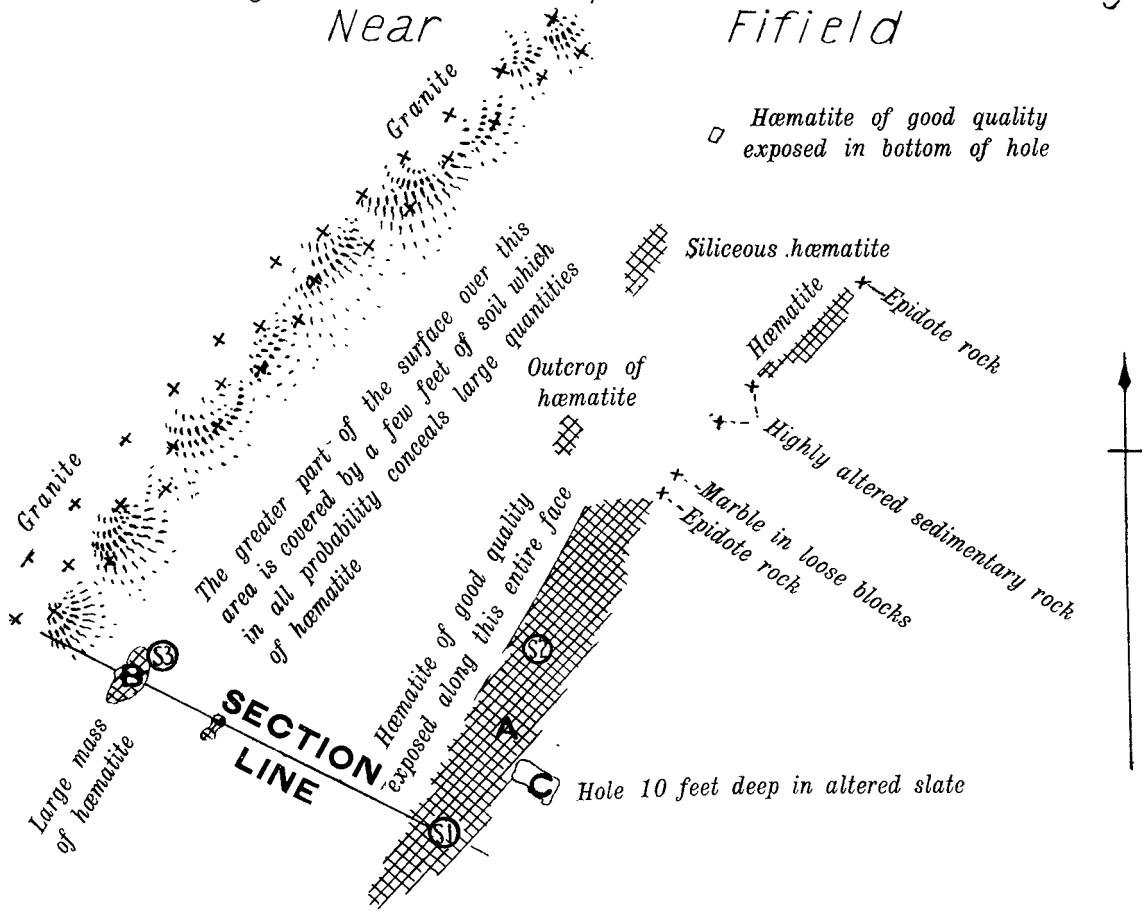
The rocks of the district consist partly of slates and partly of bands of an eruptive rock of granitic composition, which passes in places into a finer-grained felsitic variety. These bands of eruptive rock are of later origin than the slates, into which they have been intruded, chiefly in the form of sills or masses of varying thickness, which have been forced while the material was molten between the bedding planes of the slates, or rather shales, as they most probably were when the intrusion took place, but also partly as dykes which have broken across the bedding planes of the slates. The series of sedimentary strata and intrusive sills were later folded into wide expansive arches and troughs. The centre of one of these arches lies a little to the west of the town.

*Mode*

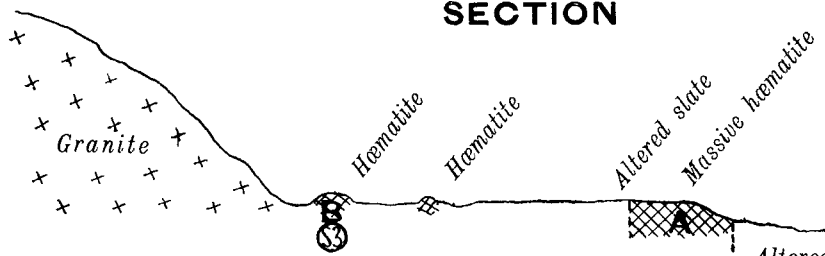


**PLAN**

*Shewing Hæmatite deposits at M<sup>r</sup> Gobondery  
Near Fifield*



**SECTION**



*Altered sedimentary rocks, slates, quartzite, marble, &c., much crushed and intersected by innumerable quartz veins.*

Scale 0 40 80 120 Feet

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Photo-lithographed by  
W A Gullick Government Printer,  
Sydney, N S W

*Mode of Occurrence of the Reefs.*

The mines that have proved most productive at Hill End are those in which were worked the series of parallel quartz reefs which appeared at the surface on the western slope of Hawkin's Hill.

Nearly a dozen reefs have there been exploited within a width of a few hundred feet. All dip uniformly to the east, and, what is more important, all lie, on the whole, parallel to the original bedding planes of the slate and to the junction planes of the slate and intrusive sills. Other easterly-dipping veins have been worked north of Hawkin's Hill and almost continuously for a couple of miles.

On the west side of the field (*vide* Fig. 1) westerly-dipping reefs are abundantly in evidence; some of them have been profitably worked, but, taken as a whole, they proved very much poorer in value than the easterly-dipping ones.

Between the two series of easterly and westerly-dipping reefs large flat masses of quartz occur at intervals, which, when carefully examined, are found to mark the centre of the arch into which the rocks have been thrown, and to be conformable to the enclosing rocks.

*Probable Origin of the Reefs.*

The above-mentioned facts as to the mode of occurrence of the reefs, together with the close resemblance of the general features of this district to those of Hargraves, where saddle-reefs have been proved to exist one under the other, are sufficient to make it appear extremely probable that the Hill End reefs, as now exposed at the surface, are principally the denuded east and west legs of saddle-reefs which at one time were continuous across the centre of the arch. Further, the gently curving or flat-lying masses of quartz situated between the two series of reefs appear to be the caps of saddle-reefs which owe their appearance at the surface to the denudation of an immense thickness of rocks comprising slates, sills, and the caps of overlying saddle-reefs. It is this process of denudation, of course, that has supplied the gullies with the enormous quantity of alluvial gold which has been obtained from them. The source from which the gold was derived was, in all probability, those portions of the saddle-reefs which have disappeared in this process, leaving the easterly and westerly-dipping reefs as mere remnants of them.

*"Trough Reefs."*

These are trough-shaped reefs, or "inverted saddles," as they are sometimes called, which are well known at Bendigo, though not of much importance there. I have recently found similar reefs at Hargraves.

They resemble in many particulars the saddle reefs, but occur in the synclinal troughs of the rocks instead of in the arches. They are conformable to the strata, are usually thickest in their lowest portions, and taper off as they are traced upwards.

Such reefs occur at Tambaroora, on the east side of the Hill End arch, where they appear to assume unusually important proportions.

At the Red Hill Mine, where the easterly-dipping leg of one of these reefs is being worked, it has already been proved to extend to a depth of at least 400 feet from the surface.

South of the Red Hill Mine an underlying trough reef comes to the surface (*vide* Figs. 2 and 3), and is being followed down by Howard Bros.

*Conclusions to be drawn from the application of the Saddle-reef Theory to the Hill End Gold-field.*

If this theory should furnish the correct explanation of the phenomena presented by the Hill End reefs, the following conclusions, of very great importance to the future prospects of this gold-field, may be legitimately drawn from it:—

- (1.) That the easterly and westerly-dipping reefs will of necessity decrease in size as they are followed down, until they finally pinch out altogether.
- (2.) That saddle-reefs will be found of which there are now no traces whatever at the surface, but which will make their appearance one under the other as the prospecting operations are conducted downwards in the neighbourhood of the centre of the arch.
- (3.) That other arches containing saddle-reefs will be found to the east and west of Hill End.

(1.) This fact is even now to some extent recognised, for some of the reefs have already disappeared or become greatly reduced in size in the deeper workings. Some of them, on the other hand, have already been proved down to a depth of 800 feet from their outcrops without showing any very appreciable diminution in size. This is a very important feature, and distinguishes these legs from reefs of a similar character at Bendigo, where they, as a rule, cut out at about 100 feet below the saddle, and only exceptionally extended downwards 700 or 800 feet from it.

This feature, which is not remarkable when we keep in mind the great breadth of the Hill End arch, as compared to those of Bendigo, should have an important influence favourable to Hill End on the relative persistence in depth of the saddle-reefs of the two places.

(2.) In regard to the probable existence of a series of saddle-reefs below the centre of the arch, it is only reasonable to suppose that, as the circumstances are so similar at Bendigo and Hill End, and as in the former place they have been proved to extend at least to a depth of 3,350 feet from the surface, they will also be found to extend to a considerable depth at Hill End. Moreover, it is highly improbable that denudation has extended so far as to expose the deepest of the Hill End saddle-reefs at the surface.

(3.) Nothing can be more probable than that reefs of a similar nature will be found in parallel arches or troughs on the east and west sides of Hill End. In fact, I have already a suspicion that such reefs have been worked at Stuart Town on the west, and at Sally's Flat on the east, without their true nature being quite understood.

*Bald Hill.*

A few words might be said about the geological structure of Bald Hill, in order to indicate to the miners the apparent uselessness of searching for deep leads or quartz reefs under the basalt, which occupies the surface of the upper portion of Bald Hill.

Several shafts have been sunk round the edge of Bald Hill, which have had basalt on the hanging-wall side and slate on the footwall. In all these cases the junction appears to be dipping very steeply. Moreover, the slates are somewhat disturbed at the junction. A tunnel is now being put into the hill from the east side, the mouth of which is situated about 100 feet below the junction of the basalt and slate. About 170 feet in from the mouth a small dyke of very decomposed vesicular basalt has been met with.

All these facts make it extremely probable that the basalt on Bald Hill is not a portion of a once more extensive sheet of basaltic lava, but is part of the molten material that filled the pipe or neck of a basaltic volcano, whose upper portion has been removed by denudation.

It will, therefore, be readily understood that on this view no alluvial wash or quartz reefs are likely to be found by driving tunnels under the crown of the hill.

*Conclusion.*

Only a general account of the main features and probable mode of origin of the Hill End reefs has been presented. But, perhaps, this is sufficient to direct attention to the bearing that the correctness or incorrectness of such a theory of their origin has upon the opinion which we may form of the future prospects of the field.

For, if we take the old view, and look upon the reefs now being worked on Hawkin's Hill and elsewhere in the neighbourhood of Hill End as the mainstay of the district, and the further exploration of these reefs the only source of hope for the future, the outlook cannot be described as very bright. This is so, for the very obvious reason that some of these reefs that yielded rich stone in the upper levels have, in the deeper workings, either disappeared altogether or decreased considerably in size, while, in many other cases, they have been found to become so poor that they could not possibly be followed down.

But if I am right in applying the saddle-reef theory to this field, and I feel satisfied, in my own mind that I am, as it explains so satisfactorily all the observed phenomena, the possibilities of future development cannot easily be exaggerated.

In this connection it must be remembered that the pioneers of reefing at Bendigo had to face the same problems as those presented by the Hill End Gold-field to-day, and it was not till they had solved these, and proved the existence of saddle reefs recurring one under the other that the permanence of that field was established. The early stages in the development of the Bendigo and Hill End Gold-fields were similar, and it was only when the former entered upon the last and most important stage consequent upon the discovery of the fact that there was a continuous development of reefs one under the other that the mining industry was established there on a permanent footing.

It has now to be proved whether Hill End also is to reach this final stage, that is, whether saddle-reefs will be found to exist in a manner at all comparable to the way they occur at Bendigo.

In Lansell's 180 Mine (Bendigo) such reefs have been worked down to a depth of 3,350 feet, and there are altogether six mines in the same district over 3,000 feet in depth, and twelve over 2,700 feet. In the Lazarus Mine there are between the surface and the 2,200-foot level twenty-four saddle reefs, thirteen of which were auriferous to a profitable degree.

From the quartz reefs of the Bendigo district at least  $4\frac{1}{2}$  million oz. of gold have been obtained since 1862.

An opportunity now presents itself to this Department to do prospecting work of the very first order of importance on a field where the indications are such as to lead one to reasonably entertain hopes of its success.

What effect success would have upon the future of the mining industry in this Colony no one can say.

I beg to propose that a series of bores be put down on different parts of the field. The sites for these, however, must be most carefully selected, after a more detailed examination of the field has revealed the most favourable places for such bores. What I would most respectfully beg to urge, in the event of this suggestion meeting with the approval of the Minister, is that permission be granted to me to return to Hill End, to make a more thorough and detailed examination of the field than was possible during my recent short visit. I should then be in a position to advise where boring could be undertaken with the best possible chance of success.

This is a piece of work of such great importance, and one that might, if successfully carried through, be fraught with such momentous issues, that I would respectfully beg to be allowed to pay a visit to Bendigo, in Victoria, to make myself acquainted with the main characteristics of the saddle-reefs of that district. I would thus be better fitted to interpret similar phenomena at Hill End, and to solve the complex problems that the Hill End district is sure to present during its examination. Bendigo is the only place where the key for the satisfactory solution of them is to be obtained, for there saddle-reefs are typically developed, and have been worked on a most extensive scale, and with highly profitable results.

I have, &c.,  
J. ALEX. WATT,  
Geological Surveyor.

The Government Geologist.

APPENDIX 23.

*Minute.*

I AM inclined to think that Mr. Watt is right in his assumption that the Bald Hill is really a volcanic neck. In the tunnel to which Mr. Le Mesurier refers in the accompanying letter, a basalt dyke has recently been struck, and this is probably an offshoot from the main volcanic pipe. I think that the presence of this dyke in such close proximity to the main body of the basalt is very strong evidence of the Bald Hill being a volcanic crater, and that, therefore, there is no probability of alluvial gold being found in the site which the tunnel is intended to prospect.

The application for aid should, I think, be refused for that reason, but I do not think any good purpose would be served by giving the applicants the impression that saddle-reefs occur at Hill End.

E. F. PITTMAN,  
Government Geologist.

The Under Secretary.

Sir,

Geological Survey Branch, 10 August, 1898.

While recently engaged in making a very cursory examination of the Hill End Gold-field, my attention was drawn to the work then being done by the applicants on the side of Bald Hill.

In a preliminary report which I had the honor to furnish you, mention was made of Bald Hill, and it was pointed out that all the evidence obtainable made it highly probable that Bald Hill marked the site of a basaltic volcano, and that the basalt forming the upper part of the hill was in that case part of the volcanic material that consolidated within the neck of the volcano.

Such

**TRANSVERSE SECTION**  
Hill End Gold Field

Scale 0 1000 2000 Feet

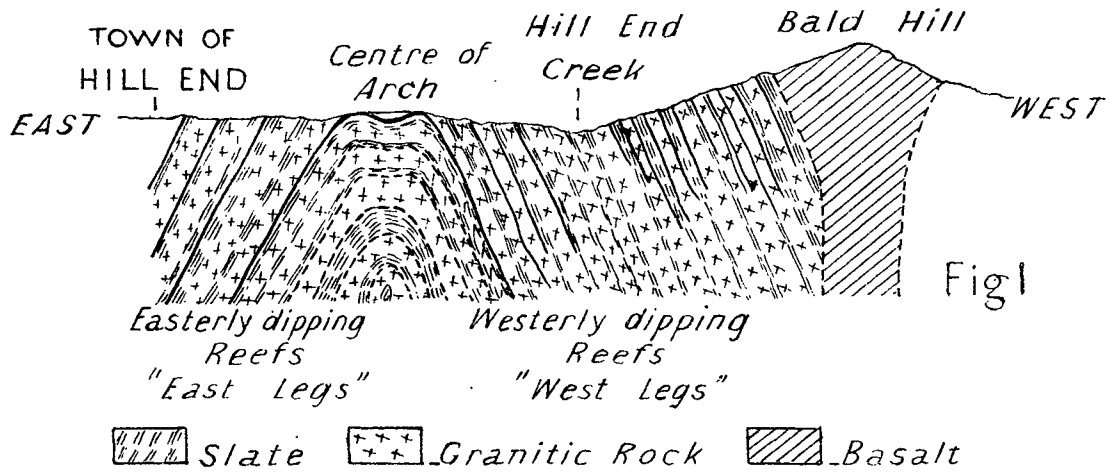


Fig 1

Red Hill Tambaroora  
Sketches shewing Trough Reef worked by  
Howard Brothers.

Scale 0 400 800 Feet

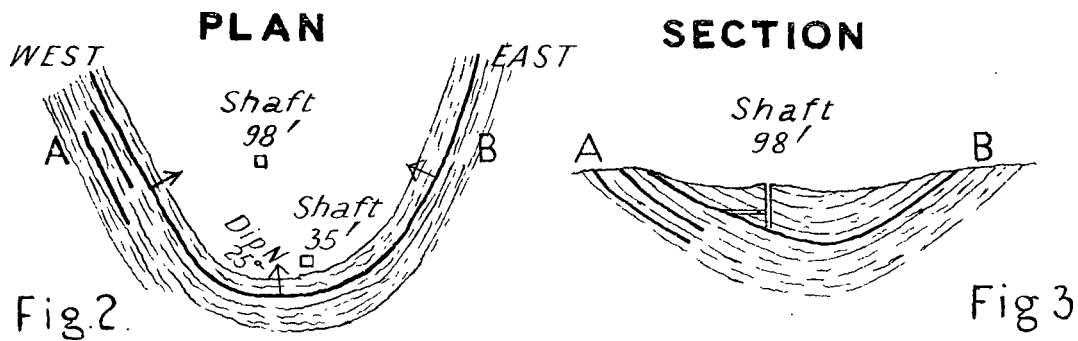


Fig 2.

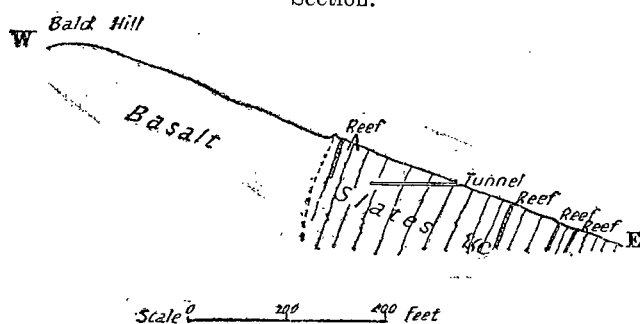
Fig 3

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Such being the character of the evidence it becomes highly improbable that either alluvial gold or quartz reefs will be found to occur beneath the basalt.

## Section.



The accompanying sketch section shows my reading of the structure of Bald Hill. The tunnel the applicants are driving is shown. The reef at A was worked to a depth of about 70 feet; to intersect this reef was one of the objects of driving. As the tunnel, when driven far enough, will intersect it very little below the bottom of the old workings, to continue driving it with this end in view would be useless.

Another object, and perhaps the main one, was to prospect for auriferous wash.

The present view of the structure of the hill makes it impossible for wash to occur there, a conclusion supported by the absence of water-worn pebbles on the slopes of the hill.

Under the circumstances it would be a waste of money to assist in driving the tunnel where the prospects of making any valuable discoveries are so remote.

The field presents many problems of much more scientific interest than that presented by Bald Hill, and these should first receive attention.

I refer to those connected with the saddle-reef theory, which has been recently advanced by me to explain the structure of many of the reefs of the Hill End district.

Perhaps a copy of the report referred to above might be sent to Hill End for the information of miners working the reefs of that gold-field.

The present application should, I think, be again refused.

The Government Geologist.

I have, &c.,  
J. ALEX. WATT.  
Geological Surveyor.

## APPENDIX 24.

## Curator's Annual Report.

Sir,

7 January, 1899.

I have the honor to present my progress report for the past year. The abnormal pressure of routine work experienced during the two previous years, more particularly that pertaining to the examination of the mineral specimens submitted by the public, has not been maintained. Owing partly to this circumstance, and partly to improved systematisation—it was possible to spare Mr. Harper for field work. This has not been unaccompanied by inconvenience, especially when one of the other assistants has been away—and I have myself been able to do very little more than keep pace with the routine work. In particular, the need of skilled clerical assistance is often deeply felt, and in the probable event of one or more resignations occurring during the year, I would emphasise the importance of appointing someone expert in the use of the typewriter and able to write a good Civil Service hand.

The statistics of the year are as follow:—

Letters written	...	...	...	3,020
Collections prepared	...	...	...	22 (comprising 4,000 specimens.)
Microscope slides registered	...	...	...	236
Minerals and rocks registered	...	...	...	1,010

*Examination of Ores.*

This, the most important of the duties attached to this office, has been characterised by the number and variety of the specimens submitted to be examined for copper. While very many of these were at once seen to be worthless, a number of rich ores were received, and many of them sent on to the Government Metallurgist to be assayed. A carbonate ore from the May Day Mine, Gilgunnia, assayed up to 33 per cent. of metallic copper. At Hampton, near Jenolan, a patch of rich sulphide ore (bornite and copper pyrites) was prospected. This ore is accompanied by a chloritic gangue which has frequently been taken for green carbonate of copper.

From the interest manifested in telluride of gold, it might have been expected that many specimens supposed to contain that substance would have been submitted, but this has not been the case. In no case was tellurium detected with the exception of the telluride of bismuth from Gundagai, referred to below.

*Silver.*

A large number of samples were received from the Burragorang Silver-field, and selected assay results will be found in one of the Appendices. A scrutiny of these results indicates that on this field silver may be looked for in almost any class of stone. Sample 3,772 is a richly argentiferous copper gossan; 3,390 is quartz carrying 170 oz. of silver to the ton; a crystallised galena (3,774) contained 93 oz.; a fine-grained galena (3,773) nearly 400 oz. The carbonate of lead ores give results varying from nothing up to 2,300 oz. of silver to the ton. The results from Cullen's Creek, Rivertree, may also be noted. Here the silver is found in iron, arsenical, and copper pyrites, or their oxidised products. A lead gossan

gossan (4,366) yielded 332 oz. of silver and  $4\frac{1}{4}$  dwt. of gold per ton. Rich ruby silver ore continues to come in from the Armidale District, and similar stone has been received from Uralla and from the Wollomombi River.

The number of samples sent to the Government Metallurgist to be analysed or assayed was 4,428, which is less than in any year since 1894. To some extent this reduction is due to the strict enforcement of the regulation under which the Department does not undertake to make assays of battery tailings or concentrates. The regulations now in force are as follows:—

The ores or minerals must be from deposits occurring within the Colony of New South Wales.

Each sample must bear a distinguishing mark, in order that it may be identified readily.

Samples must be accompanied by a letter, in which must be stated the distinguishing mark placed upon each sample, and the locality where the deposit occurs.

The samples of ore for assay should weigh about 1lb. each, and should be fairly representative samples of the lode or deposit, and not picked specimens. They should not be crushed, but may be broken up with a view to obtaining an average, provided the pieces are large enough to admit of examination.

Samples of ore, in which free gold is visible to the naked eye, will not be assayed.

Assays for the purpose of checking the work of private assayers will not be made by the Department.

Assays of tailings or concentrates from batteries or other crushing mills will not be made, unless reasons are furnished which appear to the Secretary for Mines and Agriculture sufficient to justify such being made at the expense of the Department.

The Department reserves to itself the right to refuse to make an assay of any sample sent.

As an Appendix will be found a list of those assay results which appear to be of general interest. The whole of the quantitative determinations have been made in the laboratory at Clyde, under the direction of Mr. Mingaye.

#### *Petrological Work.*

While a large number of specimens of country rock, and a great many microscope sections—prepared by Mr. Murton—were examined and reported on, there has been little opportunity for connected work. As having a possible bearing upon the occurrence of telluride of gold an examination in detail was made of the country rock of the Kalgoorlie Gold-field, and the results incorporated in a paper published in the "Records" of this survey (vol. vi, pt. i). I have also had the pleasure of co-operating with my colleague, Mr. Watt, in a general description of the rocks collected by him from the Wyalong Gold-field.

The Petrological Microscope, obtained by exchange with Professor Ward, for a portion of the Mungindi meteorite, arrived early in the year.

The following collections were reported on:—

Rock underlying the subsoil at the Moonbi Tobacco Farm; for the Agricultural Branch.

Country rocks from the "All Nations" Mine, Drake; for the Manager.

Country rocks from the "Post Office" Mine, Stuart Town; for the Manager.

A rock from Coolgardie for Mr. Watkin.

Country rocks from Cooma, collected by Mr. Geological-Surveyor Carne.

Rocks from the Northern Districts, collected by yourself.

Country rocks from Blayney, collected by Mr. Geological-Surveyor Carne.

Country rocks from the Kimo Mine, Gundagai, collected by Mr. Geological-Surveyor Carne.

Rock from the Toorale Bore, for the Superintendent, Public Watering Places.

Rock from Seal Rocks, collected by Mr. Geological-Surveyor Carne.

Rocks from Hill End, collected by yourself.

Country rocks from the Prince of Wales Mine, Gundagai, collected by yourself.

Of these the two first will be found in Appendices 25 and 26.

#### *The Museum.*

The re-registration of the mineral and rock collections is now complete, but little progress has been possible in the work of rendering them of more definite educational value, as outlined in my report of last year. Something has, however, been done in the way of substituting printed for written labels in some of the large show cases. Much remains to be done before I can regard the museum as being at all up to modern requirements.

A definite start has now been made in the collection of mining and geological photographs, from which I am expecting much good to result. The scheme is as follows:—

1. To accumulate and index for ready reference as many photographs as can possibly be obtained.
2. To select duplicates of these for mounting in an album for public use.
3. To frame for exhibition on the walls enlargements of photographs having special educational value.

In pursuance of this plan three enlargements illustrating the remarkable geological features at Bondi are now ready.

Twenty-two collections have been prepared during the year, a duty that has very largely fallen to Mr. Morrison. No effort is spared to render these of real educational value, more especially in the case of those for Public Schools. We are severely handicapped by the lack of suitable duplicate material, and it is quite a usual thing for some common rock or mineral to be omitted altogether. We are dependent entirely on casual aid.

The arrangements for holiday opening have worked satisfactorily: large numbers of country visitors attending. Some important additions have been made to the collections during the year. Of these may be instanced:—

Specimens illustrating the occurrence of ores of nickel and of chromium in New Caledonia presented by Mr. F. D. Power.

Tellurides of gold from Kalgoorlie and Cripple Creek, presented respectively by the Confederated Gold-mines Association and Mr. A. H. Haie.

New South Wales marbles, presented by the Colonial Architect.

Lode specimens from Saxony, sent as an exchange by the Freiberg School of Mines.

Pyrrargyrite and other valuable specimens from the Broken Hill Consols Mine, presented by Mr. G. Smith.

Three typical collections of telluride of gold specimens, prepared at the museum, and accompanied by descriptive labels, are now circulating through the mining districts, where they are exhibited at the Warden's Office. A leaflet dealing with telluride ores has been prepared for free distribution.

I have pleasure in specially acknowledging the assistance I have received from my colleague, Mr. J. E. Carne.

*Staff.*



## Staff.

Mr. Harper's assistance was available during the early part of the year only. Mr. Morrison has, as heretofore, rendered the most efficient help, and I sincerely trust that he may shortly receive the recognition—whether in promotion or in opportunities of gaining further experience in geological work—his services so well merit. Mr. Dobson was away on sick leave for four months, during part of which time I had the assistance of Mr. Ferris. The appointment of G. Baker as boy-attendant at the museum has been satisfactory. He is now competent to direct visitors to particular show cases, and has increased his usefulness by attending evening classes in geology and mineralogy. He writes a good hand, which, at times, I have been glad to avail myself of. The two watchmen, Mr. T. Lyons and Mr. J. Kennerk, share the remainder of the twenty-four hours between them. Mr. Murton has been able to very largely increase the output of rock-slices by using a hand-lathe, armed with diamond splint, instead of the emery-wheel formerly in use. It had been hoped that a quantity of rough marble from Fernbrook and other new localities might have been available for the lapidary, Mr. Gilding, to work up, but efforts to obtain the material were entirely unsuccessful.

As appendices will be found the following:—

Report on rocks from the All Nations Mine, Drake.

” ” Moonbi Tobacco Farm.

List of collections prepared at the Museum.

” ” donations received.

Selected results of the assays made (at the Laboratory at Clyde) during the year.

I have, &c.,

GEORGE W. CARD,

Curator and Mineralogist.

The Government Geologist.

## APPENDIX 25.

Report on some rock specimens from the All Nations Mine, Drake.

WITHOUT exception they all proved to be felsitic in character—both matrix and “pebbles.” The latter are generally irregular in form, sometimes with faceted faces. When rounded they never show a smooth surface, but are always rough. One “pebble” is distinctly sheared, and other indications of movement may be seen on the flattened surfaces. Under the microscope the matrix is seen to be in a condition of extreme brecciation, and to be much altered by the introduction of calcareous and siliceous material. The “pebbles” do not show brecciation and alteration to anything like the same extent, and the junction between them and the matrix is (sometimes, at any rate) quite distinct. The green colouration seems to be confined to the highly brecciated portions, the pebbles, and also occasionally a kernel in the matrix, being pink. It would, therefore, seem probable that the pebbly structure is secondary, arising very probably from the cataclastic action that produced the brecciation. The phenomenon may be regarded as being closely allied to that exhibited by the “Crush-conglomerates” of the Isle of Man, Wisconsin, and elsewhere.

The Government Geologist.

GEORGE W. CARD.

## APPENDIX 26.

Report on a rock from the Moonbi Tobacco Farm.

OBTAINED by Mr. S. Lamb from a depth of 40 feet in a well.

This rock is entirely crystalline. In large parts it is so friable as to readily break up when rubbed in the hands or placed in water; other portions, however, are firmly coherent. This physical difference is due to the varying proportions of two of the constituents—mica and hornblende.

*Mineralogical Constitution*:—The minerals present are—

Quartz.

Felspar—orthoclase, and a variety of plagioclase.

Biotite.

Hornblende.

Sphene.

Apatite.

These minerals are not uniformly distributed, and it is to this that the varying appearance and physical characters of the rock is due. The readily disintegrated portions contain more biotite and felspar and less hornblende; these are lighter in colour, and generally resemble a normal granite. The mica occurs in distinct crystals, of small size but considerable thickness. It is the perfect cleavage of this mica that causes the disintegration of the rock. The denser masses, on the other hand, are dull green in colour, and contain abundance of hornblende with but little mica. Little red-brown crystals of sphene, up to  $\frac{1}{8}$  of an inch in longest diameter, may be seen plentifully scattered throughout the rock. Apatite occurs, as it usually does in granite rocks, in small quantity as microscopic crystals included in the hornblende more particularly.

It will very probably be found to be the case that the patches in which hornblende predominates are generally distributed through the rock, in which case the general chemical composition of the soil would not vary very much. On the other hand, the soil in a district where there was a preponderance of hornblende would be richer in iron, magnesia, and phosphorus than elsewhere.

*Chemical Composition*:—The composition of the minerals present is as follows:—

Quartz	...	...	silica.
Felspar	...	...	silicate of alumina, potash, soda, lime.
Biotite	...	...	silicate of magnesia, iron, alumina, potash.
Hornblende	...	...	silicate of magnesia, iron, alumina, lime.
Sphene	...	...	silicate and titanate of lime.
Apatite	...	...	phosphate of lime.

The soil resulting from the decomposition of this rock might be expected to contain the above elements. The existence of a considerable quantity of titanium is not usual. It is here present in the form of sphene, a fairly stable mineral, but there seems to be no reason apparent why it should not undergo decomposition in the soil. The quantity of phosphorus present will be very minute. Gulgong and Kempsey may be mentioned as districts (among others) where allied rocks containing sphene occur.

For practical purposes the best name for this Moonbi rock would be—*sphene-hornblende-granite*.

The Government Geologist.

GEORGE W. CARD.

APPENDIX 27.

## APPENDIX 27.

Institutions and individuals to whom collections of minerals have been sent during the year, comprising 4,000 specimens.

Barker College, Hornsby.  
 Boulton, J. W., Sydney.  
 Braidwood, Literary Institute.  
 Canowindra, Agriculture and Mining Institute.  
 Cootamundra, School of Arts.  
 Drake, School of Arts.  
 Eden, R. J., Erskineville.  
 Finselbach, Dr., Lismore.  
 \*Geological Survey Museum, South African Republic, Pretoria.  
 Goulburn South, Superior Public School.  
 Granville North, Public School.  
 Greater Britain Exhibition (not completed).  
 Hawkesbury, Agricultural College.  
 \*Howchin, W. (F.G.S.), Adelaide.  
 Millthorpe, School of Arts.  
 \*Morton, Alex., The Museum, Tasmania.  
 \*Parkins, A. J., Elsmore.  
 \*Smith, G., Consols Mine, Broken Hill.  
 St. John's Parochial School, Darlinghurst.  
 Sydney, School of Arts.  
 Sydney University, Geological Department.  
 Under Secretary for Mines and Agriculture, Sydney.

\* Those marked with an asterisk were exchange collections.

## APPENDIX 28.

## DONATIONS to the Mining and Geological Museum.

Donor.	Donation.
Andrews, E. ....	Quartz crystals, stalactitic limonite.
Bensusan, A. J. ....	Pyritous ore, showing bismuth sulphide, structure specimens, auriferous ore.
Blackwood, J. ....	Fibrous gypsum.
Blakemore, G. H. ....	Tetradymite, with free gold in quartz.
Boswell, A. ....	Auriferous pyritous quartz, conglomerate, granite, pyritous quartz showing fahlerz.
Bottrell, J. ....	Quartz-felsite.
Bourchier, J. ....	Copper ore.
Byron, E. ....	Black oxide of manganese.
Copeland, Hon. H. ....	Mineral containing strontium.
Cotton, W. F. ....	Copper ore.
Dobson, J. E. ....	Erratics, calcite in olivine basalt, copper ore, auriferous ores, specimen illustrating weathering, chrome-bearing rock, iron ore, &c.
Donovan, J. ....	Tripolite.
Duncan, J. ....	Copper ore.
Egan and Halloran ....	Gold, stream tin.
Franks and Yates, Messrs. ....	Bismuth ore.
General Manager, Dapto Smelting Works.	Ore and concentrates.
Godfrey, J. R. ....	Tinstone.
Grace, — ....	Calaverite and other tellurides.
Gumley, E. ....	Tourmaline crystals.
Hale, A. H. ....	Auriferous ores, including tellurides, free-gold specimens, oxidized telluride ores, stephanite, native silver.
Hall, Edgar ....	Rock specimens, gypsum, calcite, &c., auriferous ores, structure specimens.
Harper, L. F. ....	Gypsum, rhyolite, showing an included fragment.
Hedley, C. ....	Igneous rocks.
Howchin, W. (F.G.S.) ....	A large collection of mineral rocks, &c.
Huntley, T. S. ....	Galena.
Inspector of Collieries, Newcastle..	Samples of coal.
Jaquet, J. B. (A.R.S.M.) ....	Asbestos.
Knibbs and Grimshaw, Messrs. ....	Fulgurites.
Lee, Hon. C. A. (M.P.) ....	Zinc-spinal.
Love, Rev. G. ....	Contorted slate.
Martin, C. ....	Stalactitic oxide of iron.
McClung, J. C. (per Warden, Yass)	Auriferous ferruginous aggregation of garnet crystals.
McDonald, J. ....	Block of siliceous pyritous ore.
McGlew, C. S. ....	Wolfram, wolfram with tinstone.
Meldrum, J. ....	Stream tin ore, gem sand.
Merrivale, G. ....	Stannine.
Miller, H. E. A. ....	Chlorite schist, showing pellicles of red oxide of copper (chalcotrichite visible in places).
Miller, R. ....	Slate, showing faint gold and chloro-bromide of silver.
Morton, Alex. ....	Axinite, datolite, spherulitic felsite, a collection of volcanic bombs.
Moulden, J. C. ....	Cordierite granulite.
Parkins, J. W. ....	Tachylyte.
Pitt, J. ....	Epidote with felspar.
Plumb, — ....	Auriferous copper pyrites.
Plumb, J. ....	„ „ pyritous ore.
Poole, A. ....	Resin, claterite.
Power, F. D. ....	A collection of 43 specimens illustrating the occurrence of chromium and nickel at New Caledonia, lode tin ore, black oxide of manganese, structure specimens, various rock specimens.
Porter, D. ....	Tourmaline, actinolite, stilbite, and other specimens.
Preston, A. O. ....	Precious opal.

Donor	Donation
Rantzow, L V School of Mines, Freiberg (per Dr Beck)	Silver ore, auriferous ores A large collection of minerals, structure specimens, and rocks
Sellers, H E O. Smith, Geo	Shale showing slickenside and faulting Copper ores, magnetite crystals, pyrrargyrite, native antimony, structure specimens, dyscrasite in calcite with chalybite, smaltine, rare silver minerals, &c
Slattery, E	Copper ore
Tickett, S H	Ironstone nodules and stalactites, kerosene shale, fossils, &c.
Turner, Basil	Sulphate of iron and alumina on coal
Walton, J R.	Manganese ore
Warden, Yass	Pyromorphite with galena
Watkins, A O	Tetradymite in quartz.
Whitehouse, G	Auriferous calcite
Whittell, H R	Gold ores
Wiburd, J. C.	Rock specimens

## APPENDIX 29.

## NOTEWORTHY ASSAY RESULTS.

The whole of these assays and analyses were made in the Assaying Laboratory of the Government Metallurgical Works at Clyde.—

*Gold.*

	Per ton	Per ton
1443. Back Creek—Iron stained glassy quartz with a little galena and coating of silvery mica	Gold, 4½ oz	per ton
1672 „ „ Ferruginous quartz in mica schist	„ 9 „	8 dwt
2353 „ „ „	„ 2 „	Silver, 177 oz
764 Bald Hills, Forbes District—Ferruginous quartz with clay slate	„ 2½ „	„
547 Barmedman—Pyrites and quartz	„ 34½ „	„ 16 „
2451 Blakney—Jerrawa, White quartz	„ 3½ „	„
840 Bombala—Somewhat ferruginous and cellular siliceous material	„ 1½ „	„
2299 Braidwood, Big Badger—Pyritous quartz in slate	„ 3 „	„
3757 „ „ Stony Creek—Ferruginous quartz	„ 4½ „	„
4049 Bredbo—Cellular white quartz	„ 1 „	„
614. Brimbramalla—Quartz banded with carbonaceous material containing specks of pyrites—iron and arsenical	„ 17 „	„
1677 Brimbramalla, Park Hill—White quartz with a little slate and a few specks of pyrites	„ 20 „	„
3541 Bucca Creek—Iron stained quartz	„ 46½ „	„
1656 Bulladelah, “Queen of the Myall” claim, Paddy’s Creek—Pyritous quartz with carbonaceous bands	„ 18½ „	„
2445 Bunnamagoo, “Rising Star”—Calcite with veins of talc	„ 13½ „	„
256 Burragate—Quartz with finely disseminated sulphides	„ 2½ „	Silver,
3849 Burragorang—Pyritous quartz	„ 2 „	8 dwt
1956 Burrowa—Slate containing quartz	„ 4 „	„
1955 „ „ Slightly copper stained slate containing quartz	„ 8½ „	„
3052 Captain’s Flat—Iron stained quartz	„ 8½ „	„
4120 „ „ Ironstone	„ 11 dwt	„
2945 Carcoar (near)—Clay slate	„ 1½ oz	„
1372 Carlsruhe, East Lynne—Quartz, &c, with finely disseminated pyrites—iron and arsenical	„ 3½ „	„
1373 Carlsruhe—Ferruginous quartz	„ 1 „	„
1802 Cobar (near)—Ironstone with weathered slate	„ 14 „	„
Note—This sample contained metallic copper	Free gold was obtained on panning off some of the powdered material	
3197 Cobar District (Crow’s Lease)—Iron stained quartz	Gold, 11½ oz	„
3701 „ „ Cobar United Claim—Iron stained quartz	„ 5½ „	„
3803 „ „ „ „ Ferruginous quartz in slate	„ 7½ „	„
3804 „ „ „ „ „	„ 4½ „	„
401 Coolongolook—Quartz with a little pyritous carbonaceous material	„ 5½ „	„
1358 „ „ “Bulbec quartz” banded with specks of pyrites	„ 5 „	„
305 „ „ Pyritous quartz with partings of carbonaceous material	„ 7½ „	„
1144 Coolac, Mungay—Iron stained quartz	„ 4½ „	„
323, Cooma, Bushy Hill—Iron and copper pyrites, oxidised to some extent	„ 18 dwt.	„
324 „ „ Slaty rock, heavily charged with pyrites	„ 9½ oz.	„
534 „ „ Iron—and copper stained siliceous felspathic stone	„ 2 „	„
536 „ „ (No 1 North)—Schistose rock, heavily charged with pyrites, and siliceous pyrites ore	„ 4½ „	„
1344 Cooma, Bushy Hill—Pyrites and ironstone, with quartz	„ 22 „	„
2609 „ „ (No 1 North)—Siliceous pyritous slate	„ 23 „	„
3548 „ „ „ „ Loose pieces of siliceous slaty rock, with iron pyrites disseminated through it	„ 12 „	„
3809 Cooma, Bushy Hill—Gossan	„ 2 „	8 dwt
4164 „ „ Bobundia—Gossan	„ „	11 „
2841 „ „ Jenny Bros Creek—Ironstone gossan	„ 1 „	8 „
1469 Copeland (near Boranear)—Massive arsenical pyrites, with quartz	„ 457 „	Silver, 38 oz
4188 Dandaloo (12 miles from), Ferruginous copper stained quartz with a little copper pyrites	„ 11 dwt	„
2824 Drake, Violet Creek, Johnson’s Reef—Fine grained galena with quartz	„ 6½ o	„
2303 Eden (35 miles west)—Ferruginous quartz	„ 6½ „	„
192 Florida—Ferruginous quartz with black oxide of manganese	„ 3½ „	„
21. Forest Reefs—Fluible quartz with much iron pyrites	{ Ore Gold, 4 oz 3 dwt, silver, 2 oz, concentrates, gold, 7 oz 19 dwt, silver, 3 oz per ton	
3542 Frogmore—Ferruginous quartz in weathered slate	Gold, 14½ oz	„
3187 Giminderra (8 miles north east of)—Ochreous slate	„ 4½ „	„
871 Glenariff—Ferruginous quartz	„ 2 „	„
2277 Gundagai (5 miles north of)—Quartz with ochreous material	„ 16½ „	„
3117 „ „ Anderson’s Reef—Ferruginous quartz with galena and pyrites	„ 2 „	„

	Per ton	Per ton
3660 Hope's Creek, parish Adderley—White quartz with a little slate	Gold, 4½ oz.	
3479 Hope's Creek—Ferruginous quartz	" 2 "	
716 Kammbla Valley—Highly pyritous quartz, crystallised in part, with a little galena, copper pyrites, &c	" 1 "	Silver, 9 oz.
717 Kammbla Valley—Highly pyritous quartz, crystallised in parts, with a little galena, copper pyrites, &c	" 1¼ "	" 57 "
971 Kiandra—Friable iron pyrites	" 5½ "	
2652 " Pyrites with quartz	" 7 "	
3041 " Pyrites quartz	" 19 "	
3484 " Greenish quartz with a little iron and arsenical pyrites	" 1¼ "	
4153 Kydra—Iron pyrites	" 6¼ "	Silver, 19 oz.
4154 " White quartz with pyrites	" 6 "	
4155 " Ferruginous quartz	" 4 "	
2052 Lewis Ponds (Deadhorse Gully)—Ferruginous pyritous quartz	" 7½ "	
2053 " " " " " with galena	" 7¼ "	
2054 " " " " " " "	" 2 "	
2923 " Ferruginous pyritous quartz	" 4 "	
3675 " (Deadhorse Gully)—Banded quartz with galena, iron, copper, and arsenical pyrites	" 1¼ "	
4209 Lewis Ponds (Deadhorse Gully)—Pyritous quartz	" 7½ "	
939 Dead horse Gully, near Lewis Ponds—Quartz pyritous in part	" 5 "	
471 Lionsville, Garibaldi Reef—Calcite, quartz, &c, with antimonite, and specks of pyrites	" 288 "	Silver, 42 oz
1613. Little River (McDonald's Reef)—Quartz, crystallised in part, with carbonaceous material	" 3½ "	
3959 Maikdale—Pyritous glassy quartz	" 13½ "	
325 Middle Flat, Cooma, "Prospectors' Claim"—Quartz with blende, galena, and copper pyrites	" 2¼ "	
1329 Mudgee—Ferruginous siliceous material	" 1 "	
3308 Mulloon—Pyritous quartz	" 1½ "	
3733 Moonan Brook—Milky white quartz, with clayey partings, slightly pyritous	" 2½ "	
2313 Muiya Silver Mine—Massive arsenical pyrites with galena	" 3 "	
3391 " " Arsenical pyrites with a little quartz	" 4 "	
3402. " " "Donkey Hill"—Quartz, in part ferruginous and cellular, with arsenical pyrites	" 1 "	8 dwt
407 Mount Drysdale (Tindary Run)—Iron stained quartz	" 3¼ "	
609 Murrumbateman—Ferruginous aggregation of garnet crystals	" 3¼ "	
1064 Nana Glen—Iron stained quartz	" 11 "	
802 " Siliceous stone	" 8½ "	
3667 Narriah, Stanley's Mine—massive iron pyrites	" 2¼ "	
4340 Nimitybelle—Friable iron pyrites with quartz	" 2¼ "	Silver, 32 oz
73 Nymagee (west of)—Quartz and limonite	" 3 "	
4343 Oberon—Glassy quartz with a little pyrites	" 7½ "	
1364 Orange (7 miles from)—Copper pyrites, quartz, and magnetite	" 2½ "	
2776 Palmer's Oakley, Turon River—Calcite traversing an andesitic rock	" 1¼ "	
537 Pambula, parish Yowaka, G L 37—Felsite, somewhat altered	" 35½ "	
4052 Parish Callaghan, county Beresford—Siliceous sulphides of lead, iron, and zinc	" 1½ "	
3438 Parish Waddbilliga—Ferruginous quartz	" 3 "	
1495 Peel (5 miles from)—Quartz with a few specks of pyrites	" 20½ "	
2637 Port Macquarie (16 miles west)—Glassy quartz with iron and copper pyrites, &c	" 1 "	
944 Quartzville (Batlow)—Glassy quartz containing iron and copper pyrites	" 2 "	
2008 " Glassy quartz	" 3 "	
1765. " (Paddy's River)—Glassy quartz	" 1¼ "	
3951 Queanbeyan (near)—Ochreous slate	" 5 "	
2414 Razorback—Fine grained antimonite	" 3½ "	
1375 Rocky Hall, Jingera Plains—Ferruginous quartz	" 1 "	
2247 Rocky River, Glen Elgin—Pyritous quartz	" 3½ "	
2982 Slattery's Creek—Ferruginous weathered rock with iron and copper pyrites	" 2½ "	
3293 Slippery Creek—Arsenical pyrites with a ferruginous crust, and ironstone	" 2 "	
3294 " " Quartz with arsenical pyrites	" 2¼ "	
3295 " " Arsenical pyrites with quartz and ferruginous micaceous material	" 2½ "	
2787 Soiala—Pyritous quartz felsite	" 19½ dwt	
2618 Solferino District—Flinty rock with specks of metallic sulphides	" 6½ oz	
2908 Snowball (near)—Ferruginous cellular quartz	" 1 "	
2909 " " Pyritous quartz and slate	" 7½ "	
1648 Temora, Fiddler's Hill, Springdale—Pyritous quartz and slate	" 2¼ "	
1649. " " " " " " "	" 3½ "	
1883 Tindelay Station (near)—Siliceous slate	" 19½ dwt.	
2632 Upper Paddy's River— Ferruginous pyritous lode stuff	" 3 oz	
4173 Wantnool—Quartz with decomposed material	" 8 dwt	
4174 " Quartz with mica and iron pyrites	" 5 oz	
4175 " Iron stained quartz	" 4½ "	
4104 Warrumburca—Ironstone gossan	" 1½ "	
4199 Windmadale—A loose sample of quartz and slate	" 1¼ "	
1102 Wyndham—Siliceous sulphide ore	" 2¼ "	
1193 " Quartz with galena and copper pyrites	" 2½ "	
3115, " (3 miles south)—Quartz with iron and copper pyrites, galena, &c	" 1 "	Silver, 26 oz
2777 Yalgoggin, "True Blue" Claim—Pyrites and ironstone, with chlorite and quartz	" 16 dwt	
1166 Yass, "Polar Star" Reef—Quartz with carbonaceous material	" 7½ oz	
1390 " Gooda Creek—Copper pyrites with a little copper carbonate and some decomposed granite	" 11½ "	

## Silver

	Per ton	Per ton
1903 Armidale, Gostwyck—Quartz with pyrargyrite and a few specks of pyrites	Silver, 620 oz	
796 " Tat's Gully—Calcite with quartz, arsenical, and iron pyrites, ruby silver ore, &c	" 666 "	Gold, 3 oz
756 Armidale District—Dark coloured quartz showing ruby silver ore	" 244 "	
1752 " (near Metz)—Quartz with an antimony mineral like kermesite, and perhaps pyrargyrite	" 182 "	
3153 Ashford—Mispickel	" 33 "	
2303 Back Creek—Ferruginous quartz	" 177 "	" 2 "
1757 Braidwood, Rigby's Reef—Iron pyrites and fahleiz with a little quartz	" 69 "	
26 Bungonia (near)—Earthy pyromorphite	" 36 "	

	Per ton	Pe ton.
2993. Burragorang, Upper Basin Creek—Quartz with cerussite and fine grained galena	Silver, 26	07
625 " Bindook—Massive cerussite	" 48	" Lead, 36½ %
4216 " Massive cerussite with quartz and some galena	" 103	" " 39 %
3390 Burragorang—Small sample consisting principally of scoriaceous quartz	Silver, 170	"
3772 " Webb's Mine—Copper gossan	" 1,908	"
3775 " Bartlett's Mine—Ferruginous quartz with galena	" 85	"
1192 " 'The Peaks'—Quartz with galena, cerussite, &c	" 534	"
924 " " —Ferruginous copper stained quartz with carbonate of lead	" 538	" Lead, 23 %
3669 Burragorang "The Peaks"—Galena ore	" 718	" " 36 "
2955. " " South Mine—Galena with some quartz	" 155	"
3774 " Webb's Mine—Crystallised galena	" 93	"
3773 " " Fine grained galena	" 388	"
4293. " "The Peaks—Quartz with galena, iron pyrites and some copper pyrites	" 176	" Gold, 7½ dwt
4368 Burragorang, The Peaks—White quartz with slate	" 67	"
4230 " Ferruginous carbonate of lead ore	" 31	" Lead, 41 %
3791 " Webb's Mine—Ferruginous copper stained cerussite	" 2,362	"
3789. " " Fine grained galena	" 220	"
684 Castlerag, Dark coloured quartz with a little copper pyrites and galena	" 229	"
2272 Cooma—Carbonate of lead ore	" 28	" Lead, 42 %
2271 " " " "	" 34	" " 40 %
3523 Cullen's Creek—Arsenical pyrites with quartz	" 38	"
2831 " " Pyrites and quartz	" 55	"
3014 " " Ferruginous pyritous quartz	" 61	"
2307. " " Quartz stained with carbonates of copper, and containing a little iron and copper pyrites	" 47	"
2374 Cullen's Creek—Copper ore, largely copper pyrites	" 37	" Copper, 19 %
2830. " " Ferruginous carbonate of copper ore	" 46	" " 12 %
2832 " " Pyritous siliceous ore	" 86	"
4366 " " Lead gossan	" 322	" Gold, 4 dwt 8 gr
4367 " " Fibrous galena with some pyrites	" 141	" " 6½ dwt.
1628 Deepwater—Jamesonite with galena	" 41	" Lead, 41 %
2587 " District—Cubical galena	" 76	"
2879 " (9 miles from)—Copper pyrites with carbonates	" 58	" Copper, 19½ %
3596 " —Ironstone with fine scales of mica	" 85	"
2824 Drake, "Johnson Reef," Violet Creek—Fine grained galena	" 342	" Gold, 16½ oz.
4309 Mahgalore Copper Mine (12 miles east of Melrose Station)—Ironstone	" 32	"
222 Murrurundi—"Waverley Mine"—Quartz with fine grained galena	" 101	" Lead, 32 %
656 " " Somewhat earthy galena with quartz, &c, slightly copper stained	" 137	" " 39 %
1156 Parish Chandler, county Clarke—White quartz with numerous small crystals of arsenical pyrites, &c	" 113	"
1843 Parish Chandler, county Clarke—Quartz with arsenical and iron pyrites	" 133	"
2555 Parish Chandler, county Clarke—Crystallised mispickel in quartz	" 191	"
4149 Queanbeyan, "The Valley"—Ferruginous quartz with a little galena	" 65	"
4151 Queanbeyan, "The Valley"—Iron stained slightly pyritous quartz	" 47	"
541. Rockvale, parish Avondale—Quartz containing crystals of sulphide and oxide of antimony and siliceous breccia	" 88	"
1818 Rockley, Back Creek—Ferruginous quartz	" 271	"
	NOTE—The silver in this sample appeared to be combined with antimony.	
357 Tait's Gully, near Armidale—Sulphide ore	" 177	"
943 " Dark quartz with blende, and iron and copper pyrites	" 87	" Gold, 8¾ dwt.
2612. " Sulphide ore, fine grained galena and blende	" 117	" Gold, 6½ dwt
2950 Tingha (12 miles from)—Cubical galena in a quartz mica rock	" 56	"
2936 Uralla—Quartz with ruby silver ore	" 322	"
	" 27	"
260 Wallah Wallah—Galena with carbonate of copper	{ Lead, 21 %	
	{ Copper, 7 %	
422. Wallah Wallah Silver Mine—Ferruginous lead ore	Silver, 27	07 Lead, 25 %
1790 Whipstick—Granite with sulphide of bismuth	" 1,283	"
753 Wollomombi River—Quartz containing specks of ruby silver ore	" 106	"
138 Wyndham (3 miles from New Station)—Siliceous mixed sulphide ore	" 84	" Gold, 3 oz.

## Copper.

1261 Abercrombie—Very siliceous blue and green carbonate of copper	Metallic copper, 18½ per cent.
629. " Mountain—Ferruginous schistose rock charged with copper carbonates, and a piece of copper pyrites	" 18 "
1131 Bathurst—Gypsum with copper pyrites, &c	" 21½ "
2090. " District—Siliceous copper ore, copper pyrites with carbonate	" 21½ "
2089. " " Copper gossan	" 25½ "
662 Back Creek—Siliceous copper ore	{ " 15 "
	{ Silver, 15 oz per ton.
2228. Bingara (Bobby Whitlow Lode)—Large block of copper gossan	{ Metallic copper, 33½ per cent.
	{ Gold, 4¼ dwt.
2229. " " Massive iron-, with some copper pyrites and a piece of carbonate of copper ore	Metallic copper, 17¾ per cent.
4278 Bingera—Copper glance green carbonate of copper, &c	copper, 52 "
1059. Bobadah (3 miles from Overflow Silver Mine)—Ferruginous siliceous copper gossan	Metallic copper, 12 "
4327. Borenore (near), parish Boree—Platy hematite with copper pyrites and carbonate of copper	" 9 "
	{ Metallic copper, 8 "
	{ " zinc, 16 per cent.
4302 Burraga South—Copper pyrites with zinc blende	{ Silver, 2½ oz per ton
	{ Metallic copper, 28 per cent
730. Cangri—Ferruginous siliceous copper pyrites ore	" 17½ "
729. " Ferruginous siliceous copper gossan	" "
2286. Carcoar, Cobb's Copper Lode, McKillop's Land—Copper gossan with iron and copper pyrites and country rock	" 11 "
2697. Carcoar, Stoke's Estate—Ferruginous copper pyrites ore	" 26 "
3199 " Lmk's Mine, Stoke's Estate—Copper pyrites	" 26½ "
3863. " District—Copper gossan with nests of crystallised malachite	" 20 "
750. Chandler River, "Sunnyside Gold and Silver Mine"—Carbonate and oxide of copper, copper pyrites, &c	" 22½ "

751. Chandler's River, "Sunnyside Mine"—Mixed sulphide ore . . . . .	{ Metallic copper, 14 per cent. Lead, 10 per cent. Zinc, 16 "
1982. Condobolin (42 miles north)—Quartz with green carbonate and red oxide of copper. . . . .	Metallic copper, 29 per cent.
748. Cooma—Ferruginous copper gossan with slate gangue . . . . .	" 19½ "
146. " Bushy Hill—Iron and copper pyrites with a little quartz . . . . .	" 23 "
1342. Cowra, Wallaroo—Copper gossan, slate and quartz . . . . .	" 20 "
876. " Blue and green carbonate of copper in claystone . . . . .	" 14 "
875. " Somewhat ferruginous copper and iron pyrites . . . . .	" 16 "
1303. Crow Mountain (near)—Ferruginous copper ore . . . . .	" 28 "
2374. Cullen's Creek, Rivertree—Copper ore, largely copper pyrites . . . . .	Metallic copper, 19 per cent. ; silver, 37 oz. per ton.
2830. " " Ferruginous carbonate of copper ore . . . . .	" " "
	Metallic copper, 11½ per cent. ; silver, 46 oz. per ton ; gold, 8½ dwt. per ton.
4188. Dandaloo (12 miles from)—Ferruginous copper-stained quartz with copper pyrites . . . . .	Metallic copper, 18 per cent.
3344. Deepwater—Quartz with blue carbonate of copper . . . . .	" 11½ "
2879. " (9 miles from)—Copper pyrites with carbonates . . . . .	Metallic copper, 19½ per cent. ; silver, 57 oz. per ton.
4187. Essington (16 miles from Rockley)—Ferruginous schist with copper pyrites and carbonates . . . . .	Metallic copper, 19 per cent.
3493. Essington—Copper pyrites with quartz . . . . .	" 20 "
2920. Eugowra, "Vychan Mine"—Ferruginous copper ore—green and blue carbonates, sulphides, &c. . . . .	" 28 "
202. Eugowra District—Siliceous copper-bearing ironstone . . . . .	Metallic copper, 38 per cent. ; silver, 21 oz. per ton.
4218. Frogmore—Cuprite and carbonate of copper in slate . . . . .	Metallic copper, 29 per cent.
4189. " Quartz with copper pyrites and some carbonates . . . . .	" 27½ "
1279. " (12 miles from)—Copper-bearing clay-slate . . . . .	" 22 "
3340. Gilgunnia, "May Day Claim"—Crystallised azurite, with carbonate of lead . . . . .	" " "
	Metallic copper, 7½ per cent. ; silver, 16 oz. per ton.
3678. " Blue and green carbonates of copper with a little cuprite (loose pieces) . . . . .	Metallic copper, 33 per cent. ; silver, 26 oz. per ton.
2518. Gundagai (5 miles south-east of)—Copper pyrites . . . . .	Metallic copper, 30½ per cent.
888. " (18 miles from), parish Walga—Copper pyrites and zinc blende . . . . .	" 9 "
1773. Guyra (10 miles from)—Massive copper pyrites . . . . .	" 24½ "
3833. Hampton, Bull's Creek—Carbonate of copper with quartz . . . . .	" 11½ "
2192. " Large sample of bornite with chlorite rock . . . . .	" 33½ "
1769. " Copper pyrites and bornite with chlorite and quartz . . . . .	" 34 "
2430. Quartz and chlorite rock containing copper pyrites and bornite . . . . .	" 15½ "
1087. Hastings River—Siliceous friable ironstone gossan . . . . .	" 11 "
136. Inverell—Copper pyrites with bornite and carbonate ore . . . . .	" 36 "
2718. Jenolan, Bull's Creek—Copper-stained limestone and quartz with a little bornite . . . . .	" 10 "
3832. Jaunta, near Shooter's Hill—Copper pyrites with quartz . . . . .	" 22 "
3831. " " Copper glance with copper-stained quartz . . . . .	" 33½ "
145. Kempfield—Ferruginous and siliceous copper ore—carbonates and copper pyrites . . . . .	" 23½ "
3373. Kooningbery Gap—Copper gossan . . . . .	" 34 "
3372. " Red oxide and green carbonate of copper . . . . .	" 40 "
697. Leadville, 9 miles from—Ferruginous copper ore . . . . .	" 32 "
986. Little River—Copper pyrites in chlorite schist . . . . .	" 8 "
2700. Lowther, Ganbenang Road—Copper gossan . . . . .	" 20 "
2838. Lowther (12 miles from Bowenfels)—A large mass of micaceous rock with red oxide and carbonate of copper . . . . .	" 23½ "
2806. Lucknow—Loose pieces of carbonate and other copper ore . . . . .	" 28 "
4310. Mahgalore Mine (12 miles east of Melrose Station)—Copper ore—sulphide . . . . .	" 44 "
4170. Melrose—Clayey material containing blue carbonate of copper . . . . .	" 16 "
2458. Melrose Station (3 miles south)—Copper ore—mainly grey sulphide . . . . .	" 23 "
4130. Molong, Copper Hill—Green carbonate of copper ore . . . . .	" 33 "
2623. Mootwingee Pastoral Holding (100 miles north-east of Broken Hill)—Blue carbonate of copper ore . . . . .	" 41 "
903. Mountain Run, Rockley—Ferruginous copper ore, carbonates and sulphide . . . . .	" " "
	Metallic copper, 22½ per cent. ; silver, 23 oz. per ton.
1408. Mount McDonald—Ferruginous blue and green carbonate of copper ore . . . . .	Metallic copper, 40 per cent.
1409. Mount Buffalo—Siliceous copper pyrites ore . . . . .	" 25 "
3655. Mulloon—Blue and green carbonate of copper in a felspathic matrix . . . . .	" 17 "
2426. Mulloon District—Massive copper pyrites with a little grey sulphide, &c. . . . .	" 20 "
558. " Quartz with green carbonate of copper . . . . .	" 20½ "
2087. Newbridge—Copper ore—carbonates, bornite and copper pyrites . . . . .	" 46 "
3200. Parkes—Copper gossan . . . . .	" 14 "
1155. Parish Chandler, county Clarke—Arsenical iron and copper pyrites . . . . .	" " "
	Metallic copper, 19½ per cent. ; silver, 28½ oz. per ton.
3407. Piallamore, parish of—Copper glance with a coating of carbonate . . . . .	Metallic copper, 52½ per cent.
2404. Peel River, "Fisher's Mine," Dungowan Creek—Copper ore, cuprite, carbonates of copper, &c. . . . .	" 34 "
2331. Rye Park (4 miles from)—Quartz with copper pyrites . . . . .	" 26½ "
3432. Rydal (near)—Copper pyrites . . . . .	" 16 "
2524. Snowy River (near)—Siliceous copper ore—copper pyrites . . . . .	" 24 "
616. Tamworth (16 miles from), parish Piallamore—Green carbonate of copper in ferruginous siliceous stone . . . . .	" 42 "
384. Tinda Tank—Siliceous blue carbonate of copper ore . . . . .	" 24½ "
4335. Tuglow—Siliceous copper ore, carbonate and pyrites . . . . .	" 18½ "
2678. Tumarumba, Upper Burra Creek—Copper pyrites with quartz . . . . .	" 25 "
1043. Tumut (10 miles south east)—Ironstone with green carbonate of copper . . . . .	" 13½ "
2744. Tumut, Red Hill—Copper pyrites . . . . .	" 11 "
4287. Tumut and Adelong (between)—Green and blue carbonates of copper . . . . .	" 54½ "
568. Wellington—Copper gossan . . . . .	" 24 "
2745. Wyangle, "Kiley's" 50 feet—Schistose rock containing red oxide and carbonate of copper, and magnetite . . . . .	" 12 "
1890. Yass, Gooda Creek—Copper pyrites ore with a little carbonate, &c. . . . .	" " "
	Metallic copper, 16 per cent. ; Gold, 11½ oz. per ton.
837. Yellow Mountain—Copper gossan . . . . .	Metallic copper, 30½ per cent.

## Iron.

1134. Blayney (3 miles south of)—Crushed iron ore, in part magnetic . . . . .	Metallic iron, 67 per cent.
3137. Bredalbane (near)—Ironstone . . . . .	" 61 "
1727. Bulli (Curry's)—Limonite . . . . .	" 53 "
1631. Carcoar (2 miles from) Coombug Park—Ironstone . . . . .	" 57 "
476. Cookmandoon—Gossany ironstone . . . . .	" 55 "
2960. Fish River Creek—Brown iron ore . . . . .	" 58 "



765. Forbes District, Bald Hills—Ironstone .....	Metallic iron, 66 per cent.
725. Gobondry—Hematite .....	" 61 "
2981. Goulburn—Large sample consisting of a number of pieces of concretionary oxide of iron .....	" 54 "
3212. Goulburn District—Ochreous yellow ironstone .....	" 49 "
1697. Goulburn (6 miles from)—Ironstone .....	" 49 "
1195. Goulburn, Kingsdale—Magnetite .....	" 67 "
2519. Helensburgh—Ironstone .....	" 32 "
4349. Orange (14 miles from)—Granular magnetic iron ore .....	" 53 "
544. Parish Three Brothers, county Bathurst—Brown iron ore .....	" 52 "
1848. Parish of South End, county Cumberland—Large sample of limonite .....	" 54 "
2187. Rye Park—Massive magnetic iron ore .....	" 69 "
219. Wingello—Limonite .....	" 49 "
1049. Woodstock (near)—Crushed brown iron ore .....	" 57 "

*Chrome.*

947. Uralla .....	Chromium sesquioxide, 52 per cent.
978. Armidale District—Chrome iron ore .....	" " 54 "
1852. Barraba District—	" " 43 "
1230. Bingara—Spring Creek—Chrome iron ore .....	" " 47 "
2585. Deepwater District—	" " 41 "
1521. Gundagai (14 miles east of)—	" " 48 "
1522. " Chrome iron ore .....	" " 47 "
2365. Parish Conawong, county Hawes .....	" " 51 "
1472. Warialda (12 miles south of)—chrome iron ore .....	" " 41 "

*Tungsten.*

647. Cobar (80 miles from Ereremeran)—Ferruginous wolfram ore with quartz gangue .....	Tungstic acid, 63 per cent.
590. " " quartz and wolfram .....	" 39½ "
2592. Deepwater District—Crushed sample .....	" 64½ "
608. Glen Innes (20 miles on Grafton Road)—Ferruginous quartz and wolfram .....	" 67 "

*Mercury.*

3449. Barraba—Crow Mountain—Quartz with a vein of cinnabar .....	Mercury, 3 per cent.
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*Zinc.*

2829. Drake—Zinc blende with quartz .....	Metallic zinc, 32 per cent.
3317. Yalwal (2 miles from)—Blende and calcite with a little pyrites .....	" 34½ "
3318. " Blende with pyrites and calcite .....	" 29 "
2720. " near—Small piece of blende with quartz and felsite .....	" 44 "

*Manganese.*

703. Cooma—Black oxide of manganese .....	Metallic manganese, 60 per cent.
2567. Euriovie (6 miles north-east of)—Black oxide of manganese .....	" 60 "
3506. Goulburn District—Black oxide of manganese .....	" 52 "
2891. Kelso—Siliceous manganese ore—probably silicate .....	" 40 "
3193. Murrumbateman—Oxide of manganese—part concretionary, part crystallised .....	" 59 "
2177. Newbridge (near)—Black oxide of manganese .....	" 61 "
1797. Parkes (near) " " .....	" 50 "
2929. Parish Willyama— " " .....	" 39 "
2928. " " Silicate and oxide of manganese .....	" 36 "
2953. Sofala—Siliceous manganese ore—silicate in part .....	" 42 "
2940. Sunny Corner—Daylight Creek—Black oxide of manganese .....	" 45 "
3150. Walcha—Black oxide of manganese .....	" 51 "
1283. Wattle Flat—Black oxide of manganese .....	" 36 "
4203. Woodstock (9 miles from)—Black oxide of manganese .....	" 41 "

*Cobalt.*

225. Carcoar (Creer's), parish Errol—Copper Gossan with some iron and copper pyrites and much country rock .....	Metallic cobalt, 2 per cent.
2411. Cookamidgera Station (4 miles south of)—Cobaltiferous black oxide of manganese .....	" " 2.63 "
929. Marulan—Gritty quartz with much cobaltiferous black oxide of manganese .....	" " 1.50 "
774. Port Macquarie—Cobalt—bearing manganese wad .....	" " 6.76 "
3018. Port Macquarie—Concentrated cobalt ore .....	" " 4.27 "

*Antimony.*

4352. Bowraville—White oxide of antimony .....	{ Metallic antimony, 61½ per cent. Gold, 2½ dwt. per ton.
2568. Bowraville—Antimonite .....	Metallic antimony, 64 per cent.
4103. Cangi—Antimonite .....	{ " 52¾ " Gold, 2 dwt. per ton.
1304. Tamworth and Crow Mountain (between)—Antimony ore—sulphide .....	Metallic antimony, 68 "

*Bismuth.*

2573. Emmaville (20 miles from)—Bismuth-bearing altered rock (? granite) with disseminated galena .....	Metallic bismuth, 32 per cent.
642. Nanima Reefs, county Murray—Oxidised bismuth ore with granite debris .....	" " 69 "

*Tin.*

265. Bogan Gate—Stream tin ore .....	Metallic tin, 73 per cent.
807. Manildra—Copper-stained rock .....	" " 9.25 "
2340. Parish Highland Home, county Gough—Lode tin ore—one piece with much quartz .....	" " 22.58 "
3078. Port Macquarie (35 miles from) Gundle tin mine—concentrated ore .....	" " 71.80 "

## Boghead Mineral.

	Locality.	Hygroscopic moisture.	Volatile hydro-carbons.	Fixed carbon.	Ash.	Sulphur.	Specific gravity.
2846	Ulan Creek, county Bligh.....	0·60	76·33	7·80	15·27	0·78	1·113
2962	Kanimbla Valley.....	0·90	56·95	17·40	24·75	0·52	1·293
2980	Mount Victoria Pass.....	1·00	59·07	17·18	22·75	0·68	1·202
3447	Rylstone.....	0·35	66·67	16·53	16·45	0·76	1·173
3600	Burraborang.....	0·10	88·81	5·34	5·55	0·41	1·021
3763	Ulladulla, 15 miles north-west of ..	0·25	45·61	11·77	42·37	.....	.....
383	Colo Vale Station.....	0·15	69·20	13·70	16·95	0·796	1·141
1721	Hartley.....	1·52	67·88	10·35	20·25	0·562	1·177
1949	Jervis Bay.....	0·24	69·52	15·36	14·88	0·466	1·105
1950	".....	0·37	70·38	13·02	16·23	0·453	1·139
2176	Near Inverell.....	3·01	46·38	23·07	27·54	.....	.....
2236	Mudgee District.....	1·01	48·35	28·53	22·11	.....	.....
2315	Katoomba District.....	0·70	62·95	18·00	18·35	0·59	1·179

## Coal.

	Locality.	Hydroscopic moisture.	Volatile hydro-carbons.	Fixed carbon.	Ash.	Sulphur.	Specific gravity.	Calorific power.	Notes.
2316	Jamberoo Mountains— Broger's Creek, No. 1 Seam.	1·15	25·45	53·00	20·40	...	.....	.....	Ash, light grey in colour, dense; coke—slightly swollen, fairly bright and firm.
2317	Jamberoo Mountains— Broger's Creek, No. 2 Tunnel "C."	4·51	21·50	50·52	23·47	...	.....	.....	Ash grey in colour, dense; coke—no coke formed; a loose powder left.
2318	Jamberoo Mountains— Broger's Creek, No. 2 Tunnel "B."	2·81	9·43	41·35	46·41	...	.....	.....	Ash grey in colour, very dense; coke—no coke formed; a loose powder left.
3053	Between Deepwater and Tenterfield.	0·40	28·40	63·65	7·55	2·95	1·329	13·3	Ash—reddish tinge, granular; coke—well swollen with cauliflower excrescences, firm, and fairly lustrous.
3287	Mount Pleasant, Illawarra.	0·57	16·23	57·49	25·66	..	.....	.....	Ash—greyish colour, granular; coke—well swollen, fairly firm and lustrous.
3393	Bellambi.....	0·32	23·98	62·68	13·02	0·43	1·380	12·9	Ash—light grey in colour, granular; coke—well swollen, fairly firm and lustrous.
3394	".....	0·65	23·30	63·40	12·65	0·416	1·393	12·9	Ash—light grey, granular; coke—well swollen, fairly lustrous and firm.
3412	Old Bulli.....	0·76	23·65	65·60	9·99	0·426	1·367	13·0	Ash—light grey in colour, granular; coke—well swollen, firm and lustrous.
3674	Clyde River.....	0·22	28·26	63·20	8·32	1·333	2·59	12·8	Ash—reddish tinge; coke—well swollen, firm, fairly lustrous.
1928	"Upper 2 feet," Stoke's Seam, Ashford.	0·91	17·18	69·08	12·83	0·590	1·391	12·43	Ash—reddish tinge, granular; coke—fairly well swollen, firm and lustrous.
1929	"Lower 2 feet," Stoke's Seam, Ashford.	1·28	11·44	33·10	54·18	...	.....	.....	No true coke formed; ash—greyish tinge, granular.
1948	Jervis Bay.....	1·00	36·04	55·25	7·71	0·906	1·293	13·75	Ash—reddish tinge, granular; coke—fairly well swollen, firm and lustrous.
2224	Tomago, South of Woodford (thick seam).	2·76	29·61	54·85	12·78	0·576	1·317	12·3	Ash—grey in colour, semi-granular; coke—not much swollen, fairly firm, dull lustre.
2225	Tomago, south of Woodford (thin seam).	2·38	24·14	43·02	30·46	0·466	1·156	.....	Ash—greyish colour, flocculent; coke—yielded a very poor quality of coke.
2315	Jamberoo Mountains—No. 7 seam, A Tunnel.	2·15	15·15	51·60	31·10	...	.....	.....	Ash—grey in colour, dense; coke—no coke formed; a loose powder left.



## 676. Cobaltiferous Mispickel—From Australian Broken Hill Consols' Mine :—

	I.	II.
Moisture at 100° C.....	0·06	.....
Metallic iron .....	17·44	17·52
" cobalt .....	7·12	7·30
" nickel .....	1·90	1·95
" copper .....	0·31	.....
" antimony .....	0·03	.....
" arsenic .....	68·94	68·76
" manganese .....	trace.	.....
Alumina .....	0·50	0·43
Lime .....	0·53	.....
Magnesia .....	0·22	.....
Sulphur .....	2·14	2·18
Carbonic acid .....	0·22	.....
Gangue (quartz) .....	0·73	0·76

100·14

Silver, 21 oz. 14 dwt. 10 gr. per ton.  
Gold, nil.

## 3395. Parish Towring—Apparently a bleached shale :—

Moisture at 100° C.....	·67
Combined water .....	2·97
Silica (SiO <sub>2</sub> ) .....	79·54
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	12·53
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1·26
Manganous oxide (MnO) .....	trace.
Lime (CaO) .....	·34
Magnesia (MgO) .....	·61
Potash (K <sub>2</sub> O) .....	1·82
Soda (Na <sub>2</sub> O) .....	·50
Phosphoric anhydride (P <sub>2</sub> O <sub>5</sub> ) .....	·02
Sulphuric anhydride (SO <sub>3</sub> ) .....	·04

100·30

Two small bricks of each, of clay alone, were made, and two of each with the addition of 50 per cent. of clean sand. The bricks were dried for some days, placed in a muffle furnace, and thoroughly burnt; then put in a luted crucible in the coke furnace, and submitted to a severe heat for some hours. The bricks after this treatment showed no signs of fusion having taken place, the sharp edges being retained. The material appears to be useful for the manufacture of a good refractory brick; the percentage of alkali is too high for a first-class article.

## 3396. Parish Towring—Kaolin :—

Moisture at 100° C.....	·60
Combined water .....	4·10
Silica (SiO <sub>2</sub> ) .....	75·08
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	15·17
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1·61
Manganous oxide (MnO) .....	trace.
Lime (CaO) .....	·35
Magnesia (MgO) .....	·10
Potash (K <sub>2</sub> O) .....	1·32
Soda (Na <sub>2</sub> O) .....	1·20
Phosphoric anhydride (P <sub>2</sub> O <sub>5</sub> ) .....	·03
Sulphuric anhydride (SO <sub>3</sub> ) .....	·06

99·62

Two small bricks of each, of clay alone, were made, and two of each with the addition of 50 per cent. of clean sand. The bricks were dried for some days, placed in a muffle furnace, and thoroughly burnt; then put into a luted crucible in the coke furnace, and submitted to a severe heat for some hours. The bricks after this treatment showed no signs of fusion having taken place, the sharp edges being retained. The material appears to be useful for the manufacture of a good refractory brick.

The percentage of alkali, however, is too high for a first-class article.

## 3397. Parish of Towring—Clay shale :—

Moisture at 100° C.....	·39
Combined water.....	2·49
Silica (SiO <sub>2</sub> ) .....	78·82
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	13·27
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1·53
Manganous oxide (MnO) .....	trace.
Lime (CaO) .....	·26
Magnesia (MgO) .....	·50
Potash (K <sub>2</sub> O) .....	2·93
Soda (Na <sub>2</sub> O) .....	·03
Phosphoric anhydride (P <sub>2</sub> O <sub>5</sub> ) .....	·06
Sulphuric anhydride (SO <sub>3</sub> ) .....	trace.

100·28

Two small bricks of each, of clay alone, were made, and two of each with the addition of 50 per cent. of clean sand. The bricks were dried for some days, placed in a muffle furnace, and thoroughly burnt, then put in a luted crucible in the coke furnace, and submitted to a severe heat for some hours. The bricks after this treatment showed no signs of fusion having taken place, the sharp edges being retained. The material appears to be useful for the manufacture of a good refractory brick.

The percentage of alkali, however, is too high for a first-class article.

## 3632. Six miles from Mount Hope—Drift material, with sub-angular quartz pebbles :—

## Analysis of Fine Clay.

## Quartz and Sand, 68·8 per cent.

Moisture at 100° C.....	·61
Combined water.....	7·33
Silica (SiO <sub>2</sub> ) .....	63·00
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	25·75
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1·24
Manganous oxide (MnO) .....	trace.
Lime (CaO) .....	·40
Magnesia (MgO) .....	trace.
Potash (K <sub>2</sub> O) .....	1·69
Soda (Na <sub>2</sub> O) .....	·14
Phosphoric anhydride (P <sub>2</sub> O <sub>5</sub> ) .....	trace.
Sulphuric anhydride (SO <sub>3</sub> ) .....	·10

100·26

## 3061. Cobar—White clay used by the Copper (Cobar) Company, for the manufacture of firebricks—it is first mixed with sandstone and quartz :—

Moisture at 100° C.....	1·75
Combined water.....	4·54
Silica (SiO <sub>2</sub> ) .....	65·82
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	20·74
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	1·45
Manganous oxide (MnO) .....	trace
Lime (CaO) .....	·10
Magnesia (MgO) .....	·97
Potash (K <sub>2</sub> O) .....	4·58
Soda (Na <sub>2</sub> O) .....	·07
Phosphoric anhydride (P <sub>2</sub> O <sub>5</sub> ) .....	minute trace
Sulphuric anhydride (SO <sub>3</sub> ) .....	·19

100·21

## 3057.—Fireclay from Waratah.

Moisture at 100° C.....	2·88
Combined water.....	6·86
Silica (SiO <sub>2</sub> ) .....	65·40
Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	19·01
Ferric oxide (Fe <sub>2</sub> O <sub>3</sub> ) .....	5·36
Ferrous oxide (FeO) .....	absent
Manganous oxide (MnO) .....	minute trace
Lime (CaO) .....	·05
Magnesia (MgO) .....	·07
Soda (Na <sub>2</sub> O) .....	·29
Potash (K <sub>2</sub> O) .....	·35
Phosphoric anhydride (P <sub>2</sub> O <sub>5</sub> ) .....	absent
Sulphuric anhydride (SO <sub>3</sub> ) .....	·13

100·40

## Annual Report of the Assistant Palæontologist and Librarian for the year 1898.

Sir, Geological Survey Branch, Department of Mines and Agriculture, 3 January, 1898.

I have the honor to submit to you the following summary of the palæontological work and work connected with the Departmental Library performed during the past year.

*Publications.*—Vol. V, Part 4, and Vol. VI, Part 1, of the "Records," have been published, and Vol. VI, Part 2, is now going through the press. The English translation of the late Professor De Koninck's "Fossiles Paléozoïques de la Nouvelle Galles du Sud," has been issued as "Palæontology, Memoir, No. 6." A memoir by Mr. W. D. Campbell, L.S., F.G.S., on "The Aboriginal Carvings of Port Jackson and Broken Bay," is also going through the press. During the year a new series—Mineral Resources, Nos. 1–4, have been issued, and a second edition of No. 2 has also been printed.

*Miscellaneous determinations.*

1. Collections of Permo-Carboniferous Fossils from the Maitland District, made and presented by Mr. J. E. Dobson:—
  - (a) From new road-cutting at Harper's Hill, near Lochinvar.—*Stenopora tasmaniensis*, Lonsdale; *Spirifera*, sp. indet., *S. Clarkei*, De Kon. (?); *Aviculopecten (Deltopecten) illawarrensis*, Morris (?); *Aviculopecten*, sp. indet.; *Merismopteria*, nov. sp. *M.*, sp. indet.; *Avicula intumescens*, De Kon; *Aphanais*, sp. indet.; *Modiola crassissima*, McCoy (this is a species of *Merismopteria*). *Eurydesma cordata*, Morris; *E. elliptica*, Dana; *E. globosa*, Dana; *Notomys*, sp. *Pachydomus antiquatus*, J. de C. Sby.; *P. lævis*, J. de C. Sby.; *P. ovalis*, McCoy; *Chænomya*, sp.; *C. Etheridgei*, De Kon., var. *Modiomorpha*, sp. nov.; *Platyschisma oculum*, J. de C. Sby.; *Ptycomphalina (Morrisiana)* (?); *Orthonychia altum*, Dana (?); *Conularia inornata*, Dana. As is the case with most large collections from the Lower Marines of Harper's Hill, there is abundance of new material, particularly as regards structural points. The most noteworthy specimens obtained by Mr. Dobson are those of *Eurydesma*, and the species classed under *Pachydomus*, several of which are well represented by both internal casts and perfect shells in all stages of growth. The genus *Eurydesma* is a particularly important one stratigraphically, as, as far as I am aware, only twice has it been recorded from Upper Marine rocks (Dana, Geology Wilkes' Explor. Exped., p. 700, and Morris, Strzelecki's Phys. Descr. N.S. Wales, 1845, p. 276, both from Illawarra). In our large collections there are no specimens from that district. Outside Australia, *Eurydesma* has been found in the Salt Range of the Himalaya only, associated with several species of well-known New South Wales fossils. Bivalves of the *Pterinea* group are also numerous, as well as forms belonging, as far as I can determine them at present, to new genera. It is extremely probable that the shell so common at Ravensfield, described by De Koninck as *Edmondia nobilissima*, and which occur only as casts, do not belong to that genus at all, but are more closely allied to some of the Lower Marine *Pachydomi*. Among the Gasteropods, *Platyschisma oculum* is the only one occurring in great abundance. Brachiopoda are almost entirely absent from this deposit, and the same condition obtains at Ravensfield.
  - (b) From railway cutting between Lochinvar and Allandale.—*Eurydesma cordata*, Morris; *E. globosa*, Dana; *Pachydomus*, several species; *Platyschisma oculum*, J. de C. Sby.
  - (c) From Rutherford—*Aviculopecten tenuicollis*, Dana; *Aviculopecten*, nov. sp.; *Edmondia nobilissima*, De Koninck; *Spirifera*, sp. indet.; *Goniatites (Agathiceras) micromphalus*, Morris; *Conularia inornata*, Dana.
  - (d) Road-cutting, Farley.—*Martiniopsis subradiata*, G. Sby.; *Spirifera duodecimcostata*, McCoy; *Productus fragilis*, Dana; *Pleurophorus*, *Mytilus Bigsbyi*, De Kon.; *Cardiomorpha gryphoides*, De Kon.; *Astartila*, *Platyschisma*.
  - (e) Railway cutting, Farley.—*Martiniopsis subradiata*, G. Sby.; *Cardinia (recta)*, Dana (?); *Aviculopecten*, *Edmondia* or *Pachydomus*, *Conularia*.
2. Indeterminable *Rhynchonella* from the Upper Silurian of Rock Flat, near Cooma, collected by Mr. J. E. Carne.
3. From Bungonia Caves, limestone collected by Mr. L. Guymmer.—*Favosites gothlandica*, var. *Goldfussi*, D'Orb; *Heliolites*, *Tryplasma*, *Cyathophyllum*, *Pentamerus Knightii*, Sby.
4. Carboniferous shells from Parish Eumer, County Darling, collected by Mr. J. E. Carne.—*Aviculopecten*, *Spirifera convoluta*, Phillips.
- (5.) Tertiary leaves collected by Mr. J. E. Carne at the 225-ft. level, Elsmore Deep Lead:—*Cinnamomum* (?); *Piper* cf. *Feistmanteli*, Ett.; *Fagus* cf. *Hookeri*, Ett.; *Artocarpidium Gregoryi*, Ett.
- (6.) From Little and Smith's Prospecting Site, Gilgai, 6 miles from Inverell on the Tingha-road, also collected by Mr. Carne:—*Podocarpus præcompressa*, Ett. (?); *Pseudopinus Wilkinsoni*, Ett. (very abundant); *Phyllocladus asplenioides*, Ett.; *Bambusites arthrostylinus*, Ett.;
- (7.) Carboniferous Fossils from the Paterson District, collected by Mr. J. E. Dobson:—
  - (a.) Plant-bearing Shales from the road-cutting  $\frac{1}{2}$  mile from Paterson, on the Paterson to Gresford Road, Parish Houghton, County Durham:—*Calamites radiatus*, Brongniart, *Rhacopteris inæquilatera* Goepfert; *R. septentrionalis*, Feistm (?); *R. intermedia*, Feistm; *Archæpteris Wilkinsoni*, Feistm. There are also detached sori of a fern, somewhat similar to the fructification of *Palæopteris*, a genus closely allied to *Rhacopteris*, so that there is some probability that these may be referable to the last mentioned genus. *Cardiopteris* pinnules also occur and are figured in "Records Geological Survey, New South Wales," Vol. VI. Pt. 2 (in the press.)
  - (b.) From P. McMahon's Selection, Portion 101, Parish Barford, County Durham, "Greenhills";—Crinoid stem ossicles, *Fenestella*; *Orthis resupinata*, Martin; Indeterminable strophomenoid shells; *Productus*, *Entolium*, *Gossetina australis*, Eth. fil.; *Loxonema rugifera*, Phillips; *Loxonema* (new species intermediate between *rugifera*, Phillips, and *regium*, De Koninck); *Yvania Konincki*, Eth. fil.; *Euomphalus*, *Bellerophon*. (c.)

- (c.) From road-cutting near 12-mile post from West Maitland, Parish Barford, County Durham:—*Zaphrentis*, *Fenestella*, *Athyris*, sp. indet.; *A.* (*Actinoconchus*) *planosulcatus*, Phillips; *Productus scabriculus*, Martin; *Dielasma hastata* Sby. (?); *Orthotetes crenistria*, Phillips; *Orthis australis*, McCoy; *Gosseletina australis*, Eth. fil.
- (d.) From "Greenhills," Paterson to Dungog Road, 8 miles from Paterson—James Phillips' 112-acre selection, Portion 100, Parish Barford County Durham:—*Zaphrentis*, *Fenestella Griffithides*, *Phillipsia*, *Spirifera* (2 species indet.), *S. crassa*, De Kon.; *S. convoluta*, Phillips; *S. cf. ovalis*, Phillips; *Productus longispinus*, Sby.; *P. scabriculus*, Martin. *Athyris* (*Actinoconchus*) *planosulcata*, Phillips, with lamellar fringes very well preserved; *Orthis resupinata*, Martin; *Leptæna rhomboidalis*, var. *analoga*, Phillips; *Orthotetes crenistria*, Phillips; *Nuculana*, nov. sp. *Leptodus duplicicostata*, Eth. fil. (?); *Entolium*, *Aviculopecten*, *Naticopsis*, sp. nov., *Gosseletina australis*, Eth. fil.; *Loxonema rugifera*, Phillips, *Orthoceras*.
8. Silurian and Devonian Fossils collected by Mr. J. A. Watt, Geological Surveyor, in the Fifield District:—
- (a.) From 10 miles E.S.E. of Fifield, on Portion 11, Parish Gillenboine, County Cunningham, in Limestone:—*Spiriferina* (?), nearly allied to *S. cristata*, var. *octoplicata*, Sby.; *S.* near *S. Jaqueti*, Dun; *Rhynchonella* very closely allied to *R. primipilaris*, v. Buch. *Theca*, *Cyrtoceras*. This limestone is interesting also in containing large numbers of Ostracoda—*Primitia*, *Leperditia*, and apparently also *Isochilina*.
- (b.) From 7½ miles from Bogan Gate Railway Station, on Bogan Gate to Trundle Road, Portion 25, Parish Botfields, County of Cunningham:—Limestone containing—*Favosites gothlandica*, Linn.; *F. gothlandica*, var. *Goldfussi*, d'Orb; *Alveolites*, *Tryplasma*, two species; indeterminate stromatoporoid, *Orthoceras*. In the sandstone occurring here are found *Cyathophyllum*, *Amplexus* (?) and a pygidium of one of the Phacopidae, possibly *Coronura*.
- (c.) From 8 miles S.E. of Fifield, Portion 5, Parish Sebastopol, County Cunningham, in a very friable ferruginous sandstone, the fossils occurring as fragmentary casts only.—*Pleurodictyum megastomum*, McCoy; *Favosites gothlandica*, Linn.; Monticuliporoid corals, Crinoid stem ossicles; *Rhynchonella*, sp. ind.; *R. pugnus*, Martin; *Orthis* (?) *Spirifera*, *Tentaculites*.
- (d.) From 12 miles E.S.E. of Fifield, near 13-mile post, Fifield to Trundle Road, Parish Gillenboine, County Cunningham, in a dense yellow and purple sandstone; fossils preserved as impressions and displacements.—*Favosites* (?); portion of the glabella of a trilobite, probably *Proetus*, *Atrypa*, cf. *lens*, Sby.; *Spirifera Jaqueti*, Dun (?); *Streptorhynchus*, *Orthonota*, *Crenipecten* (?), *Pterinea*, *Actinopteria*, *Tentaculites*, *Orthoceras*. These collections contain genera common to both Upper Silurian and Devonian; but judging by a few of the better preserved forms, I am of opinion that the evidence is more in favour of the beds being newer than the Yass beds, and therefore most probably of Devonian age.
9. Fossils from the Clarence Town and surrounding districts, collected by Messrs. J. B. Jaquet and L. F. Harper.
- (a.) Clarence Town.—Worm tracks. *Spirifera striata*, Martin; *Rhynchonella pleurodon*, Phillips; *Dielasma*, sp. indet.
- (b.) From near Clarence Town.—*Zaphrentis*, crinoid stems; *Fenestella*, *Orthotetes crenistria*, Phillips; *Orthis australis*, McCoy; *Leptæna rhomboidalis*, var. *analoga*, Phillips; *Spirifera*, cf. *striata*, Martin.
- (c.) From Glen William Road, Clarence Town.—Indeterminable plant fragment; *Leptæna rhomboidalis*, var. *analoga*, Phillips; *Spirifera striata*, Martin; *Productus semireticulatus*, Martin; *Orthis resupinata*, Martin; *Conularia*, *Orthoceras*. Worm tracks.—From near 3-mile post—*Knorria*. From Wallaroo Hill, north side; *Orthoceras Martinianum*, De Kon. (?) Eastern slope in Parish Uffington.—Crinoid stems, *Fenestella*, *Orthis resupinata*, Martin; *Allorism*, *Pleurophorus*.
- (d.) From Stony Creek, N.W. corner of Portion 13, Parish Wilmott.—*Asterocalamites scrobiculatus*, Schiltheim.
- (e.) From foot of Skid Hill Range, near S. boundary of Parish Horton.—Small pelecypod, most probably *Edmondia*.
- (f.) From Portion 98, Parish Uffington.—*Rhacopteris inæquilatera*, Goeppert.
- (g.) From near School-house, Glen William Road, 4¼ miles from Clarence Town.—*Lepidodendron*; Emericite stems; *Fenestella*, *Glaucanome*.
- (h.) From the south bank of Williams River, 2 miles below Clarence Town.—*Stigmara*, and indeterminable plant remains.
- (i.) From A.A. Co.'s Port Stephens Estate, E. of Booral Wharf, Karuah River.—Internal casts of *Spirifera lata*, McCoy.
- (j.) From near Booral, on road junctioning with Raymond Terrace and Stroud Road, 6 miles from Stroud.—A much-fractured mudstone with numerous imperfect fern pinnules.
- (k.) From between North Coast Road and Karuah River.—*Rhacopteris*.
- (l.) *Orthis resupinata*, Martin; *Leptæna rhomboidalis*, var. *analoga*, Phillips; *Orthotetes crenistria*, Phillips.
- (m.) From between Limeburner's Creek (7½ miles) Road and Stroud River (13 miles from Raymond Terrace).—*Rhacopteris inæquilatera*, Goeppert; *Lepidodendron veltheimianum*, Sternberg.
- (n.) From between 10-mile Creek and Caswell's Creek, Parish Wilmot.—*Lepidodendron veltheimianum*, Sternberg.
- (o.) From Booral.—*Rhacopteris septentrionalis*, Feistmantel; *Cardiopteris*.
- (p.) From about 4 miles S.W. of Stroud, on track to Thalaba, A.A. Co.'s Port Stephens Estate.—*Athyris*, *Productus* cf. *spinulosus*, Sby. *Spirifera*, *Leptodus*, *Euomphalus*, *Fenestella*, Crinoid stem ossicles.
10. Permo-Carboniferous Plants, collected by Mr. H. G. Stokes, in No. 2 shaft, coal-mine, Bonshaw—*Glossopteris* cf. *communis*, Feistm. *Gangamopteris angustifolia*, McCoy. *G. cyclopteroides*, Feistm., and var. *sub-auriculata*, Feistm.; *G. spathulata*, McCoy (?); *Næggerathiopsis Hislopi*, Bunbury; *N. media*, Dana. (?).
11. Specimen of limestone from the Chillagoe Beds, N. Queensland, collected by Mr. G. Smith, containing *Pentamerus* and *Amplexus*.

12. A large number of Carboniferous and Permo-Carboniferous fossils from the Maitland District, were named for Mr. J. Waterhouse, M.A.
  13. From the Upper Silurian of Bobadah, Mr. J. E. Carne collected a few imperfectly preserved casts and impressions of *Cyathophyllum* (?), *Pleurodictyum*, *Rhynchonella*, cf. *nucula*, Sby.; *R. cuneata*, Dalman (?); and also what is probably a variety of *R. borealis*, Schlotheim. *Orthis*, *Spirifera*, Crinoid stem ossicles, and a pygidium of *Encrinurus* (?).
  14. Carboniferous fossils from Glen William, determined for the Technological Museum—*Spirifera striata*, Martin; *Rhynchonella pleurodon*, Phillips; *Productus undatus*, DeFrance; *P. longispinus*, Sby.; Crinoid stems.
  15. Lower Mesozoic Plants, collected by Mr. Gipps, from Bidden Creek, County Gower—*Teniopteris Daintreei*, McCoy; *Ptilophyllum*, *Alethopteris*, cf. *australis*, Morris, Stems, seed vessels and wood.
  16. Specimens from the cores, obtained by bores for artesian water, at Buiyeroi Bore, at depths of 505 and 510 feet.—*Corimya* and *Cyprina*; Lower Cretaceous.
    - (b.) Finger-post Bore—*Unio*, from a depth of over 2,000 feet.
    - (c) Salisbury Downs—*Teniopteris Daintreei*, McCoy. Brought up by water, and presented by Rev. J. Milne Curran.
    - (d) Buiyeroi Bore, depth of about 750 feet—*Teniopteris Daintreei*, McCoy.
  17. Lower Cretaceous Fossils, from Yandamah, presented by A. Lang, Esq., and of Lower Cretaceous age—*Ammonites*, *Cyprina*, wood-bored by *Teredo*, and *Maccoyella Barklyi*, McCoy.
- During the past year the collector, Mr. C. Cullen, has spent considerable time in the field. Large collections of fossils were from the Upper and Lower Marine Series in the West Maitland and Greta Districts, from the Carboniferous beds around Clarence Town, and from the Upper Silurian limestones, so largely developed around Molong.

#### Museum.

A considerable amount of registration has been performed. It is proposed that the entire collection of fossils on exhibition, as well as those necessary for comparison, and at present stored in trays, be registered in a permanent manner. This is most essential, as many of the fossils have never been passed through the registers, and those that have been numbered are marked with paper tickets, many of which have been rendered illegible by dust and insects. This will entail the handling and cleaning of many thousands of specimens, and will take several years to accomplish. During the year six collections of fossils were named for distribution to institutions and individuals, mainly in exchange. I am now able to report that, owing to the large number of fossils collected during the last two years the Department is in a position to offer far better collections in exchange than heretofore. During the last month of the year I was mainly engaged in preparing a representative collection of New South Wales fossils for the Greater Britain Exhibition. Mr. Cullen has, during the time not spent in collecting and cleaning, been engaged in making casts of type specimens, which form a very valuable addition to our exchange series.

#### Reports, &c.

The following reports or papers were prepared or published during the year:—

1. Annual Report for the year 1897.
2. Additions to the Permo-Carboniferous Flora of New South Wales, No. 2. *Records*, 1898, vi, pt. 4, pp. 46-51.
3. On the Occurrence of a Cyclopteroid Fern, closely allied to the European *Cardiopteris polymorpha* (Goepfert), in the Carboniferous of New South Wales. *Records*, vi, pt. 2. (In the Press).
4. Notes on the Australian *Teniopterideæ*. *Trans. Austr. Assoc. Adv. Sci.*, vol. vii.
5. Contributions to the Palæontology of the Upper Silurian Rocks of Victoria, based on specimens in the collections of Mr. George Sweet, pt. 1. *Proc. R. Soc., Vict.*, 1898 (n.s.), pt. 2, pp. 79-90.
6. On a New Species of *Chonetes* from the Murrumbidgee Limestone. *Records*. (In *litt*).
7. With R. Etheridge, junior,—on the Structure and Method of Preservation of *Receptaculites australis*, Salter. *Records*, 1898, vi, pt. 1, pp. 62-75, fols. 8-10.
8. The Australian Geological Record for the year 1897, with addenda for 1891-96. *Records*, vi, pt. 2. (In the Press).
9. Note on the Occurrence of Sponge Remains in the Permo-Carboniferous of Branxton. *Records*. (In *litt*).

#### Library.

During the year 1773 publications were registered and placed in the Departmental Library, consisting of Societies' Transactions, Reports of State Departments, serial and separate works and pamphlets. This total is made up of 1,558 volumes, or parts of volumes, that have been presented or sent in exchange, and 205 that have been purchased. The Library is now in correspondence with 229 institutions and State Departments, from which exchanges are regularly received, and there are also numerous personal exchanges.

The principal additions to the exchange list are:—

- Colorado College Scientific Society.
- Belgrade—Institute Geologique.
- K. Ungarischen Geologischen Anstalt.
- Brussels—Annales des Mines.
- Barcelona—R. Accademia della Ciencias y Artes.
- Indiana Academy of Sciences.
- Johannesburg—Geological Society of South Africa.
- Leeds—Geological Association.
- Nebraska University Studies.
- London—Colonial Office Reports.
- Kansas University Quarterly.
- Field Naturalists' Society of Victoria.
- Nebraska State Board of Agriculture.
- Paris—Société de Spéléologie.
- San Paulo—Museum Paulista.
- Topeka—Board of Irrigation and Survey.
- „ University Geological Survey.



The following publications have been distributed to correspondents:—

- (1) Records, Geological Survey, V, Part 4.
- (2) " " " VI " 1.
- (3) Annual Report for 1897, to Institutions.
- (4) Mineral Resources, No. 1.
- (5) " " No. 2.
- (6) " " " (2nd edition).
- (7) " " No. 3.
- (8) " " No. 4.
- (9) Palæontology, Memoir No. 6.
- (10) Large numbers of miscellaneous publications and sets of records and memoirs.

During the first four months of the year the registration was performed by Mr. L. F. Harper, and in October the Public Service Board decided that Mr. H. J. Lindeman was to assist in the clerical work connected with the Library, which has considerably increased. Considerable difficulty has also arisen from the overcrowded condition of the book-shelves, and it is hard to see how this can be obviated without a greater amount of wall-space than is at present available. Many of the shelves are now double-banked, and a satisfactory arrangement is impossible under these conditions.

I have, &c.,  
W. S. DUN,  
Assistant Palæontologist and Librarian.

#### APPENDIX 31.

##### Caves.

PROGRESS and other reports on the Limestone Caves for the year 1898 by O. Trickett, C.S., M.S., Vict., L.S., N.S.W.

During the year the many improvements were effected at the Jenolan Caves, namely:—

January—8 garden seats were placed in suitable places.

February—The Engineer's cottage was painted at a cost of £12 4s. 10d.

March—An easy track was cut to the bathing pool at a cost of £16 18s. 6d.

May—The entrance to the Imperial Cave from the Grand Archway was completed at a cost of £45 10s. 6d.

July—A gate was erected at the entrance to the Aladdin Cave, and the formations protected, at a cost of £21 10s. 10d.

August—A dangerous rock in the Wilkinson Cave was supported by concrete and rubble, at a cost of £16 3s.

November—24 Notice Boards were erected in conspicuous places.

December—Water pipes were extended into the Grand Archway.

Two labourers were continuously employed during the year on cave improvement. They are at present engaged on opening up the "Gem of Jenolan" branch of the Jubilee Cave and in completing the construction of a new dam at the intake to turbine pipes.

The cost of constructing the new entrance to the Lucas Cave from the Grand Archway, on which the labourers were engaged during the latter part of 1897, was £171 1s. 6d.

In addition to the above, important improvements were completed during the year by the Public Works Department. These include the erection of a new Accommodation House, stables, coach-house, drainage, fencing, Post and Telegraph Office, Photographic Kiosk, store, cottages for the Caretaker and Photographer, workmen's hut, &c.

The Accommodation House and outbuildings were handed over to Mr. Harry Smith (who was the successful tenderer for the lease), on the 1st July. "Wallace's" buildings were purchased, and are now used as a residence by the Explorer, Mr. J. Wilson.

In order to add to the beauty of the surroundings of the caves, Mr. Maiden, Curator of the Botanical Gardens, has been authorised to lay out new plantations.

Mr. Fitzmaurice, Chief Engineer, Post and Telegraph Department, furnished, in the early part of the year, a report on the extension of the electric light at the caves.

The salaries of two of the guides have been increased subject to certain conditions. The guides and caretaker have been furnished with official caps.

Additional regulations have been framed for the better protection of the caves and their surroundings.

The manuscript and plans for a guide book have been handed to the Government Printer for publication.

In connection with this work, I completed a survey of the caves.

##### *Wombeyan Caves.*

Two labourers were employed in opening up the Wollondilly Cave from the 7th February to the 15th June.

A blacksmith's shop was erected by the caretaker for which the Department supplied material and blacksmithing tools.

For the purpose of exploration, the caretaker has been supplied with rope.

Some fine specimens of dripstone formations were forwarded to the museum.

##### *Yarrangobilly Caves.*

A bathing shed has been provided at the Thermal spring.

A washhouse and forge shed were erected by the caretaker, for which material and tools were supplied by the Department.

Material is now being forwarded for the erection of additional accommodation for the caretaker.

A large number of fruit trees and the necessary gardening tools were forwarded to the caretaker.

*Bungonia*

*Bungonia Caves.*

A road from Bungonia to the caves was gazetted as a public road on the 1st October, 1893. The caretaker has been authorised to cut a track to water.

*Abercrombie Caves.*

A horse-paddock fence was erected at a cost of £50 3s. 10d. The caretaker has been supplied with blacksmithing and other tools.

*Bendithera Caves.*

Owing to the decreasing number of visitors the caretaker's salary has been reduced.

*Wellington Caves.*

The caretaker's cottage was painted at a cost of £7 19s. 3d. The caretaker completed the erection of a chimney, for which material was supplied by the Department.

Several additional boxes of fossils have been received from the caretaker.

*New Caves Discovered.*

The most important of these is the "Junction Cave," Wombeyan Caves, found by the caretaker, Mr. T. M. Chalker, in June. Report herewith.

A beautiful chamber off the Red Cave, Jenolan, was found by Mr. J. Wilson.

Mr. Guymmer, caretaker, Bungonia Caves, reported the discovery of a cave which has not yet been examined.

*Limekiln Caves (near Bathurst).—Report herewith.**Number of Visitors for the year 1898.*

Abercrombie Caves	...	...	...	...	...	907
Bendithera Caves	...	...	...	...	...	31
Bungonia Caves	...	...	...	...	...	356
Jenolan Caves	...	...	...	...	...	2,427 (who paid 7,149 visits).
Wellington Caves	...	...	...	...	...	1,623
Wombeyan Caves	...	...	...	...	...	345 (who paid 525 visits).
Yarrangobilly Caves	...	...	...	...	...	690 (who paid 1,316 visits).
Total	...	...	...	...	...	6,379 visitors.

Three magnesium lamps were purchased from European firms. Two of these are quite unsuitable, the other is now being tested at the Jenolan Caves.

*Magnesium Ribbon used.*

Ribbon issued to caretakers	...	...	...	720 oz.	...	Cost, £74.
Do. used by guides and caretakers	...	...	...	644 "	...	
Amount collected for use of ribbon	...	...	...	...	...	£271 3s. 4d.

Caretaker F. J. Wilson, at the Jenolan Caves, has exercised considerable care in the supervision of the improvements effected and in carrying out the instructions issued to him.

Mr. Chalker, caretaker, Wombeyan Caves, Mr. Bradley, caretaker, Yarrangobilly Caves, and Mr. Sibbald, caretaker, Wellington Caves, have each effected improvements, for which material only was supplied by the Government.

## APPENDIX 29.

M. 98/14,359.

## THE JUNCTION CAVE—WOMBELYAN CAVES.

Sir,

Geological Branch, 26 July, 1898.

In accordance with your instructions, I have the honor to report on the newly-discovered cave at Wombeyan.

It is situated near the junction of the Wombeyan and Mares Forest Creeks,  $\frac{1}{2}$  a mile south of the Accommodation House. It various branches are indicated on the plan herewith.

Between the extreme points of the new cave, its length is about 10 chains in a direct line. Its explored passages total about three times that length.

There are two entrances. The lower one is about 60 feet from the Wombeyan Creek, and about 20 feet above the level of the creek. From this entrance a narrow, difficult, and tortuous passage leads to the centre of the cave. This passage is marked by many ripple-marked terraces. It cannot be made practicable for visitors.

The upper entrance is at about the same level as the creek bed near the Accommodation House. It is about 130 feet above the creek, from which it is distant about 170 feet. From this entrance a drop of 34 feet occurs in the first 50 feet, during which a very small aperture is passed through. A draped "waterfall" formation embellishes a nook in the vicinity. Thirty feet further on the floor is ripple marked, and the walls are ornamented with draped formations. A lofty passage is seen here, which is decorated with graceful dripstones, dotted over with crystals.

B on plan.

on plan.

Q on plan.

An uninteresting passage terminates in a crystalline coated rise. At the top are some stalagmites, while overhead hang grey-coloured stalactites, some with cream-coloured tips, others with tufted tips.

A few feet further on, the passage descends about 25 feet at a very steep angle. This descent is marked by a cream-coloured "waterfall" formation.

For 135 feet the passage traverses muddy caverns. Then the hole is seen which leads to the passage from the lower entrance.

120 feet further, after climbing up a steep ascent over slippery black mud, a point is reached, from which the passages run both north and south.

Taking the northern passage first; at 60 feet is a massive dome-shaped stalagmitic deposit, partly covered with a cream-coloured crystalline deposit, and partly faced by a red and white fluted formation. There are also here some draped stalactites.

- J on plan. This dome-stalagmite stands at the south-western extremity of a superb and grand example of the "diamond waterfall" formations. The latter is cream-coloured and sparkles with innumerable calcite crystals, and is marked by two crystalline basins. It is flanked on either side by beautiful crystalline walls.
- H on plan. Near its foot is a singularly attractive bright white and grey "crystalline waterfall." Above it, on the right, is a little canopy covered recess. Below a mantle of dark-brown is a sub-mantle of white, from which hang a few reed-like stalactites, and some irregular stalactites of the "mystery" type.
- G on plan. Above the recess, a series of tinted "draperies" cover the sloping wall for 40 feet upwards. Northerly a shawl stalactite rests on an ornamental stalagmitic base. In the back ground is a beautiful collection of shawls, pillars, and dome stalagmites, both white and tinted. Some of the shawls are 15 feet long. One of them looks like a white blanket hanging in graceful folds. The border is marked by several reddish bands. In the vicinity are some attractive brown-tinted dripstones, all highly crystallized, and a fine column.
- F on plan. Further on is a marvellously beautiful thin, dark-red column, supported on a uniquely decorated stalagmite, which, in its turn, rests on a crystalline "cascade." Near it, overhead, are some white draperies like a woman's petticoat.
- A on plan. From this point, looking down a long steep crystalline "cascade," is seen the present underground water-way. The waters of the Wombeyan Creek run underground before they reach the Creek Cave, then pass under the Fig Tree Cave, re-appear at the foot of the "cascade" above-mentioned, and are finally seen again, where they rejoin the Wombeyan Creek south-westerly from the "upper entrance."
- M on plan. Returning and travelling southward from the top of the ascent over black mud before mentioned, at about 50 feet, massive draped and terraced crystalline "cascades" are seen surrounded by ornamental pillars and dripstone formations, which fringe overhanging ledges. In the centre of the passage is a small circle of stalactites.
- C on plan. Further on to the left numerous crystalline and cream-coloured grottoes and alcoves are grouped in a semicircle. The passage now narrows, and is beautifully marked by fine slender stalactites 2 to 4 feet long, pendant from the ends of draped forms of dripstone.
- P on plan. (A narrow opening leads down from here to the passage near Q.) The passage now rises rapidly over rough rocks which extend to the left for some distance. Overhead are some very fine isolated semi-transparent stalactites. To the right are a series of large stalactites partly hanging free and partly merging into a base of flowing "draperies."
- One stalagmite has a marked resemblance to a dressed monkey sitting in an easy attitude in an arm-chair. (Here again a series of rocky and steep channels pass downwards to near the passage at Q.) Still travelling upwards, crawling on the way through a low chamber, a very large and dry cavern is entered. It is 116 feet long, and appears to be 70 feet high in one place. Owing to the want of moisture the formations are tarnished. Near the entrance are a stalagmite 8 feet high and a small column broken in the centre through sinkage in the floor. At the southern end of this cavern are massive dull, whitish-brown, terraced and draped walls which are very interesting, but are not particularly beautiful. The new cave, therefore, contains much to be admired in its beautiful pillar and shawl formations, but it is chiefly remarkable for the extensive manner in which it is decorated by the cream coloured crystalline deposits which have been likened to "cascades," "waterfalls," "terraces," and "diamond walls," in other caves.
- I have, &c.,  
O. TRICKETT,  
Licensed Surveyor.
- The Government Geologist.

## APPENDIX 30.

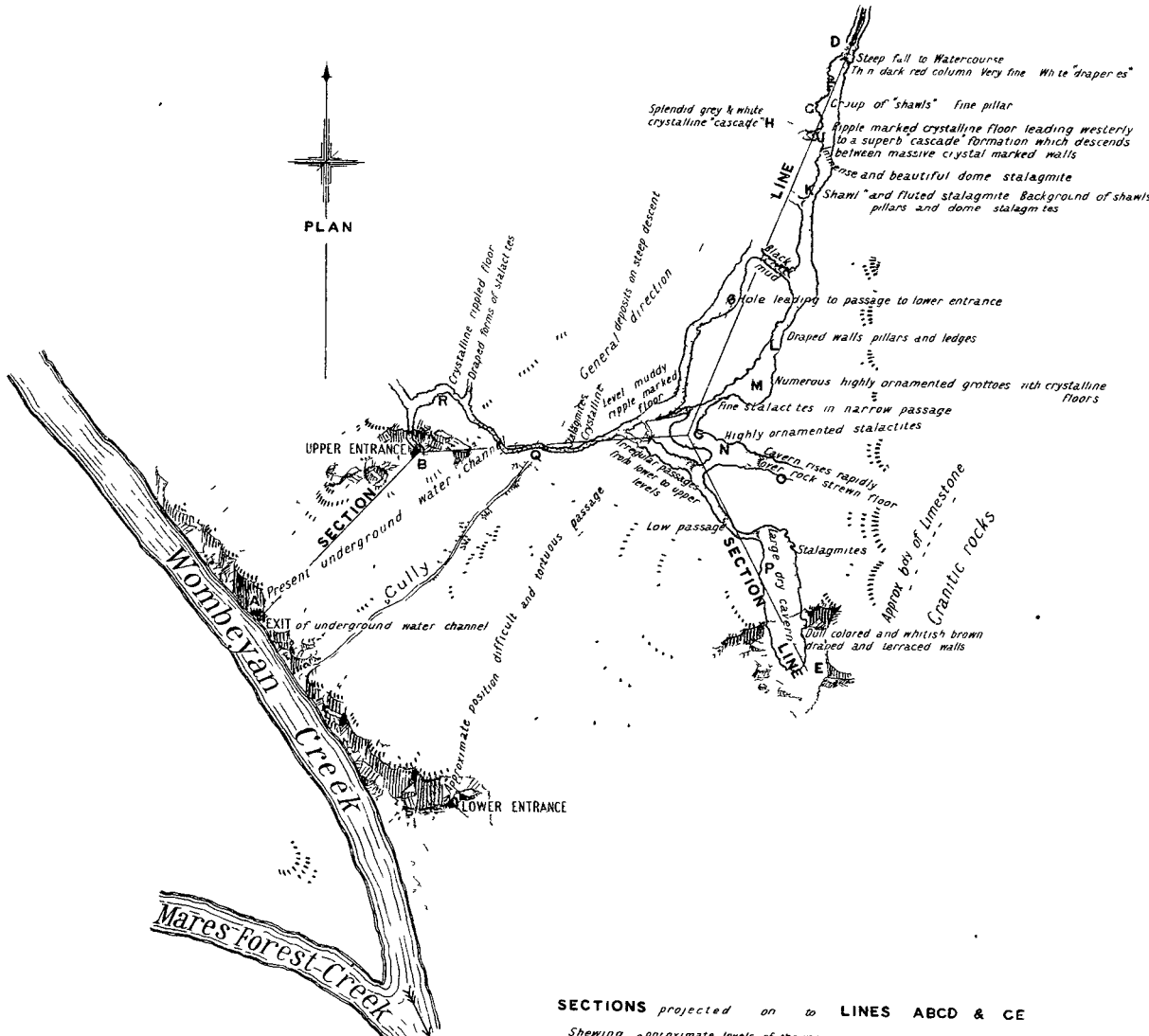
M. 98/17,673.

## LIMESTONE CAVE AT LIMEKILNS.

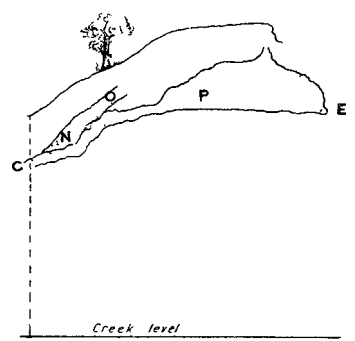
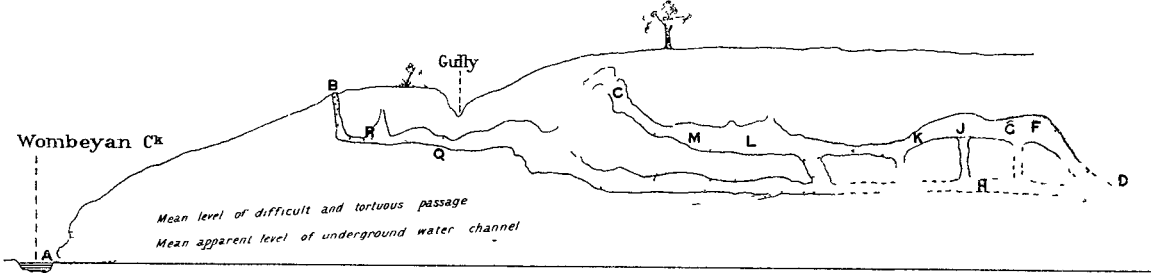
- Sir, Geological Branch, 16 September, 1898.
- In compliance with your instructions, I have the honor to report on the application of W. F. Hurley, Esq., M.P., for the opening up, and improving of a limestone cave near the Limekilns Post Office.
- The cave is on private property, portion 48, parish of Jesse, county of Roxburgh, 17 miles N.N.E. of Bathurst.
- Its entrance has been improved by excavation and by the erection of a gate. The cave runs northerly for about 400 feet. It is from 8 to 15 feet wide and from 2 to 10 feet high.
- At 80 feet from the entrance, there is a "basin" formation. At 120 feet some small "drapery" formations and stalactites may be seen. There are occasional groups of broken stalactites. The formations are all dull coloured and of little beauty, and in many cases have been mutilated.
- The cave is dirty and uninteresting throughout. An objectionable feature is present in the shape of foul air which was met with at 225 feet.
- I do not think that there is anything to justify the Government in resuming the land for the purpose of improving the cave.
- I have indicated on a sketch herewith, the position of the cave, and also, of the limestone outcrops in some of which are the quarries in the beautiful variegated marble known as the "Fernbrook Marble."
- I have, &c.,  
O. TRICKETT,  
Licensed Surveyor.
- The Government Geologist.

# Sketch of the Junction Cave, Wombeyan Caves

SCALE 0 50 100 150 200 FEET




SECTIONS projected on to LINES ABCD & CE  
Shewing approximate levels of the various caverns



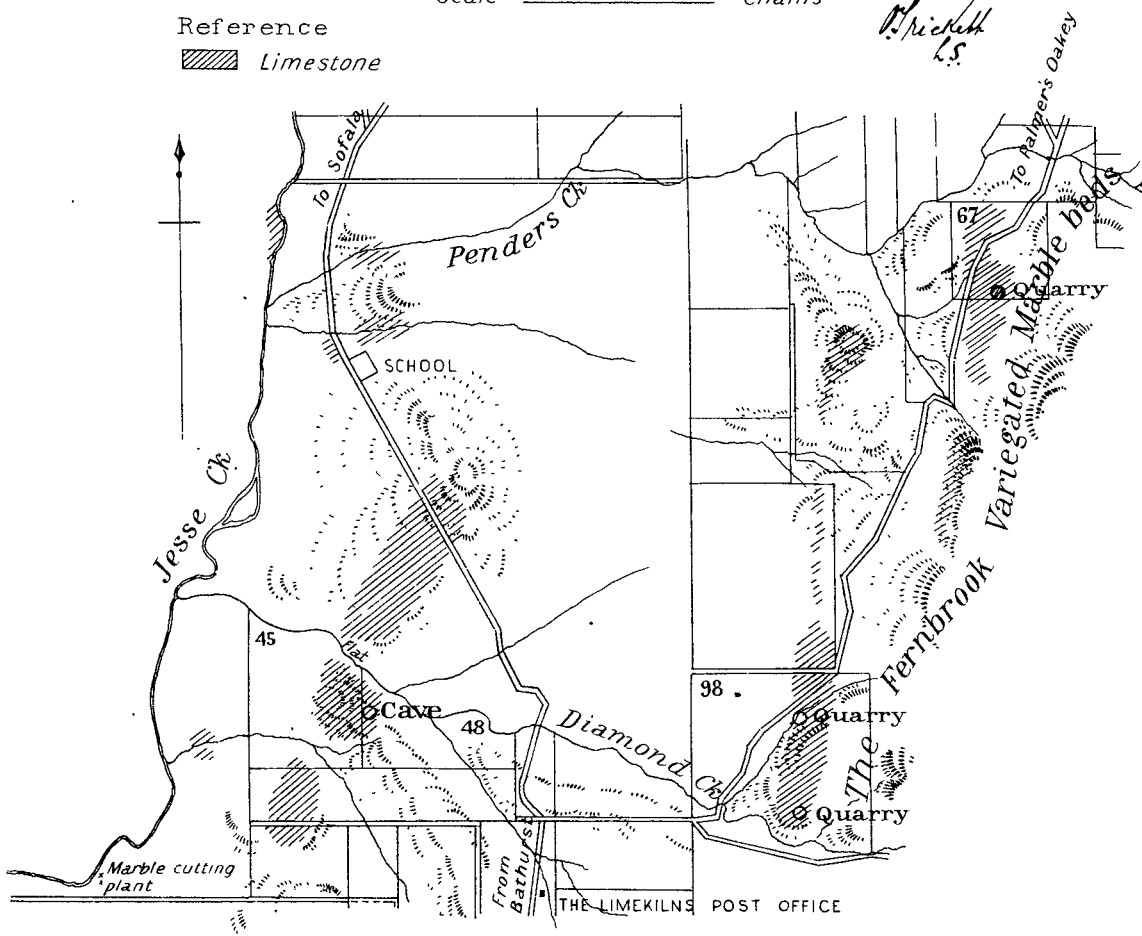
*W. P. ...*  
L.S.

SKETCH shewing position of Limestone Cave, and Marble Quarries,  
 Parish of Jesse. \_\_\_\_\_ County of Roxburgh

Scale 0 20 40 Chains

Reference  
 Limestone

*W. Nichol  
 L.S.*



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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## NEWCASTLE COAL-MINING COMPANY'S A PIT.

(REPORT OF COURT OF INQUIRY IN CONNECTION WITH.)

*Printed under No. 6 Report from Printing Committee, 19 October, 1899.*

REPORT on the charges brought against Joseph Croft and Herbert Claude Croft, the Manager and Under-manager, respectively, of the Newcastle Coal-mining Company's Colliery (A Pit). A full statement of each case, and the opinion of the Court thereon, made in pursuance of the 1st subsection of the 10th section of the "Coal Mines Regulation Act, 1896."

EARLY in April, 1899, John William Bailey made a complaint to the Minister for Mines concerning certain alleged irregularities at the A pit of the Newcastle Coal-mining Company, and of certain breaches of the "Coal Mines Regulation Act, 1896."

The matter of that complaint was submitted to Mr. Atkinson, Chief Inspector of Coal Mines, for inquiry, consideration, and report. Mr. Atkinson made all due inquiries, and furnished his report [*Annexure V to Exhibit U*] to the Minister. On the 14th April, before so reporting, Mr. Atkinson had, in company with Mr. Dixon, the inspector of the district, an interview at the office of the Newcastle Coal-mining Company at the A pit, with the manager, Joseph Croft, and H. C. Croft, the under-manager, and two of the deputies, Ambrose and Gall.

At that interview Mr. Atkinson asked them all if they had heard that anyone had been burnt at the mine within the last twelve months, and if they had at any time seen gas in the mine? They all denied having heard of any such occurrence, and also denied that they had seen or heard of any gas in the mine. They were then asked if any of them had at any time deceived any Government inspectors, or check-inspectors, when making any inspection, by dishonestly manipulating the ventilation? They all denied knowledge of any such conduct.

That was the first occasion that either the manager or under-manager was interrogated on any of those matters, though they had heard a man (Anthony Weir) had been burnt from Bailey on 29th March. Those denials were given by each in the presence of the other. Under the circumstances, if one denied, all of the others present would most naturally have followed suit.

Further inquiries were made, and eventually a formal investigation was directed by the Minister into those matters in accordance with the 23rd section of the Act. That investigation was duly held in June and July, and the Court, upon the conclusion of the inquiry, reported to the Minister, thereupon the Minister directed an inquiry to be made into the conduct, competency, and fitness of—

1. The manager, Joseph Croft, and
2. The under-manager, H. C. Croft.

Joseph Croft was called upon to answer the charges set out in the statement of the case duly served upon him, a copy of which is attached hereto.

Herbert Claude Croft was called upon to answer the charges set out in the statement of the case duly served upon him, a copy of which accompanies this report.

To inquire into those charges a duly constituted Court was formally opened at Newcastle on the 14th instant.

The Minister was represented by Mr. Edmunds, Barrister-at-law; Joseph Croft and Herbert Claude Croft were represented by Mr. R. W. Thompson, solicitor.

By consent of all parties the cases were heard together.

Also by consent of the parties, as each witness was called and duly sworn the deposition he had made at the Court of Investigation was read over to him and put in evidence, Mr. Edmunds and Mr. Thompson having the right, which they freely exercised, of further examining and cross-examining each witness.

By that means the Court had the advantage of knowing the exact evidence each witness had given at the Court of Investigation before any specific charges had been formulated.

By

By that Court of Investigation inquiries had been made into matters alleged to have taken place in July, 1895. This Court of Inquiry declined to consider those matters or to consider any evidence of any alleged malpractice as to, or interference with, the ventilation of the mine prior to the 1st October, 1896, that being the date the "Coal Mines Regulation Act, 1896," came into force, under the 10th section of which the Court was constituted and the inquiry was being held.

The first charge inquired into was as to whether or not a shiftman named Anthony Weir had been injured by an explosion of gas on 25th September, 1898, and whether that explosion had been duly reported to the inspector of the district in accordance with the requirements of section 29, subsection 1 of the Act.

Exhibit C. In support of that charge, Thomas Abell, a shiftman, working with Weir, deposed that he was "working in the front No. 6 narrow bord on the Sunday night, about 11 o'clock; that Weir was in the back narrow bord, about 40 yards away; that he (Abell) heard a report like a crack of a whip, and saw Weir immediately; he (Weir) was suffering from a shock, his hair was singed, he was white and trembling; his neck and the back of his ears and the top part of his arms were burnt a little."

Exhibit D. That evidence was corroborated by Joseph Fox, who was also working in the No. 6 narrow bords. He said that he saw a small flash of gas immediately before Weir called out "God help me"; "the flash went right across Weir's face; he fell on his knees; his light went out, and one side of his moustache was singed." At the Court of Investigation Fox had described the flash "as about 6 feet long." At this Court he shortened the length to "about 2 feet."

Annexure V. to Exhibit U. Mr. Atkinson's report of the 14th April contains a statement made by Weir to him, not on oath, corroborating the evidence given by Fox and Abell. Weir is reported to have stated that "a small quantity of gas lighted up, and I was slightly burnt about the face and shoulders; my moustache was half burnt off; in consequence of the accident I was off work for one day."

Exhibit X. As Weir was about to leave the Colony he made a statutory declaration on 20th May, and by consent of all parties that declaration was put in evidence. He stated: "I stepped upon the bottom coal, my lamp being on my head alight; there was gas in the place; she lighted; I was burned about the shoulders down the right arm, the moustache burnt and eyebrows; Fox was in the place whilst this occurred; I came round to my mate to warn him; he saw what had happened to me, and said he had heard the report of it; it dinned in his ears; Mr. Rendal came in shortly afterwards, and I reported it to him; he saw me, and said, 'I see you are burnt.' \* \* \* about half-past 3 a.m. I went home and got my wife to put some oil and whiting on the burnt parts."

Exhibit I. Upon that point Rendal stated: "I remember the accident to Weir; about 1 a.m. I was on my round visiting the men, and when I came to Weir and his mate, Weir told me he had been in the back narrow bord, and the gas had ignited slightly \* \* \* ; Weir said that he thought his face was smarting a little, and I told him if that was the case he ought to go home; I had a good look at him, and all I could see was a few hairs burnt on his moustache \* \* \* ; I think Abell said, 'Weir seems a bit shaky; I removed the water-bailer (J. Fox), and I put up a danger mark there \* \* \* ; I was told of the occurrence some time about 1 or 2 o'clock, and saw Bailey some time between 3.30 and 4 a.m.; I told him that this slight occurrence had been reported, and that that place had been fenced off."

That Weir was injured by an explosion of gas was proved and virtually admitted.

Exhibit J. (Wilson.) At that time, and for very many (seventeen) years before that time, William Rendal was the night overman in "A" pit, and he was in charge of the pit on that Sunday night. At about 1 o'clock he knew of Weir's accident; Weir and Abell told him that Weir had been in the back narrow bord, and that gas had exploded. That evidence was not contradicted. It follows, then, that Weir was "personally injured" on the 25th September, 1898, by an explosion of gas, and that fact was known to the officer in charge of the mine a few hours after the injuries were inflicted. It was also generally known by the shiftman in the mine.

Second charge. The second charge inquired into was as to whether John William Taft (wrongly called Albert Taft in the statement of the cases) was overcome by black-damp or other noxious gas in the mine (A pit).

Exhibit G. That he was so overcome was sworn by Taft himself, who deposed that while working with his mate, Albert Turner, as a shiftman in No. 5 district, he felt the air very bad. "On one occasion I was overcome by the bad air; it deprived me of the use of my legs, and my head was ready to burst. I went back to put some tallow in my lamp, and sang out to my mate that I was losing my legs. He came to my assistance, and caught me as I was falling. And I was carried out \* \* \* that happened on a Monday night (18th July, 1898). My mate just laid me aside, and, Rendal, the night overman, came and inquired what was the matter; my mate replied, 'He is down here; he has got no use in his legs.'"

Exhibit G. His mate and Rendal carried him out to the flat. He remained on the floor some fifteen or twenty minutes, when he recovered sufficiently to be assisted to the pit bottom, and thence he was sent home, where he remained during the next day. He further stated: "It would be about 7 p.m. when I fell ill; I vomited a little when I got home. All my limbs were shaking and my teeth chattering. That began when they got me to the flat. I was sweating."

Exhibit H. His evidence was corroborated by his mate, Albert Turner, who was also affected by the bad air, and by the night overman, Rendal, who felt the air "light." Their evidence was not contradicted, though it was suggested that Taft's seizure was not brought about by black-damp or other noxious gas, but was rather in the nature of an epileptic fit; but no evidence was called in support of that suggestion. I have no hesitation in finding that Taft was overcome by some noxious gas in the nature of black-damp, from the manner in which he was affected; and I am strengthened in my opinion by that of the Chief Inspector of Coal Mines, who gave me the benefit of his learning and experience upon the matter, after hearing the evidence of Taft, Turner, and Rendal.

Dr. Haldane's report. So far, then, as that charge is concerned, I find that Taft was overcome by black-damp or by some noxious gas of that nature, and that that was known to the officer-in-charge of the mine so soon as it happened.

Exhibit K. Black-damp was also met with on other occasions by Dobb, a shiftman, who worked with Turner  
Exhibit L. in No. 5 district during Taft's enforced absence, and by Bullerwell many months before Taft's affair. Fire-damp was also detected by Arthur Johns, who was working in No. 6 district back dip heading, from  
Exhibit N. January to March in the present year. He deposed: "I have seen flashes there. \* \* \* I have seen flashes there with the lamp against the roof. I first noticed them in January. The first flash I saw spread

spread for about 2 feet or a yard. \* \* \* It was about 9 or 10 a.m. I saw this flash. I have seen such flashes twice in one shift. The second time, the flame spread about 2 or 3 feet. During the quarter I saw those flashes several times. Gall was the deputy for that district at that time. I reported the matter to him."

Although the evidence of the two last-named witnesses, Bullerwell and Johns, does not in one sense of the word corroborate Weir and Taft, it goes to show that both fire-damp and black-damp were at times met with in the mine. Such evidence becomes of great importance when the evidence given in answer to the charges is considered. One other witness, William Rendal, the night overman and officer immediately next to the under-manager, and who was at times in sole charge of the mine, and whose duty it was to examine for gas on each Sunday night before the shiftmen went to work at 10 p.m., deposed Exhibit I. that on one occasion, at least, he discovered what he described as "a small bit of gas in the back dip heading. \* \* \* That was about six months ago. \* \* \* The miners had been ordered to take only portion of the top band; they had taken a little more of this band than they should have, and they had caused a crack in the roof. On examining the hole it was pointed out my light came in contact with this crack and ignited, but only very slightly. It was an open light."

It was not seriously contended that any of those witnesses had stated other than the truth.

The next witness who deposed to having detected gas in the mine was Bailey. The truth of the whole of his evidence upon that and other points was questioned. His evidence was to this effect: That on being appointed an examining deputy in July, 1898, he was instructed to examine districts 1 and 5, and he continued to examine No. 1 district until 24th September of the same year. The next day, Sunday, he was not in the pit. On the morning of the 26th September he was appointed examining deputy over the No. 6 district also. He was aware of Weir's injury by gas, and that no report of the finding of gas had been made in the book. He thought it necessary, when appointed, to inspect No. 6 district to warn H. C. Croft, the under-manager, that he (Bailey) would have to report gas if he found any. The under-manager, Bailey swore, directed him not to report the finding of gas in the report-book, but to do so verbally to him. Bailey accordingly entered upon his responsible duties with that understanding, and continued without question so to discharge them till 27th March following.

Although on very many occasions, he said, he detected gas, on no occasion did he so report in the report-book, but on each occasion he reported either verbally or by a note to the under-manager. On the 28th March, having made his usual inspection, he reported as usual in the report-book that he had found "all safe." Some little time after so reporting, and above his signature, he added these words: "I found a small quantity of gas carburetted hydrogen in front dip heading, No. 6 district. Removed it and left all safe." Up to that date Bailey had enjoyed the confidence of the under-manager and manager; so soon as he had made that report, he seems to have lost their confidence. Exhibit B.  
Bailey's evidence.

The manager was summoned to the pit by the under-manager. The front dip heading (or back dip heading, as it is usually called) was examined, and as no gas was then found, the manager very unwisely thought fit to write under that report: "I protest against this report, it not being a correct report.—J. Croft, Colliery Manager."

On the next morning (29th March) Bailey again examined Nos. 1 and 6 districts, and though he detected gas in No. 6, he omitted that finding from his report, and reported "all safe." He again inspected on the 30th March, and reported "all safe." On that day he received a letter from the manager (Mr. J. Croft), in which he was disrated from being examining deputy, and was put on the night-shift, without any reduction of wages.

From Bailey's own evidence it would appear that upon 26th September he and the under-manager (H. C. Croft) entered into a deliberate conspiracy to furnish false reports in the report-book of the actual state of things discovered upon Bailey's daily inspections. That not only did he conspire to deceive the miners and other persons employed in those portions of the mine which it was his duty to examine, but he also, by failing truthfully to report, acted in direct contravention of the Act and the special rules of the colliery, and he continued that dishonest course of proceedings from 26th September, 1898, to 30th March, 1899, with one exception.

And it may be gathered from his evidence that he would have continued that course if he had not been disrated, and removed from the position of inspecting deputy for the No. 6 district on the 30th March. Further, in considering what weight should be given to Bailey's evidence, that portion of his evidence in which he swore that he would not have given the Minister any information "had he not been disrated," is worthy of great consideration. Bailey.

Without doubt in giving such information he was actuated by the direct motive of ill-will against his then employers, because he had been disrated.

At the Court of Investigation Bailey swore that he had seen gas from six to ten times; on this occasion he increased that number "from thirty to fifty times," which would be more often than once a week. And out of that number on from twenty to thirty occasions the gas was in quantity so large that he obtained a "permanent blue cap" over the flame of his safety-lamp, but nevertheless he failed to report in the book the presence of gas, although he discovered it in such dangerous quantities. On one occasion 16 cubic feet, on another 25 cubic feet. Special Rule 13.

It is impossible to believe Bailey's evidence. He admitted that until he was in the witness-box that he had never stated to anyone that he had found gas on any number of occasions, and it was only when being examined by the Court that he pledged his oath to having found gas from six to ten times, and, when cross-examined at this Court, he increased that "from thirty to fifty."

It is impossible to believe that gas could have been found in a comparatively non-gassy mine on so many occasions, and in such quantities during three months by Bailey, and that no other person would have detected its presence on at least some occasion.

With reluctance I have to admit that I received no assistance from Bailey's uncorroborated evidence upon the question of the presence of gas in the mine.

For some months, up to the 23rd September, 1898, Edward Wilson had been examining deputy for No. 6 district and other districts, and always found No. 6 free of gas, though he made his inspections with a naked light. On the 24th September, that district was examined by Deputy Ambrose and found to be free, though inspected with a naked light. When Bailey was disrated on the 30th March, John Williams Jones was appointed examining deputy of No. 6, and though he examined with a safety-lamp the headings in No. 6 (eighteen to twenty in number) each morning from that date to the present time, he had not detected any gas. Wilson's  
evidence, Ex-  
hibit J.

The

The next, and perhaps most difficult, question in this part of the case is this: Did the under-manager or manager, or both, know of the accident to Weir and of the accident to Taft?

The answer to that question depends more upon the conclusion one is driven to by the surrounding circumstances than by any direct evidence upon the point. That each of those accidents were known to Rendal, the overman, there can be no doubt.

Exhibit I.

Rendal deposed at the Court of Investigation: "Weir's accident happened about eight or nine months ago. I may have mentioned it to the under-manager. I did not make a formal report of it to him or to the manager. It was the first occurrence of the kind that had taken place while I had been overman. I may or may not have mentioned it to the under-manager."

Exhibit I.

The under-manager (H. C. Croft) denied that Rendal had in any way reported the matter of Weir's accident to him, and the manager (J. Croft) gives similar evidence. Seeing, however, that Rendal thought it necessary to put up a danger-board in the narrow bord on the strength of what Weir had told him about his accident, and had that heading thereafter examined with a safety-lamp; and seeing that that was the first occasion on which there had been any explosion of gas; and seeing that occurrence was generally known to the shiftmen in the A pit, it is impossible to believe that the circumstance was not known, even if not officially reported to the under-manager, with whom he, the overman, was on the best of terms.

Exhibit I.

And if that was reported to the under-manager it would, as a matter of course, come to the knowledge of the manager. The conclusion that it did so reach the under-manager and manager is further forced upon the Court upon reading from Rendal's deposition in answer to a question by the Court at the Court of Investigation: "I came to use the safety-lamp after Weir's accident, because the manager and I thought it better to do so, in order to make sure if ever such a thing occurred again. Bailey used a safety-lamp after this also."

Special Rule 8.

Rendal.

Before the Court of Inquiry, certainly Rendal made an attempt to destroy the value of that piece of evidence by saying: "I cannot understand how that evidence was given by me. I cannot understand how it comes in my evidence at all. I had no conversation with the manager about it at all. It was so small and frivolous that I had no occasion to speak to him about it. I have no recollection of having reported it."

That explanation was not of much weight. In all probability Rendal at the first Court gave the true reason for using the safety-lamp, seeing that then no charge had been made against his manager.

That injury to Weir and the accident to Taft were not reported in accordance with section 29, subsection 1. I have little doubt that the reason why those accidents were not so reported to the inspector of the district by the manager was not that he did not know of them, but because neither accident seemed to him to be of a serious nature. That conclusion I come to from J. Croft's evidence, that "only serious accidents were so reported."

J. Croft.

Since October, 1896, there had been about nine accidents in A pit, brought about chiefly by falls of coal. "Those that were serious were reported to the inspector. About half of those accidents were reported to the inspector, being considered sufficiently serious to report; those that were not serious were not reported."

Department of  
Mines Annual  
Reports, 1896,  
1897, 1898.

I can well understand that if it was the custom of the manager not to report slight accidents brought about by other causes, that he would also forbear from reporting accidents which appeared trivial, even though such accidents were the result of inflammable or noxious gases. The accidents that had been reported since the Act came into force (1st October, 1896) till the date of this inquiry were few in number, and were all of a serious nature.

Joseph Croft, on 29th March, had heard from Bailey of the injury to Weir, and at a later date he heard of Taft's matter from Rendal. He made some slight inquiries into each of those matters, from Fox into Weir's matter, and from Taft. Those inquiries were made before the 12th April, yet for some reason, which I fail to understand, except that he wished to plead entire ignorance of each occurrence, he denied all knowledge, when questioned by the Chief Inspector on the 14th April, as before stated.

The next ground of complaint to be considered is as to whether, or not, the ventilation of the mine was interfered with for the purpose of deceiving the inspectors or the check-inspectors, when inspecting the mine.

The proof of that charge depended upon the evidence of Bailey; to some extent on that of Benjamin Dobb, and to a very slight extent upon that of Alfred Price.

As Bailey's evidence was useless to the Court on the one point as to the presence of gas in the mine, I could not place any reliance upon it to prove this charge.

Price.

The evidence of Alfred Price was explained away; and I have no doubt that when he swore that he had seen "canvas across the road" leading to where men were working in No. 1 pillars that he was mistaken, as he, in fact, admitted. That some canvas was there, there can be no doubt, though I am not satisfied that it was stretched across the road for any improper purpose.

Dobb.  
Exhibit K.

Benjamin Dobb was the other witness, and he stated that he had seen No. 5 overcast partly closed with canvas when the check-inspectors were in the mine; that the under-manager had told him that the check-inspectors were coming, and that he (the under-manager) would place No. 5 overcast all right; and that he (Dobb) would have to see to the removal when they were coming out. If I believed that evidence I should have to find that Dobb and the under-manager had conspired together to commit a fraud on the check-inspectors.

If they had so conspired, Dobb was an accomplice, and I should not be justified in placing reliance upon his evidence unless it were corroborated. Not only was that evidence not corroborated, but from the fact, reported by the check-inspectors in a book kept at the mine for that purpose, that they found on that occasion the usual amount of air going into, and circulating through, all the districts; and their returns generally coincided with the volumes of air found by the district inspector on his visits.

If on the occasion referred to by Dobb, the check-inspectors had found a greater quantity of air than usual, circulating in No. 2, his evidence would to some extent have been corroborated; but that was not so.

Exhibit K.  
Dobb.  
Dixon's  
evidence.  
Annexure W.

He also stated that on the 25th February, 1898, under the instructions of the under-manager, he blocked No. 5 return, whilst the district inspector was in No. 2. From the district inspector's reports it does not appear that he found a greater amount of air circulating through No. 2 than he had found on previous visits, which is no corroboration of Dobb's evidence.

In addition to the fact that Dobb's evidence was that of an accomplice, it was also the evidence of a person who had been disrated, as he thought wrongly, and had left the service of the company. He, equally with Bailey, seems to have been actuated by ill-will to his former employers.

That

That being the only evidence to prove that the management worked a fraud upon the Government inspectors, or upon the check-inspectors, I find those charges not proved.

In considering Dobb's evidence I have not lost sight of the fact that he produced a note-book, in which he swore that he had made entries of the frauds that he had assisted to work upon the inspectors; as I put small faith in his oral evidence, I put even less upon the notes so produced. Dobb's evidence. Annexure S.

The only point remaining refers to the ventilation of certain districts in the A pit during 1898 and 1899.

It was admitted that the volume of air that went into the pit was sufficient for all purposes, and rather in excess of that required by the Act.

It was contended that parts of some of the districts, namely No. 6, No. 5, and the pillar workings in No. 1, were at times without the proper quantity of air.

Because Weir was injured by an explosion of gas in No. 6 heading on 25th September, 1898; it was contended that the air was deficient on such date. I do not hold with that contention. When Weir was injured but three men were working in, or near to, those headings, and the air was adequate, though perhaps the brattice was not sufficiently forward. That was, however, advanced before the miners came to work on that morning.

John Atkinson, a miner, found the air in No. 1 pillars "very hot." "There was a current of air," he says, "coming in, but it was very hot," and, later on, "I have been over twenty years in the Newcastle Coal-mining Company's mine. I have nothing to complain of in respect to the air during the whole of that time. If I had, I certainly should have done so." Exhibit O, p. 116.

From Atkinson's demeanour in the witness-box I quite believe he would have done so.

George Watts, and his mate, Alfred Johns, also complained of the bad air in No. 1 pillars when working there, but at the time they made no complaint to the under-manager, or to the inspectors who visited the place from time to time. Had any such complaint been made, the cause of complaint would have been investigated and most probably the fault, if found to exist, remedied.

I do not find that, on the occasions stated in the charges, the ventilation was so defective as to show that either the manager or under-manager was incompetent or guilty of gross negligence in that respect.

At the Court of Inquiry eighteen witnesses were called to give evidence in support of the charges, and twelve witnesses were called on behalf of the defendants. As most of these witnesses have been examined and cross-examined many times, it may be assumed the Court had all the information possible to be obtained. At the conclusion of the case in support of the charges I inspected the mine, accompanied by the Chief Inspector, the District Inspector, and others.

I was taken through about one-third of the A pit, and was very favourably impressed by all that I had the opportunity of seeing during my inspection, both underground and at the pit's mouth.

Joseph Croft's defence to the charges was that he had not known of the accidents to either Wear or Taft until the 28th March last, when Bailey mentioned Wear's accident (some six months after the event).

I should have placed more reliance upon Joseph Croft's denial if he had not denied all knowledge of Weir's accident to the Chief Inspector on the 14th April, after he (Croft) had heard from Bailey, and after he had made some, almost casual, inquiries into the matter. Doubtless, as I have before stated, the result of these two accidents not being serious, they had passed from his memory.

On behalf of the defence it was proved abundantly, and indeed admitted, that Joseph Croft was a competent, capable, and careful manager, careful of the safety of his men and of the property of his employers, and that H. C. Croft was an energetic and capable under-manager.

The charges now brought against each of them did not allege general incompetence and gross negligence, only that each had shown himself incompetent and grossly negligent in complying with and enforcing perhaps the most important sections of the Coal Mines Regulation Act and the special rules of the colliery.

I, very reluctantly, am driven to the conclusion that in these respects each has shown such incompetence and gross negligence as to show his unfitness under subsection 6 of section 10 of the Act.

The other charges were denied *seriatim* by Joseph Croft. As I found that some of them were not proved to the satisfaction of the Court, I need only dwell upon those denials which did not prevail.

Herbert Claude Croft also met all of the charges by a denial of all knowledge. In his case also that denial would have had more weight if he had not made an attempt similar to that of Joseph Croft to mislead the Chief Inspector about Weir's accident.

That the discipline of the mine was very lax, unfortunately, there can be no doubt. It was part of Rendal's (the overman) duty to inspect those portions of the pit his gangs of shiftmen were to work in each night. No report of any such inspection had been made in any book, or at all, before last April. After Weir had been injured by an explosion of gas in September, 1893, the inspection of A pit was not made with locked safety-lamps. General Rule 4.

After Taft had been overcome by noxious gas that part of the mine was not inspected with a locked safety-lamp; and no report of any such inspection was recorded in a book kept at the mine for the purpose—in fact, there was no such book. General Rule 7.

When Bailey was inspecting No. 6 with a safety-lamp that lamp was not locked, and he was even allowed to remove the bonnet when making an inspection in presence of the under-manager without reproof. Rendal also used an unlocked safety-lamp. H. C. Croft.

From this uncontradicted evidence I can only come to the conclusion that the management seemed to think the very useful and salutary and necessary sections of the Coal Mines Regulation Act, and even their own special rules, did not apply to their mine. Each breach of the Act would be a breach of discipline in a mine conducted in accordance with the Act. The management seemed to have been grossly careless as to whether the provisions of the Act were or were not complied with. They seemed to have considered that they were not bound to report any personal injury though caused by an explosion unless the injury was serious.

The evidence of the manager and under-manager as to the finding fault with Bailey's report, his disrating and ultimate dismissal, shows a peculiar state of discipline. The manager (J. Croft) swore that he was certain that Bailey's report of the 28th March was false, and false to Bailey's knowledge, yet he was allowed to inspect and report on the 29th and 30th March, and then when he was disrated and put on the

the night-shift, it was at the same rate of wages. If the discipline had been such as one would expect to find in such a mine, Bailey should have been discharged so soon as the manager was satisfied the report was false.

J. Croft.  
Exhibit No. 10.

Also so soon as the manager and under-manager became aware of the many times that Rendal, the overman, had committed breaches of the Act he should have been reprimanded, suspended, or discharged.

The manager and under-manager also seem to think that they were justified in withholding information from the Chief Inspector when he was making an examination under the 19th section of the Act, to ascertain whether the provisions of the Act had been complied with. By so doing they committed a breach of that section.

Annexed to this report furnished to the Minister in pursuance of the 10th section, 5th subsection, of the Act are the exhibits and the signed depositions of all the witnesses examined before the Court; also the certificates of each of the defendants.

My opinion of the charges is as follows:—

As to Joseph Croft—

Charges Nos. 1, 2, 3, 4, and 5. I find these charges proved.

Charge 6. I do not find this charge proved, though I find that Joseph Croft, having cause to doubt the correctness of a report made in pursuance of General Rule 4 in the report-book kept for that purpose, improperly wrote a protest on that report.

Charges 7 and 8. I find these charges proved.

Charges 9 and 10. I find these charges not proved.

Charge 11. I find this charge proved; that the discipline of the mine was defective, in so far that the general rules of the Act and the special rules of the colliery were not enforced.

As to Herbert Claude Croft—

Charges Nos. 1, 2, and 4. I find that these charges were proved.

Charges 3, 5, and 6. I find that these charges were not proved.

Charge 7. I find this charge proved. He, as under-manager, was responsible, under the 3rd special rule, for the discipline of that portion of the mine under his charge.

I accordingly have to find that Joseph Croft has shown himself, by incompetence and gross negligence, unfit to discharge his duties as manager.

Since these inquiries were first set on foot I understand that the discipline in the mine has been materially altered, and that the general rules under the Act and the special rules of the colliery are now being complied with. Bearing that in mind, and also that no serious injury has resulted by the lax discipline as before stated, and as it has been proved that Joseph Croft has been a successful manager for a number of years, that he had never before been called upon to answer any charge of any kind, and taking into my consideration that he has about 800 men under his control and in his care, some of them for very many years, and that accidents have been few, although the mine has been a difficult one to develop, many faults and dykes in the coal-seams being frequently met with.

In my opinion the justice of the case under all of the circumstances will be met by my formally suspending the certificate of Joseph Croft for a nominal time, *i.e.*, until the rising of the Court, and by ordering him to pay the costs of this inquiry, which has been rendered necessary by his default. As the more serious charges have not been proved, the amount of those costs should be limited to £60, and I order accordingly.

As it has been proved that Herbert Claude Croft has been an energetic and industrious under-manager, and that the work for which he was responsible has been well performed, though not in accordance with the Act, that he had never before been called upon to answer any other charge. In my opinion the justice of the case under all the circumstances will be met with by formally suspending his certificate for a nominal time, *i.e.*, till the rising of the Court, and by ordering him to pay the costs of this inquiry, which has been rendered necessary by his default. As the more serious charges were not proved, the amount of such costs should be limited to £40, and I order accordingly.

Before closing this inquiry it is my pleasure to state that I received great assistance from Mr. H. Dalrymple Wood, the duly appointed secretary to the Court; and also that Mr. H. F. Roberts proved himself again to be very capable by the accurate and expeditious manner in which he reported in type the evidence of each witness.

I have, &c.,  
GRANTLEY FITZHARDINGE, D.C.J.

30/8/89.



## Depositions at Court of Inquiry.

## LIST OF WITNESSES.

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B. Dobb .....	10	J. Dixon .....	20, 26, 37
J. Bullerwoll .....	11	T. L. Bates .....	21

## LIST OF WITNESSES FOR THE DEFENCE.

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J. Henwood .....	22, 31	J. A. Neilson .....	25
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W. Ambrose .....	23	J. Hetherington .....	26
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Mr. Edmunds hands in his appointment to undertake the management of the inquiry on behalf of the Mines Department.

Mr. R. W. Thompson appears for Joseph Croft and Herbert Claude Croft.

On the suggestion of Mr. Edmunds, and with the consent of Mr. Thompson, the case against both defendants is taken together, on the understanding that neither of them shall be prejudiced by such course of proceeding. Both defendants are called upon by His Honor to hand in their certificates. Certificates not in Court, but sent for. [*Certificates put in and marked Exhibits A and B respectively.*]

This deponent, *Thomas Abell*, on his oath, states:—I am a miner, employed at the A pit of the Newcastle Coal-mining Company; I gave evidence before the Court of Investigation on the 27th June last; the signature to the deposition shown me is mine; I have heard that evidence read, and I am satisfied that it is quite correct. [*Deposition put in and marked Exhibit C.*]

*By Mr. Thompson*: I am not prepared to say that Weir had no right to be in the place where he was when burnt; it was the place where he had been directed to work; if he walked along the canch a couple of steps he would be up against the face of the coal; I saw the place where he was supposed to have seen the gas; the canch was of stone; it was right up against the stone that the gas was seen, and not against the coal; I would expect to get inflammable gas out of stone as out of coal, simply because it was there; I am speaking of the canch in the roof, and not that on the floor; the canch on the roof was of stone; there was a hole in the roof left after a blast; I was the man who put it there; I know the sound of the explosion of powder partly confined; the explosion I heard there was not like that; it was not such a solid sound; it did not sound to me as an explosion of some powder that had not exploded when the shot was fired; I have never known of a case of gas coming out of a shot-hole in sandstone in a mine; I have been employed in the A pit ten years; I had been employed in other mines prior to that, and consider myself an experienced practical miner; I had no more reason to find fault with the management of that mine during my ten years' employment than with that of any other mine I had been in.

Taken and sworn at the Court-house, Newcastle, this } THOMAS ABELL.  
14th day of August, 1899, before me,— }  
GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Joseph Fox*, on his oath, states:—I was examined as a witness before the Court of Investigation in June last; the signature to the deposition produced is mine; I wish to correct my former evidence with regard to the length of the flash in Weir's case; it should have been 2 feet instead of 6 feet; I did not see the manager till the following April; it was then in the office where I was taken by Rendal. [*Deposition put in and marked Exhibit D.*]

*By Mr. Edmunds*: The brattice that night was pretty close up to my tub; it was about 6 yards from the face; it was early in April last that I went to the office and saw Mr. Croft, the manager; I was never asked any questions about Weir's accident by Mr. Herbert Croft; Mr. Joseph Croft asked me what the flare was like, and I told him it was nothing worth speaking of; that was all that was said; I do not remember ever having seen Wilson examine the No. 6 narrow bords at that time.

*By Mr. Thompson*: My tub was about a yard from the edge of the canch; I was about 3 yards from Weir when the flash came and he fell; his head was not far from the roof at the time when he stood up on the canch; he was a taller man than I; I am about 5 ft. 1½ in. high; the flash seemed to come from the stone towards me; it appeared to me that Weir had gone on to the canch to look at the cut-through which had been commenced there.

*By Mr. Edmunds*: The cut-through was in the coal; the bord had gone through the dyke into the coal again; no coal or stone was thrown down by the explosion.

Taken and sworn at the Court-house, Newcastle, this } JOSEPH FOX.  
14th day of August, 1899, before me,— }  
GRANTLEY FITZHARDINGE.

Court now adjourned till 10 a.m. to-morrow.  
Court-house, Newcastle, 14th August, 1899.

This deponent, *Alfred Ashley Atkinson*, on his oath, states:—I am Chief Inspector of Collieries; I produce a plan of the Newcastle Coal Company's A pit [*put in and marked Exhibit E*]; it has been prepared from the record plan kept in the Coal-fields Office, which was compiled from the plans supplied by the management of the colliery. [*Original record plan put in and marked Exhibit E also.*]

*By*

*By Mr. Thompson :* As far as my examinations of the colliery go, I am of opinion that it has been set out in a proper manner; the quantity of air supplied is sufficient for the number of men, boys, and horses working in the mine; a fan would be a method of ventilation better adapted to a shallow colliery such as this.

Taken and sworn at the Court-house, Newcastle, this }  
15th day of August, 1899, before me,— }

A. A. ATKINSON.

GRANTLEY FITZHARDINGE, D.C.J.

Mr. Edmunds tenders in evidence the Special Rules of the Colliery [*put in and marked Exhibit F.*] It is admitted that Joseph Croft has been manager of the mine since before 1895, and that Herbert Claude Croft has been under-manager since the beginning of the year 1898 up to the present.

This deponent, *John William Taft*, on his oath, states:—I am a miner employed at the Newcastle Company's A. Pit; I gave evidence before the Court of Investigation in June last; the signature to the deposition shown me is mine [*witness' evidence at Court of Investigation read to him.*]; that is correct. [*Deposition put in and marked Exhibit G.*] That was either in the month of June or July; I was off work the next day, and was bad too.

*By Mr. Thompson :* Until Mr. Croft spoke to me I never mentioned my illness to him nor to Herbert Croft; I saw any number of people to whom I could have complained besides Rendal; Rendal saw me himself and knew all about it; the place in which I was working was being cleared for the purpose of working the pillars; all the ground was broken there; I never spoke to either of the defendants about matter of complaint; it is a well-known fact that we miners would sooner put up with a little inconvenience like that than make a complaint about it; I have worked in other coal-mines besides the Newcastle; I have been some years a coal-miner; I have worked in the Greta mine and Denton Park, outside of Maitland; I was trained to the work in England; the state of discipline in the Newcastle mine was about the same as in other collieries in which I have worked; it is well known that the air in pillar workings is fouler than in other parts of the mine, owing to the country being broken; to a large extent it is more difficult to ventilate the broken country than the other parts of the mine; brattice will carry the air into the broken workings as well as into the bords; I went back to the same place as where I was taken ill, and put timbering in there; the stopping had been taken down then, and the air was much better; it was in consequence of my complaint that the stopping was taken out so as to permit more air coming to the place; I was away from the colliery nine weeks altogether; that was before my sickness; during that time I was in the Colony of Victoria; I left there in consequence of the bad weather; that would not matter to me when I was working in the pit; I would have made better wages there if I had had my family there, but I could not keep two places going.

Taken and sworn at the Court-house, Newcastle, this }  
15th day of August, 1899, before me,— }

JOHN WILLIAM TAFT.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Albert Turner*, on his oath, states:—I am a miner working in the Newcastle Company's pit; I gave evidence before the Court of Investigation about a month ago; the signature to the deposition shown me is mine [*deposition put in and marked H.*]; that deposition is quite correct; I was never questioned about the matters in my evidence by either of the defendants: the miners did not start the pillars till we had left—not as we cleared the road; when I said my conscience told me my name was Walker if I complained, I meant that when I was in the pit there was first a jar from one official and then a snarl from another; I do not mean that I have said anything untrue about the matter; all I have said is the truth.

*By Mr. Thompson :* I cannot state when this jarring and snarling commenced; it was since the inquiry held by Mr. Wade; I do not mean that Mr. Joseph Croft "jarred" me in that way; it was the officials that I met in the pit; Mr. Joseph Croft was present in the mine in my place on one occasion; he never "jarred" me; I mean Ambrose and Gall as the officials that "jarred" me; Ambrose said on one occasion that he did not believe that Mr. Croft was anything but a gentleman; I said I did not believe him to be anything else; he has never been anything but a gentleman to me; Ambrose made no reply to my remark, but went away with his tail between his legs; on one occasion Gall said, "Good day, boys, how are you getting on?" we said all right, and he went away; he came back in a few minutes; that was what I called a "jar"; if he had passed us without saying a word I would not have taken that as a "jar"; during my twelve years at the mine I have been away four or five times; I was away for a twelve month altogether; I had to like the place, because my home was there; I am not a bit of a grumbler; if I were more of a grumbler I would get on better; I was trained to the mining in England; the under-bosses in the Newcastle mine treat the men very badly; they tyrannise over them, and bully them; I do not think that is when the men are not up to the mark in their work; they do it out of sheer cussedness; Mr. Joseph Croft is not one of them; I have worked in gassy mines in England; they were also affected with choke damp; further than that, I have been in an explosion; the mines out here are much freer from gases than those in England; the mines out here are not better than those in England, nor are the miners treated better; we do not get half a quarter of the air here; I do not know what quantity of air is allowed to each man, boy, and horse in a mine here nor in England; I can always tell by my breathing what the air is like; I cannot tell within 50 feet of how much air is coming to a place.

Taken and sworn at Court-house, Newcastle, this }  
15th day of August, 1899, before me,— }

ALBERT TURNER

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *William Rendal*, on his oath, states:—I gave evidence before the Court of Investigation held by Mr. Wade some weeks back; the signature to the depositions shown me is mine [*put in and marked I.*]; with the exception of the places mentioned in the margin that deposition is correct [*exhibit "G" in inquiry put in evidence by Mr. Edmunds*]; I wish to correct my former evidence at page 47 of my evidence in this respect; I meant that I started to use the safety-lamp regularly for the purpose of my inspections on a Sunday night; I had used it for other purposes prior to that; there had been a safety-lamp in the pit, which we could use at our own discretion for such purposes of examining

examining when going through the dykes; my former evidence refers to the time we first began to use the safety-lamp regularly for the purpose of inspection; referring to my former evidence at page 106, where I spoke of Weir having been burnt; I never could acknowledge that Weir was burnt; I mean the place where Weir's moustache was singed; then at page 107 I speak of using the safety-lamp, because the manager and I thought it better to do so; I cannot understand how that evidence was given by me; I cannot understand how it comes in my evidence at all; I had no conversation with the manager about it at all; it was so small and frivolous that I had no occasion to speak to him about it; I have no recollection of having reported it; I cannot remember saying at the inquiry, "I came to use the safety-lamp because the manager and I thought it better to do so"; I cannot say whether the Weir incident was well known among the men or not; I am not positive whether I mentioned Weir's incident to Herbert Croft or not; the narrow bords in No. 6 were carefully inspected with a safety-lamp after Weir's incident; there was no other place to be particularly inspected; I used to take the safety-lamp round with me on a Sunday night after that wherever I went; the procedure under general rule 10 was not carried out; no lamp station has been appointed, nor any person appointed to see that the lamps are in proper order before being used; I examine and light the other man's lamp on Sunday night, and see that it is in proper order before he goes on his examination; I also examine my own, and see that it is in proper order before making my examination; I lock it myself; that course of procedure has been adopted and carried out for several months—say six; that refers only to Sunday night.

*By Mr. Thompson:* I have read the part of the Act referring to the use of safety-lamps; it was not necessary to work the coal with safety-lamps in that part of the mine, nor in any part; there is a cabin on the engine flat; the safety-lamps are not kept there, but in a cabin at the pit bottom; my illness during the inquiry was due to an affection of the heart, from which I have suffered for the last twelve months; that affection may have affected my memory at the time I was giving evidence; I felt indications of my illness coming on me before I came to Court that day; I understood the questions put to me fairly till I appealed to Mr. Wade, feeling the swoon coming over me; the special rules lay down that no man has any business to go to any place than that to which he was sent; Taft was working in his ordinary working clothes at the time of his sickness, trousers and flannel shirt; I felt no oppressive sensation when I went in to help Taft out; I was suffering from my present ailment at the time, but not to such an extent as since; I do not feel any ill-effects from the want of air in the mine; it is more excitement that affects me; I have had forty-six years' experience underground, and have been a practical miner before obtaining my present position; it was Bailey's duty to examine the place where Weir met with his accident; I know nothing of Taft outside the mine; I have never seen a man overcome by choke-damp in all my experience; I have never seen men affected by bad air after explosions; from my knowledge of the circumstances, I believe that Mr. Joseph Croft first knew of Taft's matter some time in April last; I may have put Dobb on to work with Turner while Taft was absent one shift; I heard of nothing occurring at that place after Taft returned to it; I did not detect foul air of such extent to affect a man in that place; I have said the air there was light; the state of the discipline in the Newcastle mine will compare favourably with that of any mine in the district; as far as I know the under-managers are not tyrants or bullies; I am working at night and may not hear all that is said, but that is my opinion of them; I never knew Ambrose and Gall to be men of such a class; they may be rough-tongued men, but they are not always the worst; I get ruffled myself at times in consequence of the behaviour of the men; I was ruffled with Weir for going to a place he had not been told to go to; I believe it was at the meeting in the office that Mr. Croft first knew of Taft and Weir's matters; I cannot remember the word "black damp" being mentioned at that meeting; from my knowledge of the two defendants, I can say that each has conducted his part of the business of the mine very well; it was not part of my work to see to the ventilation of the mine; as far as I could see the ventilation was properly carried out; I have heard that Taft and Turner were putting kerosene oil in their tallow for their lamps; I did not observe that their lights burnt any more brightly than mine that night; I was using kerosene in my tallow myself, because in cold weather the tallow becomes harder and the kerosene assists to melt the tallow; I never heard of kerosene being used in the tallow because the air was light; it would be more likely used in the cool air in order to assist the tallow to melt.

*By Mr. Edmunds:* I have been twenty-two years in this Company's mine; I was employed before that in the A.A. Co's. pit; I have no knowledge, except from hearsay, of the discipline in any mine but the Newcastle; the safety-lamp was in the cabin at the pit bottom for some considerable time; I took it from the cabin; it was not handed to me by anybody, but was there for me whenever I wanted it; I received no particular instructions from either of the defendants as to its use; the lamp was there in Mr. Mouter's time; he may have given me some instructions about the use of the lamp; I received no instructions from Mr. Joseph Croft about the use of the lamp; I cannot remember whether Mr. Herbert Croft ever gave me any instructions about it; I believe it was Mr. Mouter who told me to use it when going through the dykes; I have no recollection of any conversation with either of the defendants about my using the safety-lamp; there was no particular lamp-keeper in the mine under special rules 36 and 37; I was lamp-keeper for myself on the Sunday nights for my own purposes.

*By Mr. Thompson:* It was in going through the dykes that we would expect to meet with gas, even in a non-gassy mine; we used the safety-lamp in going through them for more abundant caution.

Taken and sworn at Court House, Newcastle, this }  
15th day of August, 1899, before me, ——— }

W. RENDAL.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Edward Wilson*, on his oath, states:—I am an inspecting deputy at the Newcastle Coal Company's mine; I gave evidence at the Court of Investigation last month; the signature to the deposition produced is mine; with the exceptions at pages 67 and 71, marked with a pencil in the margin, that deposition is correct [*Deposition put in and marked exhibit J. Exhibit I, in Court of Inquiry, also put in evidence*]; I cannot say when I heard of the accident to Weir; it was long after it had happened; I wish to correct my former evidence as to seeing Jones examining with a safety-lamp; I have not seen him examining with it, but simply carrying it.

*By Mr. Thompson:* Before being appointed deputy I was employed at shift-work; I have never been what is called "on the coal" properly; I was as a necessity of my position a good deal among the men in No. 9 district; I do not remember ever hearing that the inspectors were about to visit the mine;

I have not worked in any mine but the Newcastle; I do not remember ever having been accused of being a tyrant or a bully; I had to see that the men obeyed my instructions to a certain extent; it does not matter to me whether a miner sits down all day as long as he keeps the place all right; I had to look after the shiftmen; I never found the men unruly in the mine; if I wanted to know anything in connection with my work I consulted Joseph Croft, and always found him very civil and willing to instruct me; I found the same with regard to the younger Mr. Croft; such instructions as either of them gave me I took care to obey as far as I could; I have not been in other mines so as to see how they were conducted; the ventilation in No. 9 district was always very good; I never heard any of the men complain about it; that was the part of the mine I had to attend to.

Taken and sworn at Court-house, Newcastle, }  
 this 15th day of August, 1899, before me,— }  
 GRANTLEY FITZHARDINGE, D.C.J.

E. WILSON.

This deponent, *Benjamin Dobb*, on his oath, states:—I was at one time employed in the Newcastle Company's mine; I gave evidence at the Court of Inquiry; the deposition shown me is mine, and bears my signature; the evidence read to me as being given by me before the Court of Inquiry is correct; the notes shown me in the exercise-book and note-book produced were made by me and are the notes referred to by me in my former evidence [*books put in evidence. Witness marks on the smaller plan—Exhibit E—the position of the No. 1 overcast and also the No. 5 main return, the point where he saw the canvas being held up in No. 2 main return, with a circle.*]; the main engine-road was about 6 feet square at that point; the canvas was put up about 50 or 60 yards from the No. 1 air-crossing.

*By Mr. Thompson:* The canvas was put square across the road where I saw Bailey and Newburn holding it up; it was about 6 feet across the road at that point; I did tell Mr. Herbert Croft of what was going on; I told him what I had come across in No. 1 and what I had seen in No. 2; I saw the air blocked in this way on three occasions; I did not tell him of the three occasions; he knew of them; he did it himself on one occasion; he told me that he would do it; he said he "would put it right"; I certainly never told his father of any of these capers; I made the entries in the note-book for convenience sake, and for no other reason; I made the entry about the chain being thrown at me on the same night as it occurred; I made the entries in the note-book two or three days before I came to give evidence before the Court of Inquiry; it was nearly four years after I had made the original entries in the exercise-book; it was three years after their occurrence that I complained to Mr. Joseph Croft of what I noted in the exercise-book; I continued to make those notes in the exercise-book from 17th July, 1895, till 25th February, 1898; I brought that note-book with me to refresh my memory; I have a pretty fair memory, but in a case like that where I wanted to be sure about what I was saying; what I saw Joseph Croft about was being shifted from day work to night work; I was disrated in being taken off the day shift and put on the night shift; I considered that a disrating, because I did not like the night work; my wages were not reduced; I cavilled to work with Jonah Morgan on the coal; he was a grand man and I liked him well; I did not throw Morgan over; he threw me over, if there was any throwing over; I did not go to work, because I had started in another colliery; I did not intend to go to work in the Newcastle pit where I cavilled; I had no intention of going to work there when I cavilled for the place; I did not tell anyone but Herbert Croft of what I had seen in the mine with regard to the interference with the ventilation; I told nobody else till I told Bailey; I had left the colliery a month then; I was getting 8s. a day for the shift work; I do not think it was much easier than working on the coal; the day shift work was much easier than getting coal, but the night shift work was not; I had only to use the light tools in the daytime and heavy tools in the night; I did not speak to Bailey when I saw him stopping the air, because I told young Croft, and thought that was sufficient; I had no business to interfere with either Bailey or Newburn, as they were superior officials to me; I told Herbert Croft of what I had seen in a short time—within a week; I was not a deputy nor a relieving deputy then; I saw this kind of thing going on in the mine for a period extending over three and a half years; although the check inspectors were not my friends they were not my enemies; it seems to me that the men are afraid to confide in their own deputies; I should say that, as far as I am concerned, the men should pick reliable honest men as deputies; there is very little difference between choke-damp and black-damp; choke-damp is called black-damp and *vice versa*; there is really no difference between them; Taft's illness took place about September or October, 1898; it was fairly warm weather; I cannot say that it did not take place in September, 1898, and that a keen cold westerly wind was blowing at the time; I had not used kerosene up to that time, but since then have done so frequently as it is a very good auxiliary; it sets the tallow running more freely; the records of the air-current were not good on account of the obstructions to the air; I mean the obstructions placed by myself and others to prevent the air following its proper course; I knew that in No. 5 there were obstructions to the air in the shape of falls and pools of water; I knew that from those who had travelled that way; I have said that I have read a good deal about gases; judging from Taft's symptoms I should say he was suffering from the effects of choke-damp or some other damp that should not have been there; when I said the air records would be reliable if all the men were honest, I meant the men who ordered the obstruction to be put up and those who assisted in the putting up of the obstructions; I never remember hearing of the intended visit of Mr. Atkinson; I referred to Mr. Dixon as the inspector whose visits were known of beforehand; I knew of his visits about two or three hours before he came; one can see about a quarter of a mile from the mouth of the pit along the road; it would take Mr. Dixon some time to reach the mine and get ready to go down from the point where he could be seen from the mouth of the pit; the falling of the roof in the pillars would not cause a block to the air-course; the shaft is about 300 feet deep; in some places the roof, for a thickness of 30 feet, has fallen; those places are not in the airway; the air was blocked to some extent by the falls; that could not be avoided.

*By Mr. Edmunds:* I mean by that that the falling of the roof could not have been avoided; the pillars were taken out and the roof fell in.

BENJAMIN DOBB.

Taken and sworn at the Court-house, Newcastle, }  
 this 15th day of August, 1899, before me,— }  
 GRANTLEY FITZHARDINGE, D.C.J.

Inquiry adjourned till 9:30 a.m. to-morrow, Court-house, Newcastle, 15th August, 1899.

This

This deponent, *James Bullerwell*, on his oath, states:—I am the under-manager at the New Lambton Colliery; I was formerly employed in the A pit of the Newcastle Coal Company; I gave evidence before the Court of Investigation last month; the signature to the deposition shown me is mine; that deposition is correct, except that Weir's name appears instead of Taft's; I know nothing about Weir's case; I was not examining deputy at the time of Taft's accident; I came on the next quarter; it was in the second right hand that I found the black-damp, not where Taft and Turner were working; it was about 35 yards from where they worked, in another heading. [*Deposition put in, and marked Exhibit L.*]

*By Mr. Thompson*: I did not report it, because I drove it away; it struck me at the time that the black-damp was there on account of the brattice being down; as soon as I repaired it the black-damp disappeared; I was about six months in the employ of the Newcastle Coal Company; during that time I did not find that the minor officials of the mine were bullies or tyrants; I used to work with Bailey as a mate at night; he never appeared to me as a querulous man, always complaining; it was a little time before the last inquiry that he asked me about the black-damp; I have about thirty years' experience of coal-mining altogether; I would expect to find black-damp in any mine under circumstances similar to those under which I found it in the Newcastle pit on that occasion.

*By Mr. Edmunds*: Mr. Herbert Croft was under-manager at the time I found the black-damp; I made no written report of the finding of the gas.

Taken and sworn at Court-house, Newcastle, this }  
16th day of August, 1893, before me,— }

JAMES BULLERWELL.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *John William Bailey*, on his oath, states:—I am a miner; I was lately in the service of the Newcastle Coal Company.

*By Mr. Thompson*: I only knew this inquiry was coming on when I saw it announced in the newspaper; I do not know when that was; I wrote a letter to the *Newcastle Herald*, which appeared on the 9th instant; I think that was before I knew the inquiry was to come on; I did not get notice of this inquiry.

*By Mr. Edmunds*: I was, probably, eight years in the service of the Newcastle Company; in 1895, I was on the night shift. [*Mr. Thompson objects to any evidence concerning anything which may have taken place more than three months prior to the 9th instant, the date of the appointment of His Honor to hold the inquiry.*] About the middle of the year 1895 I was looking after the No. 10 pillars; the number of men there at that time did not require a proper deputy; I was engaged on shift work there; I known Newburn; he was foreman deputy at that time—overman deputy—that is, the chief deputy; he would be next in position to the under-manager; I was always considered under his orders, and bound to obey them; I believe H. Croft was under-manager at that time—the present under-manager; I remember an incident that took place about that time with Newburn; I cannot tell what month it was; I only know it was in 1895; I was sitting at the turn on a certain day—the No. 10 pillars turn—on the No. 2 main road; I was sitting near a fault that ran across; it was about 200 yards from the No. 1 return; it was before dinner, but I cannot state the exact time; Newburn came out from No. 2, and passing by me [*objected to by Mr. Thompson*] ordered me to go with him; I cannot give his words; he had a sheet of canvas with him; I got up and went with him along the main engine road towards the pit bottom some distance; he told me to hold up the end of the canvas there, and make it secure; I did so; the piece of canvas was about 6 feet by 7 feet; there was a slab in the roof at this particular place; we bent the canvas over this slab, and put pieces of stone up to keep it there; I then stood up against the canvas to stop it from blowing out too far; Newburn was doing the same as I was; the canvas went completely across the engine road, and extended from the roof to the floor; this was done at a point in-by from the No. 1 overcast, and out-by from No. 10 pillars; Newburn and I remained there supporting this canvas for half an hour or longer; we did so for at least half an hour; at the end of that time he took down the canvas, and each of us returned to his proper place; during the time we were holding up the canvas someone passed under the canvas, but I cannot recollect who it was; the effect of putting up the canvas at that point would be to give the out-by districts more air, and deprive the in-by districts of that quantity of air; some years after I took part in a proceeding of a similar character; that was done between Nos. 7 and 8 districts; I received instructions on that occasion from Ambrose, the deputy; at that time I was bound to obey Ambrose's orders. [*Evidence objected to by Mr. Thompson, on the ground that it is outside the usual case of a man obeying a lawful order, and that it is a case of a man carrying out an absolutely illegal act*]; I cannot give the date of this occurrence; it happened about six or seven months before my discharge in April last; that would be about October, 1898; I was discharged on the 14th April last; this occurrence took place before dinner; I was at the deputies' box on the No. 6 flat; Ambrose told me to go to a place between Nos. 7 and 8 districts, and put up a piece of canvas there; there was only the one place to go to there between those two districts; he did not tell me what quantity of canvas to put up there; that was the whole of what he said to me; I had to search for a piece of canvas, and that took me some time; when I got to the spot Ambrose was already there, with the canvas partly up; I assisted him to finish putting it up, and we withdrew for a little while; it was secured in the connecting road between the two districts at that time when I got there; the canvas was about half up at the time I got there; it was tacked to a slab in the roof; I assisted to put up the rest of the canvas; that canvas stretched across the whole of the roadway, although a certain quantity of air was getting through; it was practically the size of the roadway; we withdrew after putting it up and waited a while, when Ambrose said to me, "Do you think they have finished now?"; I replied, "I think so"; after that the canvas was taken down; it remained up across the heading for three quarters of an hour—perhaps more; the place where we put up that canvas was an airway; it was the main airway between Nos. 7 and 8; the effect of putting up that canvas would be to deprive the in-by districts of some air, and give a larger quantity to the out-by districts; on another occasion I was instructed by Ambrose, the deputy, to take the boy away from the door [*same objection by Mr. Thompson*]; that was about the 3rd or 10th March last; it was between 9:30 a.m. and 10 a.m.; I was at the deputies' box on the No. 6 flat; Ambrose told me to take the boy away from the door; there was a door near there—a wooden door; it was on the No. 8 heading, about 10 or 12 yards from the main engine road; it had been put there to prevent too much air going into No. 8 district and forced into Nos. 6 and 7; it had to be kept shut to complete the ventilation of Nos. 6 and 7; leaving it open would take air

air from Nos. 6 and 7, and allow it to go into No. 8; there was a boy named Jones at that door; his duties were to keep the door constantly shut except when someone was passing through; I took the boy down the No. 7 headings a distance of about 600 or 700 yards; we remained away about three quarters of an hour; we then returned to a point where I could see the door; the door was open, and Ambrose was coming from it towards me; he told me to take the boy away again; I asked him where I should go, and he replied, "Oh, go anywhere to pass the time away"; I took the boy down to some bords on the left-hand side of No. 7 heading; that was about the same distance from the door as the other point we had gone to; we remained away about three quarters of an hour, when we returned to the door; the door was shut then; Ambrose was there; I had a conversation with Ambrose, but nothing about the matter; those are the only occurrences of that nature that I have seen; I was appointed to the position of inspecting deputy about nine months prior to my discharge; I had to inspect No. 6 pillars, No. 5 pillars, and No. 1 pillars; I was not inspecting No. 5 pillars when Taft and Turner were clearing the roadway there; when I was inspecting No. 5 pillars I think the men were working them; I inspected the working places in the No. 5 pillars for the whole nine months; the ventilation there was not very good; there were traces of black-damp there and very little air getting to the places; it was a warm portion of the workings; the old bords had fallen, and canvas was carried along the whole length of the bord from the top of the fall to the roof; the ventilation in the working places there was not sufficient; I first examined No. 6 district on the 26th September, 1898.

*By Mr. Thompson:* I made that report in pursuance of my duty, and after I had made my examination. [*Mr. Thompson objects to this evidence if contrary to the report in the book. Report-book marked Exhibit I before Court of Inquiry put in evidence as to report of 26th September, 1898.*]

*By Mr. Edmunds:* I had no instructions from the manager, Mr. Joseph Croft, at that time; I had instructions from Mr. Herbert Croft, the under-manager; I received those instructions about a week after Weir's burning; it was on the working-day previous to the 26th September last; I told him when I took over these places that I should have to report what I found; this conversation took place at the furnace in the early morning; I was being told at the time to take over No. 6; Herbert Croft told me I would have to take over these additional places—No. 6; I said, "Well, if I find gas it must go in the report-book"; he said, "No, you must report it to me, and you will be doing your duty"; of course I worked according to those instructions; after that I inspected No. 6 district; I did not see Rendal on the morning of the 26th September last; I used to see him every Monday morning; I did not see him the first Monday morning that I inspected No. 6 district; about a week previous to my taking over No. 6 something took place in the narrow bords of No. 6; when I went down Rendal was at the pit bottom; he said he had got a bit of trouble; I had a conversation with him, and we then went into the No. 6 narrow bords; he had a safety-lamp with him; I saw no mark or danger signal up at those bords when I got there; Rendal and I commenced to put up canvas in the back narrow bord; we put up canvas, extending the brattice towards the face; it was 10 or 12 yards from the face when we got there; we put up two lengths—about 12 feet; I examined the place with the safety-lamp after the canvas had been put up; there was a fairly good current of air there after the canvas had been put up; the extending of the brattice took the air to the carch in close proximity to the face; Rendal tried with the safety-lamp, but did not know how to use it; I used it for him; I tested the place for gas; there was just sufficient gas there to give a blue cap to the flame of the lamp; I was not the inspecting deputy for that part on that day; I made no written report on that occasion; I made a verbal report to Herbert Croft when he came down in the morning; I told him that a man had been burnt in the No. 6 back narrow bord, but that I could not give him any particulars, and advised him to go to Rendal for them; he immediately went through a door between his own cabin and Rendal's; I did not see or hear what took place there; I had no further conversation with Herbert Croft about the matter at that time; I used a safety-lamp in my inspections of No. 6; I was ordered to use it by the under-manager; the lamp I used was kept locked up in the under-manager's box or desk; he gave me a key so that I could unlock the desk and get the lamp myself; I was the only fireman deputy that had a key to that box; every morning that I went down I unlocked the box and got the lamp to make my inspection; the lamp was not locked, nor was there a key for it; I found inflammable gas in No. 6 district; I cannot give the date on which I first observed it; I used to find it on the rise headings in No. 6, and in the dip headings of No. 6; the narrow bords had not been driven to the rise or dip headings at that time; I am not certain whether they had reached the dip headings at that time; they had not reached the dip headings; I found the gas in both headings; I got the blue flame on the flame of the lamp; I always reported the finding of the gas either by note or verbally to the under-manager; when I reported by note I always handed the note to the under-manager; he always destroyed the note; he burnt them in his lamp occasionally; the note stated that I had found gas and removed it; I cannot state how many times I detected gas in that district, but every time the canvas was a bit back I got a trace of gas; that went on to the 28th March last; on that date I made my usual examination of the No. 6 district and found inflammable gas-carburetted hydrogen; I found it in the No. 6 dip headings; technically it was in the front heading, but we understood it at times to be the back heading; the front heading of any place is that which has the fresh air first; the heading in which I found the gas on this occasion was that which had the air first; when I got the indication of the gas I withdrew from the place and went back out-by; I tightened up the canvas along the heading; the canvas was from 8 to 9 feet from the face in the place where I detected the gas; I took the canvas in close to the face; that circulated the air round the place where I had seen the gas; all the gas was removed from that place then; I went back to the cabin and wrote my report in the book; I did not write the whole of the report at once; I first wrote as far as the words "all safe" in the report and signed my name to it; I left the cabin then; I went to have a look at the furnace where I remained for five or six minutes; I then returned to the cabin and finished my report; I took up the book and finished the report; I added the words "I found a small quantity of gas-carburetted hydrogen in front dip heading No. 6 district, removed it, and left all safe"; that would be about 5:30 a.m., perhaps a little earlier; the report is a truthful one of what I found; prior to this occurrence—about three or four months—I got a note from Rendal; I found it in the pillars of the safety-lamp; I received two notes from Rendal; I sent them to the Minister for Mines; I took a copy of the notes; the second note I received from Rendal was dated by me 9/3/99; that note told me to take a few nails into one of the dip headings of No. 6 and put up some canvas as he had found a little there; the first note referred to the finding of gas in those headings; I did what Rendal told me and found gas there on each occasion; I reported the finding of gas to Mr. Herbert Croft.

[*Exhibit*



[*Exhibit G, Rendal's evidence referred to and shown to witness.*] I saw Herbert Croft on the morning of the 28th March last, about ten minutes after I had written my report; he came into the cabin and I had a conversation with him; I said to him, "Look at the report-book"; he looked at it; the deputies had arrived then; he held the report-book open to them and said, "See what he has done"; Ambrose, Gall, and Yardley were the deputies present at the time, S. Jones was also present; Croft held the book towards them so that they could see what was in it; either that day or the next I had a conversation with the manager in the main engine road; I was told he wanted me, and I went to where he was on the No. 6 main engine road; Joseph Croft was there and said to me "Bailey, I want to see you about that report; as you are a little deaf we will go into a quiet place"; Gall and Herbert Croft had joined us then, and the four of us went up to the No. 8 main engine road; Joseph Croft had a copy of the Coal Mines Regulation Act and also a copy of the Special Rules; we sat down and Joseph Croft read General Rule 4 to me, and Special Rule 11, and also, I think, Special Rule 15; when he had finished reading them I asked him to let me read them; while I was reading General Rule 4 I asked him "Have I not done that?" he said, "Don't you consider that you ought to have said something about the roof and sides?" I said, "No, they are sound"; he said, "Do you consider an aperture in the roof a defect?" I said "No"; he said something about there being no gas there, and I said, "How about the man being burnt if there was no gas there?" Gall then said something to the effect that what gas there was there he could blow out; I said, "I don't want any bluff from you, but straight talk"; finally Mr. Croft said, "Well, Bailey, we've been watching the gas as well as you have, and we were not over-anxious about it"; I said, "I was, and could not sleep because of it"; Herbert Croft then said, "Oh, I thought that was because you were studying so much"; I said, "What would be the consequences of erasing the words 'carburetted hydrogen' from the report?" Joseph Croft had a difficulty about pronouncing the words and H. Croft assisted him; Joseph Croft then said, "I want that word kept out"; I then said, "How can I report it then, Mr. Croft?" He replied, "Oh, just put 'a little gas';" I said, "How shall I report the black-damp?" he replied, "Oh, put black-damp"; when I asked him what would be the consequence if I erased the words "carburetted hydrogen" from the report he made no reply; I returned to my work then; when I went down to my work next morning I found the under-manager cleaning the lamp in the cabin; I said good morning to him, and he asked me if I had seen the report-book; I said no, and he told me to have a look at it; I took down the book, and read the words, "I protest against this report, it not being a correct report—J. Croft"; as soon as I read it I said, "Oh, that's it, is it?" he replied yes; I then asked him should I take my own lamp, and he said yes, and told me to go round by the furnace; I went to the furnace, and found Gall there; this would be about 3:30 a.m.; I spoke to Gall, and then went along to my work; the under-manager and Gall followed me round; they overtook me; we all three carried open lights; we first went to No. 1 pillars; they followed me round till I got to No. 6; I examined No. 6 for gas—the rise headings first—with the safety-lamp; we had left our open lamps in the last cut-through, about 15 or 20 yards from the face; my safety-lamp was not locked; Gall and the under-manager stood close to me while I examined in the face for gas; there was just a "puckering" or lengthening of the flame in the lamp, indicating the presence of gas; Gall did not test for gas after me; I said to Herbert Croft, "There is a little trace there"; Gall said, "Where, I can't see it?" I replied, "No, my light has consumed it"; I told him to look for it in the next rise heading; I got about the same indication of gas there also; Gall and Croft said they did not see it; I found no other indications of gas on my inspection; I made my report that morning, "All safe"; the following morning Gall followed me round on my inspection of the No. 6 rise and dip headings; I examined those headings for gas that morning with my safety-lamp; Gall did not examine for gas in them that morning; I reported "All safe" that morning; I found no indication of gas that morning [*report-book put in Exhibit B and D, Bailey's evidence*]; the following morning, 31st March last, I received a letter from the manager; the letter shown me is the same [*letter put in Exhibit F, Bailey's evidence*]; after that I went to Lithgow, and saw the Minister for Mines; after my return I had a conversation with the manager, Joseph Croft; that was on the 13th April last; it took place in the office about 3:50 p.m.; Rendal was there; Rendal had met me at the pit head, and told me to go to the office; I went to the office with him; Joseph Croft spoke to me about having been away, and asked me where I had been; I told him I had seen the Minister and Mr. Atkinson; I said, "If there was no gas there, how could the man be burnt?" I said I could produce my safety-lamp, and show that it had been filled with gas; I told Croft that I had just paid my fees for another term at the Mining school, and asked him if he would allow me to go on the day-shift again; he said he would see about it; I then left, and went down the pit; the next day I had another conversation in the office, about 4 p.m.; Joseph Croft was alone when I went there; he said, "They will be here directly"; he went outside, but came back immediately, and the deputies, Ambrose, Gall, Newburn, and the under-manager came into the office; the manager began to talk about the occurrences that had taken place, and dwelt briefly on the gas; they all wanted to speak at once; I said, "Well, men, I've got no ill-will against you, but I am on my defence; if you'll be quiet I'll tell you what has been done"; quiet being restored, the manager referred to the canvas having been put up; I said, "Yes, I've assisted Newburn to put it up on the No. 2 engine road"; Newburn said it was not true, and that I was a traitor; I then said that Ambrose had kept the door open on the No. 8 engine road; Ambrose said, "It's a lie"; they again got a little noisy and excited; Gall called me a bloody liar; the manager shook his fist at me across the table, and said I was a damned liar; he said, "Well Bailey, you don't go down that mine any more"; I asked him if I was dismissed, and he replied, "Yes; I would not have you about the place"; I heard Joseph Croft give evidence before the Court of Inquiry; I have been a student at the Technical College here, and have obtained a certificate of competency for the position of under-manager; in the course of my studies I studied the question of gases and their indications in a mine; I had that knowledge when I went inspecting No. 6 district; my certificate is dated the 10th August, 1898.

The Court decides that it cannot consider any evidence with relation to occurrences before the 1st October, 1896,\* and evidence relating to such acts is struck out.

By *Mr. Thompson*: I wrote the letter appearing over my name in the *Newcastle Herald* of the 9th August instant; I cannot say whether I had read Mr. Commissioner Wade's report at that time; I will not be responsible for occurrences of recent date; I am responsible for my letter of the 7th August appearing in that paper on the 9th August; I did not expect to be held blameless for what I had done in the

\*Date of commencement of the new Act.



the course of my employment in the mine; I did not like to be blamed for doing wrong acts which I was ordered to do by my superiors; I knew how far to go in those matters; I had to trick my fellow-workmen; I did mind tricking them; I objected to it in a way; for three and a half years I knew of these illegal acts being carried out in the mine; I wrote the whole of the letter in the paper with the exception of the words "*force majeure*"; I think I wrote the words "instant dismissal" instead of them; I was never threatened with instant dismissal; I did not, to my knowledge, mention the interference with the ventilation to Joseph Croft until the meeting in the office on the 14th April last; I said in my letter to the paper that I had found about 16 cubic feet of gas in the mine on the 28th March last; that was carburetted hydrogen; Mr. May saw my letter before I sent it to the paper; he did not write it for me; he did not revise it for me; he did not insert the words "*force majeure*"; concerning the 16 cubic feet of gas, I found it about a yard from the face and 3 inches from the roof; the lamp being shielded would probably go up into the gas a bit; I allowed for a depth of 9 inches of gas; I mean there were 16 solid feet of gas—4 feet x 4 feet x 1 foot; I did not test that particular body of gas in more than one place; it took me about an hour to drive away that gas and render the place safe; I went back to see whether it had been driven out; I never mentioned in my evidence before the Court of Investigation that I had found 16 cubic feet of gas there; I would call that a rather large quantity of gas; I referred to it in my report as a small quantity of gas; I wrote in my letter to the paper that I considered my action with regard to the occurrences in the mine deserved some slight recognition at the hands of the Commissioner; when I commenced to do my duty I stuck to it; I think Mr. Wade should have mentioned my action in his report; I consider the Department of Mines should pay me the wages I lost between the 3rd April and 26th June last, as I lost them in redressing my wrongs and those of my mates; I only refused to give the Minister the name of the boy Jones as a witness; my only reason for refusing his name was that I did not know it; I may have told the Minister that I did not know his name; I showed the gas in the No. 6 heading twice in one morning to Gall and Herbert Croft; I think I have given evidence of that before; I never mentioned before what Joseph Croft said—"finally we have been watching the gas as well as, and we are not over-anxious about it" I did not mention my reply to that to the effect that I could not sleep on account of it; I have never mentioned what Herbert Croft said—"I thought you could not sleep on account of over-studying" [*letter in newspaper of 9th instant put in and marked No. 1 defendant's exhibits*]; I remember saying that I examined the place where Weir was singed; I said, "I believe that I found a slight cap there, but could not swear so"; that was in my evidence before the Court of Investigation; that is the same matter as I referred to in this evidence when I said I was positive I had found the blue cap there; I found gas in both the dip and rise headings in No. 6 and got a blue cap in each place; on both occasions I was able to drive it out by tightening up the brattice; after my examination it was not dangerous to human life, I found gas in the mine in No. 6 every time the canvas was back from the face; that was twenty or thirty times or more; I swore before the Court of Investigation that I did not report these matters of the gas in the book because young Croft had told me not to do so.

*Question*: Did you use your own discretion as to whether you reported gas or not?

*Answer*: I reported it whenever I found it; I found it twenty or thirty times; I reported it that number of times during the nine months; I did not do so in the book but verbally to young Croft; I said in former evidence that there was not sufficient gas on the other two occasions I mentioned to report it; those two occasions were when I found it in the rise headings; on those two occasions I used my own discretion as to reporting or not reporting the gas; I heard of Weir's accident on the morning it occurred; I cannot give the date; I do not think I was ever ordered to suppress my knowledge of the presence of gas in the mine; I swore at the Court of Investigation that I had noticed the blue flame on three or four occasions before the 28th March last; I reported those verbally; I saw the gas the twenty or thirty times I have spoken of in the four places, not in the whole of the mine; those four places were the two rise headings and the two dip headings in No. 6; I said that I could not say whether I had told anybody I had written that report of the 28th March at two different times; I also said I felt I had been signing a lie; I meant it could not be called safe after what I had found; I took exception to the word "found" in the report; what I intended to say was that I had found gas and got rid of it; I will swear that I spoke of more than ten times finding gas in the mine before the Court of Investigation; I did not use the words, "I found gas from six to ten times"; I did say that I said I did not find sufficient gas to report it after that date—the 28th March; I do not remember saying, in answer to Mr. Bruce Smith, before the Court of Investigation, "I cannot remember saying yesterday that I ever saw a blue cap to the flame"; I cannot remember whether I said "I do not remember whether I said anything about that in my evidence yesterday"; I remember saying, "I remember two occasions when the light was affected"; also, "There was no blue flame on either of those occasions"; I added, "That is the reason why I did not report it"; the presence of the blue flame shows that the gas is there in sufficient quantity to be dangerous to some extent; my conscience pricked me after I made the first report of the 28th March; after making the addition describing the quantity of gas found as "small" my conscience did not prick me; I inserted the word small so that the company should see that I was not harsh on them; my conscience never prompted me to inform the company of the interference with the ventilation; I felt that certain dismissal would follow on my report of the 28th March, and made the report as presentable as possible; when I described the quantity of gas as small I meant small by comparison; I had found larger quantities of gas in the mine than that I found on the 28th March; I said nothing of that before the Court of Investigation; I believe I mentioned to the under-manager that I had found a large quantity of gas on other occasions; I found it in the same heading; that was after Weir had been singed; I found as much as 25 cubic feet; I reported it to Herbert Croft verbally; I told him I had found a quantity of gas with a blue cap; I did not mention it to the Court of Investigation, because I was never asked about it; I made no statement to the Crown Solicitor of the evidence I could give; I wrote out a statement of what I could prove and handed it to the Minister for Mines; in that statement I said nothing about having found 16 cubic feet of gas on one occasion and 25 cubic feet on another occasion; I reported when there was a blue cap; it may have been on 18th May that I wrote out my statement for the Minister; I did not examine that part of the mine until after Weir's accident; I used the term "the gassy part of the mine" because it came naturally to me; Mr. May assisted me in getting up my case, if advising and consulting me means assistance; in the face of that I asked the Minister to allow Mr. May to be one of the tribunal to try the case; I thought he would be a good man for the purpose, as he was a practical mining man; I did not consider it improper or indecent to make such a request under the circumstances; I gave as my reason for reporting the gas

gas on the 28th March because the ventilation in the mine was getting worse; that was during the months of January, February, and March last; the temperature of the air driven into a mine in the summer would be different from that in the winter; I do not think there would be a difference of 10 degrees or 15 degrees; I do not think the difference would be more than 6 degrees or 7 degrees; I said that I had never tested the air with an instrument, and that my opinion as to the ventilation was merely guesswork; that is as to the quantity; we might have a sufficient quantity of air, but not of the proper temperature; 100 cubic feet of air per minute for each man, boy, and horse would be sufficient if the mine were not gassy, and the air were carried to the faces; I think it would not be sufficient in a gassy mine; I know that at this time 180 cubic feet for each man, boy, and horse was being supplied to the mine at the time; I had doubts as to the ventilation in No. 8 district on account of the temperature, and the air not getting to the face; it would depend upon whom one was talking to as to the use of the words front and back heading; a number of miners call the leading place the front, while others call the place getting the fresh air first the front; I referred to the heading as back and front because the ventilation had been reversed; I believe it was reversed about the end of the week in which Weir's accident took place; the quantity of gas I found at any time could be got rid of with half an hour's work by putting the canvas up to the face; where the gas was found they were cutting into the solid coal, with cut-throughs about every 35 yards; the place where Weir was burnt was in solid coal, and not in rock; the place where the gas came from when Weir was burnt was in solid coal; there was no rock about there at all; I went to the place with Rendal; I knew the place without being shown it; I did not tell Gall that I had got mixed up between the front and back headings, and had made a mistake; I may have told Gall that I had found the gas in the back heading, although I put the front in my report; I say now that it was in the front heading I found it; I say that without any doubt; it was in the first rise heading I said to Gall, "There's no use your looking for gas, my lamp has consumed it all"; the lamp I had was a fair one; I meant that the light of my lamp had burnt out the gas that was there; I was using a safety-lamp, and the light in it consumed the gas there; the light of a safety-lamp will consume the gas if put into it when the gas is present in small quantities; if present in large quantities it will put out the light of the lamp; on the 21st March the light of my safety-lamp was sucked out by the gas; it would have been put out on the 28th March last if I had held my lamp there long enough; the gas is sucked into the lamp; the gas can get into the lamp, but so split up that it does not explode; I should say that Gall had good eyesight, also young Croft; they may not have seen the gas, because they did not want to see it; I cautioned them when they were going into the next heading that if they wanted to see the gas they would want to look carefully; when I said that my light had consumed the gas I meant that it had burnt up the gas; I have said that Gall and Herbert Croft did not see the gas because they would not see it; I said in my former evidence that I supposed they did not see it because my light had burnt it, and so they could not see it; I have not altered my evidence in that respect, so as to give a more feasible reason for their not seeing the gas; from what has transpired it is my opinion that they would not see it; I said in my former evidence that I was jeered at, and asked why I was dismissed from the Borehole; I do not wish to say why I was dismissed from that mine, although it would be no reflection on my character; I would not mention the circumstances of that affair to the men below; it is a very common thing for the canvas to pull away from the tacks; it is attended to as soon as possible under the circumstances; it is caused in many instances by the action of the atmosphere; it is not a fact that the first time I was sent away with Jones I was sent away to put up brattice; I was putting up brattice while I was away on that occasion for about twenty or thirty minutes out of the forty-five minutes I was away; I had to walk 700 yards one way, and 700 yards back; it would take me five or six minutes to go there, and the same time to come back; having done the work we would linger along the roads on the road back; it would take us twenty minutes to come back; I did that bratticing of my own accord; it was needed, but not urgent; I got the tacks, and all that was necessary in the box where the canvas was; on the second occasion I went away I got some quartz out of some stone fault; Gall did not tell me to go and get that; I brought it back to him for myself; I remember saying that I missed Taft from his shift; I missed him at the pit bottom, because I did not see him coming out; Ambrose was not present at the interview I had with Joseph Croft on the 29th March last on the main engine road; I may have said before the last Court that I did not see him there then; I do not remember Joseph Croft saying, "Bailey, there is something here behind the scenes that I do not understand"; if he said it I did not hear him; my hearing is worse at some times than at others; it was not extra bad that morning; I did not say in reply to Joseph Croft's remark, "Yes, there is; there was a man burnt"; he may have asked me what the man's name was, or who he was; I did not say, "His name is Weir; his friends have been talking about it, and say that I ought to say something about it"; I had told people outside the pit that I had found gas in the mine; I told my family; I told my father about it; I did not tell Mr. May about it; up to the time I entered it in the report-book I had told nobody about it but my family and Dobb; Croft did not say to me, "Whether you found it or not, you would report it?" nor did I reply, "Yes"; at no interview did Joseph Croft say to me, "Well, Bailey, I've lost all confidence in you"; I did not hear him say so; he did not continue, "I am satisfied that there is some collusion going on now behind the scenes"; I know Mr. Keightley, the general manager of the company; I spoke to Mr. Atkinson and Mr. Dixon, both together and separately; that was after I had been dismissed; I told them both of the circumstances of my dismissal; both recommended me to see Mr. Keightley; I did not accept their advice; I preferred to go to the Minister with a deputation; Mr. Atkinson told me to go with some of the men who could support my statements, and if I could prove my statements, the officials would be dismissed, and I reinstated; I think Mr. Atkinson had informed Mr. Croft of my statements; I posted the notes about the finding of the gas to the Minister myself; they were addressed correctly; I posted them at Newcastle; I do not know what prompted me to come to Newcastle to post them, when all my other letters were addressed from Morewether; I put them in the envelope in my father's house in the presence of Dobb and my family; I did not like posting them at all; I did not like parting with them at all, and so took copies of them; Rendal was examined after me in the Court of Investigation; he admitted putting one of the notes in the lamp, without any hesitation; Rendal has not the reputation of being one of the straightest and most honest men in the pit; I do not believe he is a straight honest man; I did not think I was endangering the lives of the men in the mine by assisting in the interference with the ventilation; I remember asking Mr. Atkinson if he had received my notes; they may have gone to him instead of the Minister; he replied, "Why do you ask me that, Bailey?" my ordinary occupation in mines in England was hooking-on at the pit bottom; I have gone with the surveyor at times, and at times have measured the air, at the week

week ends ; I have tightened up the brattice myself when I have found it necessary to do so ; I said in former evidence, " I generally cautioned the deputies to carry the brattice up to the face, and they generally did so, but latterly, in my opinion, they became negligent " ; Gall and Ambrose are the deputies I refer to as having become negligent ; personally, I told Ambrose on one occasion, " For God's sake keep the canvas up to the face " ; I also told him on another occasion to cut short sprags to set from the top of the canch to the band to carry the canvas ; Gall and Ambrose were both my seniors in office and in the pit ; what I said to them was a request, not an order ; there would be men working in the places where I got the blue cap after I had inspected the places ; when I said, at the Court of Investigation, that there were men working in those places I meant that men would be working there after I had inspected those places ; I would leave the places about 5.15 a.m. and the men came in about an hour after—6.15 a.m. ; I never stopped the men from going in in consequence of the gas ; on one occasion, when I found gas, I returned to the place about an hour after, and had just time to fix the place up when the men came ; I mean by that extending the canvas ; I had put up more canvas on that occasion when I first found the gas, but went back an hour after and put up more canvas ; the men were then close on my heels ; that was on the 21st March last ; I told Gall about finding the gas that morning ; he went down and examined it for himself ; I asked him, when he came back, " Have you seen anything ? " and he replied, " Yes, a little " ; I cannot remember whether I said, in my former examination, that I did not know the deputies who came in that morning or whom I told ; I could not have said that, because I did know ; I remembered them at the last examination ; it is a mistake in my former evidence if I said I did not know who the deputies were ; I acted on my own discretion as to reporting the gas on that occasion ; I considered there was not enough gas for the men to see or to be injured by it ; I reported the finding of the gas to Mr. Croft verbally ; I said there was from 7 to 8 per cent. of gas there—carburetted hydrogen ; it was pure and not mixed with the air ; a percentage of gas does not mean pure gas ; I must have said that because I misunderstood the question ; I do not know what that percentage of gas would mean in cubic feet ; I said, in my former evidence, " I had seen a permanent blue flame on my previous inspections and that would be between last March and June, 1898 " ; I had seen a permanent blue flame on twenty or thirty occasions during that time ; I say that others have found gas with a permanent blue cap in the mine besides myself ; Rendal has found gas with a safety-lamp giving a permanent blue cap in dangerous quantities ; if there is only a handful it will give a blue flame ; if there is no blue flame I do not consider there is enough gas there to be dangerous ; I never went to see whether my interference with the ventilation had any ill-effect on the men in the pit ; I would have had to walk a mile and a half to do that ; there were over twenty men in the district when I put up the canvas between 7 and 8, and shut off the air ; I could not calculate the quantity of air they would be deprived of by putting up that canvas ; the air was cut off from No. 7 district ; some of the air would get through notwithstanding the canvas ; I did not do my best to block out the air in each case of interference with the ventilation ; I said in my former evidence that I took no steps to find out whether the men in No. 7 were put to inconvenience through the blocking of the airway ; I have said that the ventilation in the mine was bad generally ; I did not make any complaint to the check inspectors about the ventilation, because it was not my duty to do so ; I have said in evidence that I did not do so because I feared disrating or dismissal ; Dobb was disrated for objecting to do something that was not right ; I have gathered that from Dobb ; I was on friendly terms with the check inspectors at that time ; I knew them by sight ; the black-damp that I have spoken of may have come from the No. 6 old workings, where the air would always be foul ; a proportion of black-damp might scale over the old bords in No. 6 return.

Taken and sworn at Court-house, Newcastle, this }  
16th day of August, 1899, before me,— }

JOHN W. BAILEY.

GRANTLEY FITZHARDINGE, D.C.J.

Court adjourned till 9.30 a.m. to-morrow.

Court-house, Newcastle, 16th August, 1899.

This deponent, *John William Bailey*, recalled on his former oath, states as follows (*to Mr. Thompson*):—I remember being asked yesterday the number of times I had seen gas, and my replying that I had seen it twenty or thirty times ; I may have said before the Court of Investigation that I had seen it on six to ten occasions ; I ought to have said a larger number of times ; I must have said I had seen it from six to ten times before the other Court ; I am not exaggerating when I say I saw it from twenty to thirty times ; I may have been asked as to a certain time only ; I cannot remember the question that I was asked about it ; I believe I said before the Court of Investigation that I might have seen it fifty times ; I used to examine five times one week and six another ; probably I saw the gas every time I examined, but not to give a blue cap ; it only gave the blue cap twenty or thirty times ; it took me nine months to screw up my courage to tell the truth about the matter—that is, to put that report in the book ; I found it necessary to tighten up the canvas probably fifty times ; I always did that myself ; nobody ever saw me tightening up the brattice to get rid of the gas that I know of ; I have told Deputy Ambrose that I have found it necessary to tighten up the canvas to get rid of the gas ; I told Ambrose of that whenever I got a blue cap ; I have said that was from twenty to thirty times ; I did not tell Ambrose that I had had to tighten up the canvas that number of times ; I cannot say how many times I told Ambrose of it ; he went to look at the place when I told him that ; he never told me to " Go to hell out of this " or " Don't come bothering me with your damned nonsense " ; I should think it would be an advantage to know of the presence of a foe in their mine ; certain restrictions might have been imposed upon the management if it was known as a gassy mine ; the gas was always got rid of by tightening up the brattice : I did not think Mr. Keightley was the proper quarter to go to about the matters I complained of, although Mr. Atkinson advised me to do so ; I preferred to get a deputation of the local members to see the Minister and air my grievances ; I do not think I should have ever said a word about it to the Minister or the Members if I had not been discharged ; I have lost money by being discharged, because the Government will not pay me my wages for the time since I was dismissed ; I distinctly say that every time I saw the gas with a blue flame I reported it to young Mr. Croft, either verbally or by note, or both ; I cannot say how many times I gave him a note about it ; I never took notice of the number of times I sent notes to him about the finding of the gas ; I remember his burning one note I gave him ; the last one I handed to him he handed back to me with the remark " What's this ? " he did not read it ; I do not know why I did not keep that note ; I tore it up ; I kept Rendal's two notes ; I knew that young Croft had burnt some notes previously to the one I have spoken

spoken of; he burnt them in his open light; I think I have left a note with some one else to give to young Croft; I do not know whether I told him verbally or gave him a note for Croft; that was S. Jones, the fireman deputy; it was on the 21st March last; I never left word with all the deputies together that I had found gas; I spoke to the deputies about it on the 21st March, about an hour after I had reported it to young Croft; I remember the names of the deputies to whom I reported it; they were Gall and Ambrose; I swore I could not remember their names before the last Court; I should have remembered their names; I also said, "I considered there was fire-damp in that particular place"; that could have been put more definitely, as I knew it was there; if a man had gone into that 25 cubic feet of gas with a naked light there would have been an explosion; I cannot say whether it would have been a dangerous explosion; it would be dangerous for a man to go into that place with such a quantity of gas; I reported it verbally; I did not report it in the book; I suppose I was screwing up my courage to do so at the time; my written report of the 21st March is a lie; the one word "found" is a lie; I did not alter that report on the 28th March, because the day had gone by, and I could not recall it; I have referred to the fact of the men making statements when not on oath; I know it is wrong to tell a lie either on oath or not; it was the fact that the gas was getting worse, and the responsibility consequently greater, that kept me sleepless about this time; it was months before the 21st March last that I first found the gas showing a blue flame to the lamp; there were between sixty and seventy men deprived of air when the door was interfered with; about the same number of men—more—were deprived of air on the second occasion of putting up the canvas in the airways; I should say about seventy men; it was either on the 28th or 29th March that Mr. Croft, senior, spoke to me on the No. 8 engine road: I think it was on the 29th March; the "them" referred to in my former evidence on this point were J. Croft, H. Croft, and Gall; I said before the last Court that I saw the gas in one of the dip headings of No. 6 district on the 21st March last, but could not remember which; I think it was the first dip heading in which I found the gas on that occasion; my impression is that it was the first dip heading in which I found it; my uncertainty as to the place is not brought about by any fear of getting fixed in a corner about it; the two dip headings are similar in appearance; there is no fault in either; a man is liable to mistake the one for the other as far as appearances go; I went to the same place to test for gas once again the same day; I went there every day to that place up to the 30th March last; I cannot say with certainty which heading it was; I do not think that I said I found it in two places on the 21st March, and also on the 28th March; I found it in only one place on the 28th March—the place which I reported; the place in which I found the 25 cubic feet of gas was not one of those which I tried with the safety light in the presence of Gall and H. Croft; we did examine that place; I certainly examined it that day; I did not tell either Croft or Gall that I had found 25 cubic feet of gas in that place on my examination; I can give no reason for not mentioning it to either of them; I used to test for the gas by slowly raising the safety-lamp, and looking for indication of the gas on the flame; sometimes I would blow gently along the roof, and any gas that was there would show itself on the cap of the lamp; I know that carbon monoxide is a poisonous gas, but cannot say much as to its effects upon a human being; it would overcome a man; it is not the same as choke-damp; I do not attribute Taft's illness to carbon monoxide, but to black-damp; I saw Rendal describe Taft's symptoms in the witness-box before the last Court; I heard it said that he had vomited; I agree with Dr. Haldane's description of the symptoms of a man affected with carbon monoxide; I said before the last Court that I had been in Taft's place before his illness; I cannot say when I was in there; I was on that heading at times when they were working there, but cannot say when it was; I found the air there warm; that was not caused by the nature of the place in which the men were working; I think it was caused by black-damp from the old workings; the old headings were in many places blocked up by roof falls; I believe the air in that part could have been made much better; I said before the last Court "the conditions may have changed since that time, but from the nature of the place I should not think so"; I was willing to go with my work in the mine provided the officials kept the places well canvassed; I was not prepared to go on in the same way if I got my salary regularly; the responsibility was getting too great for me; I should have put the report in if I had not been dismissed; it was my duty to put the brattice up in those places, and I have said that I did so on many occasions; a number of different things might have happened after I had left the mine—the brattice knocked down or many other things; what I complain about is that Ambrose and Gall were lax about keeping up the brattice; I am still uncertain whether it was a note or a verbal message that I left with Jones on the morning of the 21st March; if I left a written message with him I would tell him to give it to Mr. Croft; if I told him verbally I would tell him to let Mr. Croft know that I was gone to the dip headings; I cannot say now whether I said anything either verbally or by note to Jones about the finding of the gas; I went away and came back, and reported the finding of gas verbally to H. Croft; I reported it to both S. Jones and H. Croft at different hours; prior to the 28th March last I reported the gas to Jones at the cabin at the pit bottom, when the last note was refused by the under-manager; Jones was in the cabin when I verbally reported the finding of gas to H. Croft; I cannot say when that was, nor how many times it happened; I cannot tell how many times I reported it in Jones' presence; I was always finding it more or less [*deposition of witness before the Court of Investigation put in evidence and marked Exhibit M*]; I swore before the last Court that from my knowledge the ventilating furnace is damped down at the week end; I also said, in answer to the Commissioner, that I was speaking of eleven months prior, and that it had not happened to my knowledge since then; prior to that eleven months it happened every day; the furnace was damped down by the pumpman every night, and brightened up next morning; it was damped down by small coal being put on it; that would decrease the ventilation; I was not a deputy at that time; I used to pass the furnace coming out, as it was the usual route; I am certain I did not say that Weir's friends had been talking over the matter of the gas, and said I should report it; I do not know Weir's friends; I do not know how it appeared in my former evidence that I did not remember them saying it; I am certain Croft did not say to me, "Whether you find it or not."

*By Mr. Edmunds:* I was not the inspecting deputy for No. 5 when Taft was taken ill; I became deputy for that district about nine months before my discharge; Ambrose was deputy for that district at that time of Taft's illness; I know that the rule states that any gas should be reported, no matter in what quantities; it was a Marsaut lamp that I used on my inspections.

*By Mr. Thompson:* I do not know Mr. Parton personally; I may have seen him in the streets; I did not consult with him about any of these matters; I asked for him as one of the tribunal to try these matters, because he was an experienced man in mining; I named him without any communication with him about the case, or causing any communication to be made to him; I recommended him to the

Department of Mines as one of the tribunal to try the case; that is all I did with reference to him; I do not know whether he is a bosom friend of Mr. May; May did not recommend me to nominate Parton. Taken and sworn at Court-house, Newcastle, this }  
17th day of August, 1899, before me,— } JOHN W. BAILEY.

GRANTLEY FITZ HARDINGE, D.C.J.

This deponent, *Arthur Johns*, on his oath states:—I am a miner, working at Newcastle Coal Company's A pit; I gave evidence before the last Court of Investigation; the deposition shown me is mine [*put in and marked Exhibit N*]; that deposition is correct; Codwell is now in Victoria, as far as I know; I heard he had gone about two months ago.

*By Mr. Thompson*: I took no notice of the gas I saw beyond mentioning it to Gall; I did not regard it as dangerous to health; when I spoke to Gall about the brattice he put it up the next morning; if canvas is down, or wanted to be put up, it should be done straight away; the mine was conducted right enough, as far as I was concerned; I have not had more than six mates during the time I have been in the mine; I have worked pretty well all over the mine; I cannot say what the reason was for the ventilation in No. 8 being bad two years ago; I have not been in No. 8 lately; it is working now, I believe; Gall was not a too pleasant official in the mine; I have worked in other pits besides the Newcastle; it would seem that I have disregarded the rules in regard to the flashes of gas.

Taken and sworn at Court-house, Newcastle, this }  
17th day of August, 1899, before me,— }

ARTHUR JOHNS.

GRANTLEY FITZ HARDINGE, D.C.J.

This deponent, *Alfred Price*, on his oath states:—I am employed in the A pit of the Newcastle Coal Company; I am a wheeler there; during the first quarter of this year I was wheeling in No. 1; I was wheeling there for about two years, I think; my work consists in taking the skips from the men at the face with a horse and taking them to the flat, where a train is made up which is taken out by the engine; in the first quarter of this year the men were working the pillars in No. 1; the flat would be about half a mile from the main engine road; about forty skips are taken out in a set; I was wheeling from four men in No. 1 in the first quarter of this year; John Atkinson, Arthur Johns, and George Watts were among them; I remember on one occasion seeing a canvas across the road; that was about half-way through the quarter; it was between 11 a.m. and 1 p.m.; Johns, Watts, and Atkinson were working at the pillars; I saw the canvas about 16 or 18 yards round the turn of No. 1 road; I had gone out to tell the set-rider that a set was ready; I saw a canvas across the road; I went pretty close to it; it was hanging right across the road, from the roof to the floor; it was not hanging exactly straight down as the air was blowing it; the air was moving the canvas towards me as I went to it; that canvas was not up when I went to work that morning; I heard somebody at the canvas; I spoke to him; I thought it was Jarvis, a man who knocks about the roads—a shiftman; I spoke to Jarvis with reference to the canvas [*objected to by Mr. Thompson*]; I told Jarvis to tell Hedley that the set was ready, and asked him what the canvas was there for; he said there was too much air going into No. 1; I asked him if the inspector was in No. 2, and said I would tell him about the canvas interfering with the air; I said it more in fun than otherwise; Jarvis said that if I told the inspector he would get into trouble; I said nothing more to him; I think some of that canvas was up when I left my work that day; I think about half of it; it was nailed up there, or hung up with wires; it was the vertical half that was left up; that half remained there permanently; No. 1 district ceased working after that; I think there were men in there the next quarter, but not the quarter following that; the work was over there about the middle of the year; No. 1 is closed up completely now at the place where that canvas was put up; I do not know the width of No. 1 heading; if the canvas did not remain there permanently from that time it did so from a short time after; all the men going into No. 1 would pass that point coming out.

*By Mr. Thompson*: The canvas was put up on the road where the sets were constantly coming and going; the road there is a single one; the empty skips and the full ones went under that canvas; there were four men working in No. 1 at that time; I had a good knowledge of the amount of ventilation there was in that district; there was plenty air for the men there, as I went towards the canvas; I could feel the strength of it as I went towards the canvas; I use a flare lamp on my cap when wheeling; my lamp was not rendered dull by the putting up of the canvas; I do not think I knocked down that canvas when it was there temporarily; I always found the ventilation of the mine pretty good wherever I went; I chat with the men in the mine about things that go on in the mine; I have never heard them complain of the ventilation as being bad; if I had been spoken to about it I should remember it; from my experience I should say that the air in the roadways is warmer in the summer than in the winter time; Phillips and Davis, Banfield and Beveridge were the last men to work in No. 1 before it was closed up; I would have to go close to them about nine or ten times in a day for my skips.

*By His Honor*: The empty skips came in between 11 a.m. and 1 p.m. that day; the full ones would go out immediately after the empty ones came in.

*By Mr. Thompson*: I have seen the Government inspectors and the check inspectors in the mine at different times; I travel about the mine a good deal more than the miners; I have never heard the men or deputies say that they knew of the visit of an inspector of any sort; I have been all over the mine, except in No. 6, in the course of my duties as a wheeler; I have never known of any alteration in the ventilation of the mine for the purpose of deceiving the inspectors; when I saw the canvas up in No. 1 I thought it was there for that purpose; when it was left there permanently I altered my opinion.

*By His Honor*: When I saw it up first I thought it was there for the purpose of depriving No. 1 of some air and give it to another district.

*By Mr. Thompson*: When it was put up permanently it was hung up with nails with wire rings which hung on the nails.

*By Bench*: When I first saw it I had not seen it before that morning; seeing it there I thought the inspector was in the mine.

*By Mr. Edmunds*: I told the men working in No. 1 about the interference with the ventilation that I had seen; I did not tell the manager, or under-manager, or the deputy (W. Gall).

*By Mr. Thompson*: Nobody passing along No. 2 road could have seen the canvas hanging where it was; none of the men in No. 1 went out to see it when I told them of it; there was plenty air in No. 1 where they were when I told them of the canvas.

*By*

*By Mr. Edmunds* : I daresay the men were having lunch when I told them of it.  
 Taken and sworn at the Court-house, Newcastle, this } ALFRED PRICE.  
 17th day of August, 1899, before me,— }  
 GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *John Atkinson*, on his oath, states:—I am a miner working in the A pit of the Newcastle Company; I gave evidence before the last Court of Investigation; the deposition shown me is mine, and is signed by me; when I went into work that day, there was canvas up at that point, but about half-way across the road; it was there when I was coming out also. [*deposition put in and marked Exhibit O.*]

Taken and sworn at Court-house, Newcastle, this } JOHN ATKINSON.  
 17th day of August, 1899, before me,— }  
 GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *George Watts*, on his oath, states:—I am a miner working in Newcastle Coal Company's A pit; I gave evidence before the Court of Investigation last month; the signature to the deposition shown me is mine; that deposition which has been read to me is correct, except that I wish to point out that there was no smoke in my place when Mr. Dixon was there, as might be inferred from my former evidence at page 113 [*deposition put in and marked Exhibit P.*]; in my opinion the air was only drafting into the pillars in the No. 1; the pillars were worked out 20 yards; there was no brattice there at all where I was working.

*By Mr. Thompson* : I said nothing of any of these matters to anyone but Gall; no alteration was made, even after I had spoken to him; I was not afraid to tell Mr. Dixon of these things when he came in there; I did not do so, because I thought he could see better for himself, and feel better for himself; I cannot say that I was earning wages at the time; I was making less than 7s. a day; there was nobody working inside where we were working; I was the last man in that part; the gob had nothing to do with the pillar; we call the open place in the bord the gob and the muck, and other stuff we get out of the coal we throw to the back, and call gob also; the gob in No. 77 bord in No. 6 was made by the men who were clearing the road to enable us to go in.

*By Mr. Edmunds* : I do not remember seeing a canvas in No. 1 on the day Price speaks of when I was going to work or coming out; I do not remember seeing a brattice there after that nor at any other time.

Taken and sworn at Court-house, Newcastle, this } GEORGE WATTS.  
 17th day of August, 1899, before me,— }  
 GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Alfred Johns*, on his oath, states:—I am a miner working in the A pit of the Newcastle Coal Company; I gave evidence before the last Court of Inquiry; the deposition is mine, and signed by me [*deposition put in and marked Exhibit Q.*]; the brattice I have spoken of in No. 1 road was put up during the first quarter; the woodwork was put up during that quarter; it was put up after the statement made to us by Price that I have deposed to; I cannot say how long after; I do not remember seeing any brattice up in the No. 1 road at the time Price made his statement to us.

*By Mr. Thompson* : I did not see the brattice that was hung there on wire rings so as to shift it backwards and forwards; I did not continue to work in No. 7 after I had got the pneumonia; I knocked off as soon as I was attacked with the pneumonia; when I went back I asked permission to start on top as a shiftman, and I was allowed to do so; I afterwards worked as a shiftman below; I was altogether about seven years in this colliery; I had worked in other pits in the district; I have felt worse air in the Newcastle pit than in any other I have been in; I went back to it the last time, because it was working well then, and the pit I left was working bad; I mean by that that more work was being done in the Newcastle, and I could earn better wages there than at the other if I worked more days; I have been a miner for about twenty years altogether; I have never worked in England, but gained all my experience in these colonies; I have had occasion to complain to the deputies, and they have spoken very uncivilly to me on those occasion; Gall was one of those of whom I complain in that respect; there is nobody else of whom I complain in that respect; I have known Gall ten or eleven years; on one occasion I complained to Gall about the water not being removed from our place; he said, "If that was beer I could drink it off"; I give that as an instance of his uncivil language towards us; another instance, when we were working in No. 1 pillar we had occasion to complain about the air being hot, and the props being broken in the pillar from the roof, Gall replied, "Oh! that is nothing, there are plenty worse places than this."

Taken and sworn at Court-house, Newcastle, this } ALFRED JOHNS.  
 17th day of August, 1899, before me,— }  
 GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Henry Jones*, on his oath, states:—I am employed in the A pit of the Newcastle Coal Company; I gave evidence before the last Court of Investigation; the deposition shown me is mine, and is signed by me; that deposition, which has been read to me, is correct [*put in and marked Exhibit R.*].

*By Mr. Thompson* : I knew that Bailey had been dismissed; it was shortly after his dismissal that Mr. Croft sent for me and asked me about these matters; I had not spoken to either the manager or under-manager before the time the manager sent for me; he asked me if I had gone back the second time, and I said no; that was referring to the first time I went away with Bailey; I went away with Bailey twice on one day; that was the first time I went away with him; I went away with him again about three weeks after that; I went away with him on another subsequent occasion; my instructions were to keep the door always shut, except when someone wanted to pass through it; it was shut immediately after they had passed through; Herbert Croft gave me instructions to keep the door shut, in order to keep the air in No. 7; he told me that it would injure the men in No. 7 if I did not keep the door shut; besides Bailey, I went away with Ambrose; I went away with him twice; on each occasion except the one I was assisting in putting up the brattice in the bords.

*By*



*By Mr. Edmunds* : That was not the only time I had a conversation with Mr. Croft; I had a conversation with him on the Monday before I gave evidence before the Court of Investigation; it took place at the "Great Northern Hotel," when Mr. Bruce Smith asked me about going away from the door a second time.

Taken and sworn at Court-house, Newcastle, this }  
17th day of August, 1899, before me,— }

HARRY JONES.

GRANTLEY FITZHARDINGE, D.C.J.

Mr. Edmunds tenders in evidence the check inspector's report of the 14th, 15th, and 16th February, 1898 [*put in and marked Exhibit S*]; also the check inspector's report of the 9th, 10th, and 13th March, 1899 [*put in and marked Exhibit T*].

This deponent, *Alfred Ashley Atkinson*, recalled on his former oath, states as follows:—The deposition shown me is that which I made before the last Court of Investigation; it is signed by me; [*deposition put in and marked Exhibit U*]; [Mr. Edmunds also puts in Haldane's report, page 21, marked Exhibit U, Mr. Atkinson's evidence; also Mr. Atkinson's two reports; Exhibit V, Mr. Atkinson's evidence]; when I visited the mine, on the 12th April last, and saw the officials there, as stated in my report of the 14th April, I asked them if they had ever known of a man being burnt in the mine; each one answered no; my question was not addressed to them singly, but to them all together.

*By Mr. Thompson* : I will not be certain that I did not ask whether any of them knew a man had been badly burnt in the mine within the preceding twelve months; from my inspection I would not call that mine a gassy one; it has come to my knowledge in this Colony, since the Dudley explosion, that in many mines there are small ignitions of gas which the miners take no notice of, and never report; I think I have been in the places referred to by Bailey, to examine for gas; Bailey never told me that he had found 25 cubic feet of gas on one occasion, and 16 cubic feet on another; I gave him opportunity of telling me all he wanted to tell me; I would not necessarily expect to find gas in the mine, taking into consideration the circumstances spoken of by Bailey; I have had personal experience of the appearance and symptoms of persons affected with black-damp; the motion of Taft's arms, as described in evidence, is an unusual thing in connection with a person affected by black-damp; I had no opportunity of examining Taft before I made my report; violent trembling is not an indication of black-damp; carbon mon-oxide generally produces dizziness, inability to walk, and gradually unconsciousness; choke-damp will produce a sleep in which one might die; as far as I could see, on my visits to the mine, I could see nothing very wrong with the discipline in the mine; if the air is properly conducted to the faces, I think the ventilating appliances of the mine are quite sufficient for it, although I think a fan would be a better means of ventilating such a mine; Mr. Dixon uses his own discretion in inspecting the mines; I cannot conceive of any means by which the men or deputies of the mine could know of my visits to the mine beforehand; I am not aware that carburetted hydrogen is being given off, or has been given off in mines without being reported to me or Mr. Dixon; the Dudley inquiry revealed to me that at Dudley and other mines gas had been given off in many instances without being reported; among ordinary safety-lamps the Hebblewhite-Gray is about the most reliable for testing for gas; the Clowe's hydrogen lamp is the most delicate of all in testing for gas; I heard Bailey state that his lamp consumed the gas in a place in the mine; I do not understand the use of the word consumed; if there were a small quantity there and it exploded and there were complete combustion the lamp might use up all the gas there; there would have to be an infinitesimal quantity of gas there though; it would be seen when it exploded; I have heard Bailey speak of the puckering up of the flame of his lamp; I suppose he means by that a flickering of the lamp; it is possible to move the gas in a place by blowing along the roof as Bailey described; I did not consider it at all likely I would get the gas coming out of the floor.

*By Mr. Edmunds* : I made a note of what the officials of the mine told me with regard to the burning of the man; I made that note shortly afterwards; I was making an examination with reference to section 29 of the Act; I was not directing my mind particularly to the extent of the injury; I was only directing my mind to the fact that a man had been burned and the fact not reported; the note I made was, "They stated that no man had been burned"; I think I would have inserted the word "badly" if I had used it; the Dudley inquiry was heard in August, 1898, I think; the omission to report a finding of gas is a very grave evasion of the Act; the reporting of such findings gives the Government inspectors an opportunity of discussing the matter and taking measures to prevent such omissions in the future and thus prevent accidents; after the Dudley inquiry the managers and miners too were particularly asked to report all findings of gas in order to prevent accidents in the future; the Dudley report was sent to all managers for that reason among others, and that duty was pointed out to them in that report.

*By Bench* : I have heard the evidence as to Weir's injuries; in my opinion they were caused by fire-damp explosion; Taft's illness may have been caused by black-damp; different constitutions are differently affected by black-damp.

Taken and sworn at Court-house, Newcastle, this }  
17th day of August, 1899, before me,— }

A. A. ATKINSON.

GRANTLEY FITZHARDINGE, D.C.J.

Court adjourned till 9:30 a.m. to-morrow.  
Court-house, Newcastle, 17th August, 1899.

This deponent, *John Dixon*, on his oath, states:—I am an Inspector of Collieries for this district; I gave evidence before the Court of Inquiry last month; the deposition shown me is mine [*deposition put in and marked Exhibit V*]; I remember the interview in the pit office on the 14th April last between Mr. J. Croft, Mr. H. Croft, and Mr. Atkinson; Mr. Atkinson asked the Crofts if they had ever heard of a man being burnt with gas in the A pit; the answer was given all round, "No." [*Exhibit W., Dixon's evidence, put in evidence; also Exhibit Z, Dixon's evidence.*]

*By Mr. Thompson* : I am aware of the charges that are now made against Mr. Croft and his son; I had known Mr. Croft, senior, prior to the time he took up the management of the Newcastle Company; he was then in a similar position and I was an inspector; he was manager at Brown's collieries at Minmi; there were two collieries he had the management of for Messrs. Brown—Back Creek and Dutton



Dutton Creek; those mines gave off carburetted hydrogen gas; Mr. Croft showed no incompetence there to my knowledge; during his management of the Newcastle coal-mine and since the passing of the new Act he has shown no incompetency to my knowledge; the pit was properly set out, the ventilation was good, and I have always found every officer at his place whenever I have visited the pit; complaints were very few; I have never seen anything to warrant me in charging him with gross negligence in the conduct of the mine; I heard most of Bailey's evidence; I heard him say that he had found gas with a blue cap on twenty or thirty occasions in the mine; I also heard him say he was continually finding gas there during the nine months prior to his discharge, also the districts in which he found it; it is a well-known fact that when the new face of the coal is being broken by the men, gas is more likely to be given off, but at the same time there would be a difference in the examination made by the deputy before the men went in and that made while the mine was in full swing; I have known Mr. H. Croft since he went to the mine; he has had an opportunity of seeing how things are done in the mine; I have always looked upon him as a promising young man; I have always found him at his work; he is most energetic in his duties, and I have always thought that he would make a good mining manager; carburetted hydrogen and fire-damp are the same thing; there is no smell by which it can be detected when it is coming out of the coal unless there is a large body of it; the goaf is the place where everything has come down, and it can be detected all round the mine.

*Question:* From your personal experience of the mine and your examinations, are you of opinion that Bailey's story that he found gas there fifty times within the last nine months, and twenty or thirty times in quantity, giving a blue cap to the light of his lamp, likely to be true? *Question* objected to and disallowed.

For a long time past—twelve months—it has taken me two days to inspect the "A" pit alone; it did not follow that if I went there to-day I would finish my inspection to-morrow; any number of days might elapse between the beginning of my examination and the finishing of it; all accidents that have been reported to me in connection with the mine have always come to me within the specified time—twenty-four hours; scarcity of accident is, I think, an indication of good management and carefulness on the part of the men, especially in such a large colliery as this; I always found all the appliances necessary to provide against accident in good order in the mine; I entirely agree with Mr. Atkinson's method of inspection, and the conclusions he drew therefrom; Inspector Bates has never accompanied me on any of my inspections; I heard the evidence of the door being kept open for an hour and a half; if that were done, No. 8 district would be benefited by the increased volume of air; the other districts would be deprived of a certain quantity of air, but it would be spread over all the rest of the mine, and the difference in those districts would not be appreciable; if I were taking a reading in No. 8, I would notice the difference, I think; I would have a very poor opinion of the manager or under-manager who did such a thing; the stopping of the air in one place would spread it over other parts of the mine, and thus benefit somebody; Turner would not be so likely to go down under the influence of the black-damp as Taft; he is a more resolute man than Taft, and would not yield to the feeling so quickly as Taft; I never, in the course of my experience of the mine, heard, or saw, of gas in the mine until I saw Bailey's report of the 28th March last on the 12th April last; both Taft's and Weir's accidents should have been reported; I advised Mr. Croft to use safety-lamps in making inspections, as they were approaching the fault in No. 6; that was fully two years ago; the mine in that part was very difficult to work owing to the dykes; I examined that part with considerable interest, owing to the dykes; Mr. Croft often asked my advice as to how to work that part of the mine; with 7 or 8 per cent. of gas in the place, things would have been pretty lively if a naked light had got into it; if I were in an atmosphere with that percentage of gas, I would expect my lamp to fill; 25 cubic feet of gas would be a large quantity for men to go to work in; if I were the examining deputy and found that quantity, I would take all care to shift it; 16 cubic feet of gas would be a fairly large quantity; I have never known of a case in which the whole of the gunpowder in a charge has not exploded; I have a theory about the matter as to the possibility of there being complete combustion in one plug, and not in another separated from the first by *débris*; a shot-hole near a fault would be the very place to expect to find gas; I have never seen the place where Weir was burnt; my reports are not published, and are not known outside the Department; the Department does not publish my reports every year; the check inspectors' reports are published in the local newspapers sometimes, not always.

*By Mr. Edmunds:* The 7 or 8 per cent. has no relation to the quantity; it means 7 parts in 100.

Taken and sworn at Court-house, Newcastle, this }  
18th day of August, 1899, before me,— }

JOHN DIXON.

GRANTLEY FITZHARDINGE, D.C.J.

Mr. Edmunds tenders in evidence copies of the statement of the charges against the defendants [*put in evidence and marked Exhibit A 1*].

This deponent, *Thomas Lionel Bates*, on his oath, states:—I am an Inspector of Collieries; I gave evidence before the Court of Inquiry; the deposition shown me is mine, and bears my signature [*deposition read to witness*]; that deposition is correct [*deposition put in and marked W; Bates' reports also put in, "Exhibit Y, Bates' evidence"*]; I kept my intended visits to the mine quiet; I do not think it possible for them to have been known a day or two, or hours even, before I went there; I made that special inspection I spoke of at the request of Mr. Dixon; I do not know why he asked me to make it; I never saw any indication of preparation for my visit on any of my inspections; I did not know Bailey personally, nor Dobb; neither of them ever complained to me about any malpractices in the pit, nor of any accidents [*witness reads from his report the reference to the want of bratticing in his report of 21st November, 1896*]; I do not know that at that time there was a great scarcity of brattice cloth in this district; the matters I drew attention to could be easily remedied as soon as the canvas was available; what I required to be done could be done in a day, or less; the fact that the brattice was not there did not affect the health of the men in the pit at that time; I have never been in the mine since H. Croft has been under-manager; when I reported everything as satisfactory in the mine I included everything in connection with the mine—the ventilation, the treatment of the men, &c.; I did not examine the air in the in-take, because the working-place is the best place to test it, as it is there one can find what the men are getting; I never found the men pinched for air.

*By*

*By Bench* : 324 cubic feet per minute seems to have been my largest reading, and 106 cubic feet the lowest.

Taken and sworn at the Court-house, Newcastle, this }  
18th day of August, 1899, before me,—

THOS. L. BATES.

GRANTLEY FITZHARDINGE, D.C.J.

Mr. Edmunds closes case for the Crown.

Court House, Newcastle, 18th August, 1899.

*Case for the Defence.*

Mr. Thompson argues that no case has been made out against Joseph Croft. The Court decides that a case has been made out.

This deponent, *James Henwood*, on his oath, states:—I am overman at the Dudley Colliery, and reside at Dudley; the position I hold is that, practically, of under-manager; I was at one time employed in the Newcastle Company's pit; for several years I was general man, and was then promoted to the position of deputy overman; I have had about thirty-three years' experience of coal-mining; I have occupied in mining every position from that of a lad to my present position; I have had experience in England as well as here; I have been in gassy mines in England; the colliery I am in now is the colliery at which the explosion occurred a year or so ago; I left the Newcastle Company's employ on the 4th June, 1898; I have no interest whatever now in the Newcastle mine, either as a shareholder, or in any other capacity; the Dudley mine is regarded as a gassy one, and is worked with safety-lamps; I have been in every part of the A pit of the Newcastle mine; during the time I was there I never knew of any inflammable gas being in the mine; I was friendly with the men, who chatted freely with me about matters down below; I thus had abundant opportunity of hearing of any gas in the pit; I never heard of black-damp in the mine; I never heard of the intended visits of the Government inspectors; I never heard that the deputies or any of the men knew they were about to visit the mine; I have seen the check inspectors on the pit-top occasionally before I have gone down the mine; I have been in the mine when they have been doing their work; they performed their work as they ought as far as I could see; I have read in the papers what the charges are alleged against the defendants; I never saw any incompetency on the part of Joseph Croft, nor did I know of any gross negligence on his part as manager of the mine; I was in the employ of the Newcastle from July, 1889, till June, 1898; I was in only one colliery in England; I was there for fourteen years; it was one of the largest collieries in England; I have only been employed in the Newcastle and Dudley mines in this Colony; the men in the Newcastle mine were as well treated as any men in any mine I have been in; I heard no more than the ordinary amount of grumbling among them; there were over 200 men employed there; a grumbler or two is always found among the men in any mine; the method of working the mine was a correct one as far as my experience taught me; if I remember rightly young Croft started work in the B pit shortly after Mr. Croft took charge of the mine; when he was overman, and I deputy overman, I came into direct contact with him; I saw no evidence of direct incompetency on his part; he was a young man, and did not know so much as I did; he was very willing to learn anything I could teach him; I never saw any gross negligence on his part; he appeared to be very energetic in the discharge of his duties; as far as my particular district was concerned I can vouch for the discipline of it; since the passing of the new Act I was never aware of any interference with the ventilation of the mine; matters relating to the mine are freely discussed among the men; I never heard of any trickery with regard to the ventilation of the mine; I never heard of it till the Court of Investigation.

*By Mr. Edmunds*: H. Croft became overman about four years ago; he had not the experience I had; he was put over me; I was an older and more experienced man than he at the time; I know Bailey; he never spoke to me at any time about finding gas in the mine—not all the time I was there; I cannot remember his telling me after I had left that he was finding gas in the mine; I can only remember having one conversation with him since I left the mine; I do not remember his mentioning gas in that conversation; he was out at Dudley once, and told me he had been made a deputy; he did not speak about his work in the mine, but about his position; I do not remember his mentioning the finding of gas in the mine: he did not tell me that he had been ordered not to report it.

*By Court*: I was deputy-overman for districts 6, 7, and 8; H. Croft was overman for the whole A pit.

*By Mr. Thompson*: On one occasion, while in the employ of the Newcastle Company, I tested for gas with a safety-lamp; that was about three and a half years ago; I did so by instructions of Herbert Croft; it was in the No. 6 narrow bords, immediately after passing through a fault and coming into the coal again; the fault there is an intrusive dyke; that is just such a place as would be likely to give off gas; I knew how to use the safety-lamp; I found no gas at all there; I made a thorough test of the place; it was perfectly clear of gas; it was about 6 a.m. when I examined it; the men came in immediately after me; the men had been working there the day before, and there had been time for the gas to come out if there had been any there; I would not expect to get black-damp there, but fire-damp.

*By Bench*: Edward Wilson was examining deputy for that place at that time; I could not say whether he had examined that place before me that morning; no report of the examination was made at that time.

*By Mr. Thompson*: I think I was specially put to that work because of my experience of gas in mines.

Taken and sworn at Court-house, Newcastle, this }  
18th day of August, 1899, before me,—

JAS. HENWOOD.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *William Gall*, on his oath, states:—I was examined before the Court of Investigation held by Mr. Wade; the deposition shown me is signed by me; that deposition, is correct except at page 195, where I said that I had heard of the black-damp on the 14th April; I did not hear of it till I saw it reported in the newspaper: I also first heard of Taft's accident when I read it in the paper [*deposition put in and marked No. 2*].

*By*

*By Mr. Edmunds*: I read of the man being overcome first in the paper on the 23rd May last; Taft's affair first came to my knowledge on the 23rd May last when it was mentioned in the paper by Bailey; If I said previously that I heard of Taft's affair in the office on the 14th April last I was mixing up Taft's case with Weir's which was mentioned on that occasion; my evidence was read over to me but very quickly and I am not sharp at picking things up; my evidence regarding that, was given in reply to Mr. Bruce Smith who appeared for the management before the Court of Investigation; I gave my evidence before Mr. Croft gave his; I did not hear his evidence; I have read some of it; I have not read that he said the first he heard of Taft's affair was when he read it in the paper; I do not know that now; I do not know that Mr. Croft in his evidence contradicted both Rendal and myself on that point; the correction of my evidence on that point was quite spontaneous on my part; it never occurred to me to correct it until I heard it read this morning; I have had no conversation with anyone on that point; I have never heard that Rendal and I differed from Mr. Croft on that point before the Court of Investigation; I have had no conversation with anybody at all since I gave it before the last Court; I am not aware of any discrepancies between my evidence and that of Mr. Croft; I never heard personally from Bailey of Taft's accident; when I referred to the having heard the matter from Bailey recently I was not referring to what I had heard in the office on the 14th April last; I suppose I meant I had seen it in the paper when I said I had heard it from Bailey recently; I call it hearing it from Bailey reading it in the papers; at the time I gave evidence before the last Court, all I knew about it was what I had seen in the paper; I cannot say whether Taft's name was mentioned in the paper nor whether the scene of the accident in the mine was mentioned; all it said in the paper was "another man being overcome by black-damp"; I got to know after that appeared in the paper that Taft was the man referred to in the paper; Taft's name was mentioned after that appeared in the papers; that was how I got to know the name of the man; No. 1 continued to work till about the middle of April, 1899; four men were working there at that time; only four men had been working there for four or five months prior to that; I do not know that Mr. Dixon reports eight men as working in No. 1 on the 18th April last; there would be eight men if he took Nos. 1 and 5 together; an alteration was made in the No. 1 in-take; the number of men was reduced in that part and the check added to as the men were drawn out; less air would be going into No. 1 as each addition was made to the check; that last addition to that check before the final addition was made about a fortnight before the men were taken out altogether; I do not know that the same quantity of air was going into No. 1; I do not know what the air readings were for No. 1 according to the books; if no stoppage were put up the quantity of air would be about the same; if the quantity of air going into the district were about the same, it would go to show that no further stoppage had been put up.

*By Mr. Thompson*: The small lamp produced is that which Bailey broke with his large flare; Mr. Bruce Smith put direct questions to me as to my knowledge of the different matters of which I gave evidence before the Court of Inquiry; I can only account for my mistake as to the time I heard about Taft's illness on the supposition that I mixed his case and Weir's up; I was present at two interviews between Bailey—once at the engine road and once in the office; on neither occasion did Bailey mention anything about having found 25 cubic feet of gas or 16 cubic feet of gas; I have had no talk with Bailey since the interview on the engine road; I have never spoken to him since; at neither interview did Bailey say he wanted to show me two ignitions of gas where he was testing for it; when I went with him to look for gas, I saw no indication of it at all on either occasion; I saw no puckering or flickering of the flame of the lamp; he said he saw it himself; he did not report it in the book; it was twice on the one day in two different places; I saw the report book to satisfy myself that he had not reported either of them; I stood and saw him make the report in the book; the report shown me in the book is the same; I said nothing to him about it when he made that entry; Barnes was the man working in the place where Bailey said he found the gas.

*By Mr. Edmunds*: I inspect with a safety-lamp; I have done so off and on for the last two years, whenever we were approaching a fault; I do not examine with a naked light now; I am not an examining deputy; I go into the men's places during the day while the men are at work; I do not do that as an examining deputy; the front shift deputy makes the examination for my shift; I make the inspection for the second shift; I make that examination under General Rule 4 for the second shift; I have used the safety-lamp continuously since the last inquiry began; before that I sometimes used the naked light, sometimes the safety-lamp.

*By Mr. Thompson*: My shift is a continuous shift; I have not even spoken to you about the alteration in my evidence about Taft's matter; I first came to town in connection with this inquiry to-day; I have not had a chance of giving a statement of my evidence to anybody since the last inquiry.

Taken and sworn at Court-house, Newcastle, this } WILLIAM GALL.  
18th day of August, 1899, before me,—

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *William Ambrose*, on his oath, states:—I am a deputy in the A pit of the Newcastle Coal Mining Company; I gave evidence before the last Court of Inquiry; the signature of the deposition shown me is mine; I wish to correct it at page 207, where the manager asked Bailey about reporting to the Minister about black-damp and gas; I should have said fire-damp instead of black-damp; I said black-damp when I was giving evidence, but it was a mistake; otherwise the deposition is correct [*deposition put in and marked No. 3*].

*By Mr. Edmunds*: I first noticed my mistake with regard to that when I read Mr. Wade's summing up in the papers; I saw in the paper where I had mentioned black-damp; I cannot say it was in Mr. Wade's report; I saw it at the time the inquiry was going on, when my evidence was reported; the inquiry lasted some days after my evidence appeared in the paper; it never struck me to correct my evidence while the evidence was going on; I did not hear Mr. Croft give evidence; I read his evidence in the paper; I cannot say now that Croft said in his evidence that Taft's affair was not mentioned in the office on the 14th April; I believe Rendal has stated that he mentioned Taft's affair to Croft in a conversation with him about April last; it first occurred to me that I had made a mistake with regard to the black-damp when I read about my evidence in the paper; it never occurred to me that I should correct it; I have never spoken to anybody about correcting it; I cannot tell you any other point on which my former evidence differed from Mr. Croft's; I have never examined with a safety-lamp; I began to use a safety-lamp since the last inquiry; prior to that all my examinations were made with a naked light.

*By*

*By Mr. Thompson* : I remember sending Bailey away with the boy from the door three times ; I had not been in communication with any of the deputies, the manager, nor under-manager just prior to sending him on any one of those occasions ; I had not seen either the Government inspector or check inspectors in the mine that day, nor did I expect them to be there ; if I had kept that door open the hour and a half, as deposed to by Bailey, the men in the district would feel the difference in the air ; No. 8 would get a great deal more air by opening that door ; I have never known that district to require such an increase in its supply of air ; on each occasion I have sent the boy away, and stopped at the door myself ; I have had plenty to do in looking after the men on the flat ; if the door were left open as described, and the check inspectors were in the district, they would undoubtedly notice the difference in the air ; it would take from ten to fifteen minutes to put up brattice in a bord ; that is giving plenty of time.

Taken and sworn at the Court-house, Newcastle, this }  
18th day of August, 1899, before me,—

W. AMBROSE.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Samuel Jones*, on his oath, states :—I am a deputy at the Newcastle Coal Company's mine, and reside at Merewether ; I gave evidence before the last Court of Inquiry before Mr. Wade ; the deposition shown me is mine and bears my signature ; that deposition is correct [*put in and marked No. 4*].

*By Mr. Edmunds* : I am using a safety-lamp now for my inspections ; I believe I began to use it after Bailey had reported the gas, on the 28th May last ; all the other deputies began to use the safety-lamp at the same time.

*By Mr. Thompson* : By every deputy I mean every examining deputy—those who examine the bords in the morning ; I never received a verbal message from Bailey about gas to deliver to young Mr. Croft ; he never gave me a note for him either ; my mate, Jones, is the examiner in the morning ; he was put on in Bailey's place ; he was not an examiner before that but a shiftman ; I was the only deputy of the name of Jones at the time Bailey speaks of ; I have a middling good memory ; I have no recollection at all of receiving a verbal or written message from Bailey for young Croft ; I have been in coal-mines for forty-seven years ; during the time I have been in the Newcastle pit I have had good opportunities of seeing the state of discipline there ; I have been in all parts of the pit ; I started on the coal and was next appointed deputy ; In my districts I have never known a deputy to be a bully or tyrant ; I have never had cause for complaint ; the mine has been well managed according to my ideas ; I have never had complaints made to me by the men which have been left unredressed ; I had as good a chance of knowing when the inspectors were coming ; I never knew when they were coming ; I never knew they were there till I saw them ; the weather has a good deal to do with the state of the air in the mine ; it is hotter in the mine in the warm summer months than at other times ; I have seen Mr. Joseph Croft on the average two or three times a week at the pit, and young Mr. Croft every day ; I have never seen either of them do anything that would give me the idea that he was incompetent ; I have never noticed any gross negligence on the part of either of them ; I have never seen either of them under the influence of drink in the slightest degree ; I was there when they were getting out the pillars ; that is a difficult and dangerous job ; they began to get out the pillars eleven or twelve years ago ; I cannot remember one accident in the pillars during the whole of that time ; I cannot remember who it was first spoke to me about Weir's matter ; I heard it in the pit somewhere, I think ; I heard afterwards that it took place in the back heading of No. 6.

Taken and sworn at Court-house, Newcastle, this }  
18th day of August, 1899, before me,—

SAMUEL JONES.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *William Newburn*, on his oath, states :—I am assistant under-manager of the B pit of the Newcastle Coal Company ; I gave evidence in the inquiry held by Mr. Wade ; the deposition show me is signed by me [*deposition put in and marked No. 5*].

*By Mr. Edmunds* : There was nothing said about a man having been carried out of the mine in the colliery office ; I never heard of it till I read it in the papers ; I suppose I was brought into that conference because Bailey had lodged a charge against me with the manager ; I know of no other reason.

*By Mr. Thompson* : I worked in several pits in England before I came out here ; the Durham mines in which I worked were all gassy ; I was simply a practical miner in them ; I have worked in the Tighe's Hill Colliery, in this Colony, besides the Newcastle ; I was there for about twelve months just after my arrival in the Colony ; I used not to meet Bailey in the cabin in the morning when I was in A pit ; he was not an examining deputy at that time, whatever I ordered Bailey to do with regard to the ventilation of the mine was necessary to be done, and it was my duty to see that it was done ; Bailey worked as a shiftman in No. 10 when I had charge of it ; I do not think I would be laughing while I was putting up canvas in No. 2 ; I was doing my work and looking after Bailey, and I do not consider that is a laughing matter ; I do not know by what means the manager or anyone else could tell when the inspectors were coming to the mine ; I consider Joseph Croft a most careful, diligent, and practical manager ; the mine has been as well set out as any mine in the Northern District ; young Mr. Croft is a diligent young man and well fitted for his position of under-manager ; he has plenty experienced men to assist him ; I have never seen any signs of negligence on the part of either ; during the seventeen years I have been in the mine only one man has complained about my treatment of him ; every time I have had to do anything in the bords to make them safe and comfortable I have done it as soon as the request has been made, or within a very short time after ; I have worked pillars in this mine for ten years ; pillar working is a very dangerous operation in a mine on account of the falls of roof and timber ; I have not had an accident in the pillar workings in ten years ; there were other parts of the mine in which pillars were being worked under other deputies ; I have never heard of an accident in the whole mine during the whole of the pillar workings ; Bailey was very excited when he was at the colliery office on the occasion I have spoken of ; I told him he was telling a lie because he was doing so.

Taken and sworn at Court-house, Newcastle, this }  
18th day of August, 1899, before me,—

W. NEWBURN.

GRANTLEY FITZHARDINGE, D.C.J.

This

This deponent, *Herbert Claude Croft*, on his oath, states:—I am the under-manager of the A pit of the Newcastle Coal Company; I gave evidence before the Court of Inquiry last month; the deposition shown me is signed by me; that deposition is correct with one exception about Bailey using the safety-lamp [*deposition put in and marked No. 6*].

Adjourned till 2 p.m. on Monday next.  
Court-house, Newcastle, 18th August, 1899.

Mr. Edmunds puts in evidence a small plan marked Exhibit X in Dobb's evidence.

This deponent, *John Archibald Neilson*, on his oath, states:—I am a mining engineer residing at Teralba; I have been engaged in coal-mining matters in this district for eighteen or nineteen years; I have had to do with the A and B pits of the Newcastle Colliery as agent for the Merewether Estate for eleven years, and also for seven years as assistant to my father who was formerly agent for the same estate; I have during the course of business had to go down the pit at least four times a year; our relations have been antagonistic during most of the time; I have had opportunity of judging the general equipment and conduct of the mine during the last seven or eight years; it has been part of my business to observe those matters; I consider the discipline of the mine very good; I always found it so; I have always found the ventilation very good, but I was not particularly interested in that; under the system that obtains in this district the mine has been very systematically laid out; the arrangements for getting out the coal are very good; I consider Mr. Joseph Croft a very competent manager; in my opinion he has never shown any signs of incompetency nor negligence; I consider him a most attentive man to his business; I visit the Burwood Colliery in the same way, and used to visit the A.A. Co.'s mine in the same way; I have been in most of the mines in the district; in my opinion the Newcastle Colliery compares favourably in every respect with any mine in the district.

*By Mr. Edmunds*: I am a colliery manager myself; I only speak of the mine as I have found it.

*By Mr. Thompson*: I never found gas in the Newcastle mine nor has it ever been reported to me; that includes the time I was assisting my father as well as during my own term as agent for the Merewether Estate; I have never heard of fire-damp or black-damp in the mine.

*By Mr. Edmunds*: I have read of fire-damp appearing in a mine where it has not been seen for a number of years; it is more likely to be met with where there are dykes with incinerated coal; if a man were burnt with fire-damp and the occurrence not reported to the Government inspector it would involve a breach of discipline; if the manager did not know of it, the official under him who did know it would be guilty of a breach of discipline; it should have been reported in a book; if such a case came under my notice I would report it directly to the Government inspector no matter how late I heard it; I would, as manager, make a full inquiry into the circumstance when it came to my knowledge; if the provisions of the Act as to reporting such a thing are not complied with there is likely to be a danger of accidents; I know that safety-lamps should be used in a mine where inflammable gas has been found within twelve months; if the officials of a mine knew of a man being singed and did not report it they would be guilty of a breach of discipline; if they did not know it it would go to show a want of discipline in the colliery; if a man were overcome at his work and had to be carried out, it should be reported if it were an accident—something happening to him at his work; if it were not reported to the manager there would be neglect on somebody's part; I restrict all my evidence as to the mine to what I have observed there myself.

*By Mr. Thompson*: The man who was burnt as alleged in this case should have reported it to the deputy who should report it to the under-manager, he to the manager, and the manager to the Government inspector; my experience is that slight accidents are not reported. [Mr. Thompson wishes to ask a question as to the opinion of the witness concerning the competency of a manager in such a case a Weir's, Court decides that it would not be assisted by the opinion of the witness.] My experience of choke-damp have been a very heavy head and a nasty gritty mouth.

*By Mr. Edmunds*: I do not remember weak knees as a symptom of choke-damp.

*By Mr. Thompson*: The coal in the Newcastle Colliery is of the same seam as all over the district; some parts of it are gassy, some are not.

*By Mr. Edmunds*: I have never written a protest against a deputy's report in his report book.

*By His Honor*: I understand choke-damp and black-damp to be the same; I agree with Dr. Haldane's description of choke-damp—its ingredients and their proportions; I do not agree with his statement that choke-damp and after-damp are nearly the same.

Taken and sworn at Court-house, Newcastle, this }  
21st day of August, 1899, before me,— }

J. A. NEILSON.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *David Yardley*, on his oath, states:—I am a deputy employed in the Newcastle Colliery; I was examined before Mr. Wade in the previous inquiry; the deposition shown me is mine, and signed by me.

*By His Honor*: I have seen my former evidence reported in the paper; I did not find any error in it.

*By Mr. Thompson*: That deposition is correct [*deposition put in and marked No. 7*]; I was employed in the B pit as well as the A; I was deputy in the B pit for about eighteen months; I had no trappers under me in the B pit; I had some in the A pit; I had one trapper there; on several occasions I sent him away from his door; I have worked in mines in Scotland before coming to this Colony, but not in a gassy mine; I worked in several large collieries in Scotland before coming here; I have only worked in the Newcastle pit in this country; I have worked there for fourteen years; I have been a deputy there about three years; during that time I have had opportunities of observing the general equipment and management of the mine; I have never had cause for complaint against either under-manager or manager during the time I have been there; I have always treated the men under me properly; I have never heard of any of the other deputies being bullies or tyrants; the first I ever heard of the tricks with the ventilation was when Bailey preferred his charges against the management.

*By Mr. Edmunds*: I used to inspect my district (No. 2) during the shift; my shift ended at 4 p.m.; I do not know who did the inspection for the second shift; I used to inspect the places in that district during my shift; no miners came on in the second shift; that is still the case; I have used a safety-lamp on my inspections since the date of Bailey's report, the 28th March last; I am positive about

that ; since Bailey reported gas, I have used the safety-lamp on every inspection of mine when the pit has been idle ; I used to get it in the cabin in the box ; I had a key for the box, so had the under-manager ; Samuel Jones has been inspecting deputy in the morning ; he carried his lamp in along with him ; he did not use the lamp that was in the cabin ; I have never been with Jones on his inspections, and do not know of my own knowledge that he used the safety-lamp ; Jones did not use the lamp I used because I had the key of the cupboard where it was kept ; I had the key of the lamp, too ; it was left in the cupboard.

*By Mr. Thompson :* The report shown me (Bailey's, of 28th March last) is that of which I have spoken ; neither No. 2 nor No. 10 was the district in which the gas was reported by Bailey ; but, since Bailey's report, I have used the safety-lamp on my inspections ; that was done by the order of the under-manager.

Taken and sworn at the Court-house, Newcastle, this }  
21st day of August, 1899, before me,— }  
GRANTLEY FITZHARDINGE, D.C.J.

D. YARDLEY.

This deponent, *John Hetherington*, on his oath, states :—I am an on-setter, employed at the A pit of the Newcastle Colliery ; I have been employed there for sixteen years ; there is no man of the same name employed there to my knowledge.

*Question :* " Did you, at any time, steal a pipe belonging to a man named Dobb ?"  
[ Court decides that this evidence is not material. ]

This deponent, *John Dixon*, recalled on his former oath, states :—The roof of the whole mine for some time past has been very tender ; it has required great caution and skill to prevent accidents ; everybody has treated it very carefully and skilfully ; Mr. Croft has supplied the timber and the deputies and miners have seen it properly put up ; it has been creditable to all concerned in the mine ; I advised Mr. Croft to have the mine inspected with safety-lamps when approaching faults ; that was a good while ago ; I have seen the safety-lamps in the cabin.

Taken and sworn at the Court-house, Newcastle, this }  
21st day of August, 1899, before me,— }  
GRANTLEY FITZHARDINGE, D.C.J.

JOHN DIXON.

This deponent, *Herbert Claud Croft*, recalled on his former oath, states :—I wish to correct my former evidence in this manner : Bailey first used a safety-lamp about twelve months ago, but they had been in the mine before that ; it was when we were coming to the faults in No. 6 that Bailey used the safety-lamp ; that was when he was transferred from No. 1 to No. 6 district ; that fault is close handy to where Atkinson and his mate were seen working on Saturday last ; I have been once with Mr. Dixon, twice with the Chief Inspector, and once by myself to the place where Bailey said he had found gas, and examined or seen it examined for gas ; I have been there also with the manager and miners ; there was a difference in the place Bailey reported in the book and the place he took us to and showed us ; I tried both headings ; an examination had been made about two hours or two and a half hours before my inspection of that place ; a longer time had elapsed between the prior examination and that made with Mr. Atkinson ; I should say about eight hours ; when Mr. Dixon examined it an examination had been made about four hours previously ; it was between 2 and 3 p.m. that my father examined it ; Bailey would have finished there about 5 or 5.30 a.m. ; I did not gather from Bailey's conversations that he had found gas anywhere else ; I never heard of him finding gas on the 21st March last till he said so in his evidence in court here ; I tried all over the dip headings for gas, and could find none there ; I tried both the front and back dip headings for gas ; I saw Mr. Atkinson try the first place on Saturday last with the hydrogen lamp ; that was not near a fault nor near a dyke ; it was about 4½ cut-throughs away from a dyke or fault ; it was a good distance from where Weir was said to have been burnt ; it was 4½ cut-throughs away from there ; a cut-through is 35 yards ; when I was with Bailey—dogging him, as he says—I had a perfect sight of his lamp ; he got up on the catch to try for the gas ; he tried the side that was nearest to the brattice as well ; he said he saw the gas in the back rise heading first ; Bailey tried for gas in the front dip heading first ; I was sufficiently raised there to see his lamp distinctly ; I saw not the slightest flicker or move of the lamp there ; I am absolutely certain that he used the word " exhumed " there ; if there had been the slightest movement of his lamp to indicate gas there I should have detected it ; he just popped his lamp up on one side of the heading, then stepped across and popped it up on the other ; he said, " There's a slight trace there ;" Gall asked him " Where ?" and Bailey could not show him ; we then went into the front heading, and when he first put up the lamp said there was nothing there ; he put it up on the other side, and said, " There's a slight trace there ;" I could not see it, and said to him " Surely, Bailey, you can show it to me now," but he could not ; I was quite close to him at the time ; I did not even see a slight puckering of the flame ; he did not blow along the roof of the heading to get the gas over the lamp ; if he had done that I could have seen any deflection of lamp flame ; I cannot make out where Bailey found the 25 cubic feet of gas as he described, unless it was in the dip heading where he says he got a permanent blue cap ; it was the dip heading where Mr. Atkinson tried for gas first on Saturday last ; I cannot tell at all where Bailey found the 25 cubic feet of gas ; I should certainly prefer to be out of the way of 25 cubic feet of gas ; it is rather a large quantity of gas ; there is a strong current of air where Mr. Atkinson tried for gas on Saturday last ; no gas could stop there as the air would drive it out ; there are three keys to the cupboard in the cabin ; no mischief can come about if one goes into a place holding gas with an unlocked safety-lamp, unless the flame of the lamp is exposed ; I do not think Bailey took his key with him on our inspection ; it is about two months since that place was worked where the brattice was well up, and Mr. Atkinson tried for gas ; it is still examined as a safe-guard ; nothing has been found there since ; it is examined every morning about 5.30 o'clock ; it had been examined about four and a half hours prior to our going there on Saturday last ; if it had been giving off gas constantly as Bailey said we would have found gas there when we were there on Saturday last ; up to the time Bailey gave evidence in the former inquiry I had never heard of gas being found by him from six to ten times ; I never heard that he had seen it with a permanent blue flame from twenty to thirty times until he gave evidence of it the other day ; he never reported gas to me in my whole life ; he never wrote a note to me ; he never handed me a note ; it was in the rise headings in No. 6 that Gall tried for gas with Bailey ; their lamps were up together at the same time ; I said nothing to prevent Bailey reporting



reporting the discoveries of gas which he says he made on the 29th March last; Bailey has said that he found the gas with a permanent blue flame on twenty or thirty occasions; on none of those occasions have I known him to order the men out of their places and have work stopped; it would take longer than two and a half hours to drive out 25 cubic feet of gas as found by Bailey; I say that from my knowledge, but not from any experience I have had; if the brattice were taken well up to the face, and there were a good current of air, it would likely drive out 25 feet of gas in a couple of hours; it would require a stronger current of air to drive it out, if it had accumulated to that extent; I have seen Bailey many times fall on his knees and pray for people in the mine; if the check inspectors were in B pit to-day I would expect them in A pit to-morrow; it would take them a day and a half to inspect the A pit; the check inspectors' books are in the custody of the clerk; I have had a look at those books, but have not been right through them; the last time the check inspectors were there they sent word to me to bring them through from the B pit to the A pit; I suppose that was because they did not know the road; it was a difficult road to find, as we are making a new permanent road there; Jones never delivered to me either a note or message from Bailey about finding gas; where Mr. Atkinson tried with the hydrogen lamp on Saturday I had been on the 28th March last, and also a couple of days before that; I am pretty intimate with some of the men, and they would be likely to tell me what was going on in the mine; none of them ever gave me the slightest hint of any gas being found in the mine; I was present on the 12th April last, when Mr. Atkinson had the conversation with my father; it took place in the office at the mine; Mr. Atkinson came in about 5 p.m., and asked my father where he kept the report-books; my father said below, and sent me for them; I went down and got them; Mr. Atkinson then asked for the deputies, and they were brought from their homes; Mr. Atkinson asked them did they know of anybody seeing gas in the mine, had they seen it, and also asked me had I seen it; we all answered "No"; he then asked if we knew of anybody having been badly burnt within the last twelve months; everybody replied "No"; he then turned to the manager, and said, "Mr. Croft, I have another question to ask you, 'Do you know that the deputies deceive the Government inspectors when they are in the mine'"; he said before asking the question that it was a very low question he had to ask him; my father said he knew nothing about it at all; the deputies said they knew nothing of it; to the best of my belief, Gall was the first of the deputies to answer that question; at another interview Bailey said Gall was the cause of all the trouble; it would have been my special duty to report the finding of gas to my father; neither I nor my father, nor the shareholders, nor any one else, could have derived any benefit from suppressing such a thing; I have never examined the report-books of any other colliery to see how reports are made in them; I think various text-books show how to report; I have read some of them; I considered it was highly necessary for Bailey to report as to the roof and sides and the state of the ventilation when reporting the finding of gas, especially as it was the first time of gas being reported in a non-fiery mine; I went to the place where Weir was said to have been burnt after I heard of it, in order to examine the shot-hole from which it was said to have come; there was no shot-hole there then; I saw the first place which Mr. Atkinson tried on Saturday last, and saw him put a stick into a hole in the roof; I understood that Weir was burnt about 2 feet out-by that under the lip where it was cutting up; I saw another depression there which was blackened; that was the back end of a shot; I cannot deny that Weir was burnt after hearing the evidence; I knew nothing of it; it was not because I believed Bailey was trying to trick me on the 29th March last that I disbelieved his report; it was the way in which he had made his report that made me doubt its genuineness.

Taken and sworn at Court-house, Newcastle, this }  
21st day of August, 1899, before me,—

HERBERT C. CROFT.

GRANTLEY FITZHARDINGE, D.C.J.

Adjourned till 9-30 a.m. to-morrow.

Court-house, Newcastle, 21st August, 1899.

This deponent, *Herbert Claud Croft*, recalled, on his former oath, states:—There was something in Bailey's manner that caused me to doubt the truth of his report of the 28th March last; his head was hanging down, and his hands trembling; he seemed to wish to avoid me, and I had to follow him about to get him to answer my questions; I asked Rendal why he had not reported the singeing of Weir to me, and he replied, "If a man has to report when a man gets a few hairs singed, things have come to a fine pass"; I replied, "You know, Rendal, that any appearance of fire-damp should be reported; we have never seen it here before, and I think you neglected your duty in not reporting it to me or my father"; when the brattice is not carried right up to the face the air will go a certain distance beyond it—as far as the pressure will carry it—and then will find its way round the back of the canvas; the place which Mr. Atkinson tried the second time on Saturday last would be uninspected from 3 p.m. on a Saturday till between 6 a.m. and 7 a.m. Sunday; with the ventilation provided at that point it was not possible for any such accumulation of gas as mentioned by Bailey to remain there; there was no occasion for brattice in the No. 1 pillars; the amount of air supplied to that place was too large to get through the nearest place and went straight on to where Watts and John were working; in January last, my father tested that place at the cut-through end there, and got 2,000 feet per minute going to four men; there is no foundation for Dobb's statement that I had the No. 1 overcast interfered with; an obstruction would have to be up there to injure anyone in the mine four or five hours at least; the overcast is about 18 feet high and 9 feet wide; I do not know how Dobb would obstruct that, unless he built bricks up in it; I do not know that Dobb would know where No. 1 overcast is; he has not marked its position correctly on the plan marked E; he is 60 or 70 yards out in that; I am within bounds, when I say that that overcast is 9 feet wide; Dobb marked No. 10 overcast on the plan as No. 1 overcast; No. 5 overcast is 4 ft. 6 in. high and about 7 feet wide; there are no means there of stopping up that overcast; there were none at the time Dobb says he stopped it up; there was no brattice about at that time that he could have stuffed it up with; this overcast is an artificial one, made of planking and stringers; to hang canvas in it he would have had to set a bar first; the roof was of stone; it is only the bottom sill that is of wood; there was a big current of air coming over it; if he had placed an obstruction in that overcast it would not have blocked the air which would come through the cut-through—the top one in No. 1—from No. 6 and worked its way round the edge of the goaf, and found its way into the No. 1 return; that is if No. 5 were hermetically sealed; if No. 5 were blocked, as Dobb said, there were no means of blocking up another main in-take so as to block the air off altogether; to cut off the main in-take and main return it would



would be necessary to put a stopping across the main engine road and another across the main return; in several places that we have stopped with jerry and mortar there is a continual leakage of air owing to the shrinkage of the stone, the pressure of the atmosphere, and other reasons; we keep a supply of sand and lime in the mine for the purpose of repairing those stoppings; I have seen as much as 5,000 or 6,000 cubic feet of air out of 40,000 lost between two given points owing to leakage; the leakage is about 10 per cent.; according to our anemometers we always had quite enough air for every man, boy, and horse in the mine; on one occasion the furnace was off for repairs; we tried what the air was then; the fire was drawn on that occasion after the men had ceased work and were out of the pit; the furnace was put out at 1 a.m. on the Friday night and allowed to cool to allow the men to make the repairs; it was re-lit again about 9 o'clock; it was about 8 o'clock when my father tried the air with the furnace out; we found 20,000 cubic feet of air going over the bars on that occasion; we have had bigger readings than that on the bars; in every district there is a draft, even without the fire alight; that is owing to the natural ventilation; the air was not at all disagreeable when the fire was completely out.

*By His Honor:* We had about thirty-two horses in the mine when the fire was out; they suffered no inconvenience on that occasion as far as I could judge; they were perfectly dry.

*By Mr. Thompson:* The fall in No. 6 that Mr. Atkinson showed the Court on Saturday last would allow an escape of air; I remember Dobb saying that I told him the two check inspectors Hardy and Clapton were coming in; it is not true that I told him that; I did not know that they were coming; they are not the check inspectors who sent for me to show them the road from the B pit; Dobb never grumbled to me about being shifted from the day-shift to the night-shift; if he had not been put on the night-shift he would have been discharged altogether, as there was no other work for him; Dobb's work was generally to empty the coals for the furnaceman; he would then be put on the roads to clean them up; his work ceased because the roads were all pretty well cleaned up, and I had a spare water-baler; one of the two men would have had to go if I had not put Dobb on the night-shift; I never had any disagreeableness with Dobb; on one occasion I sent him to clear some stone away, and he did not do as much work as a 2s. 6d. lad would have done; I told Dobb that that would not do me; that if he was paid 8s. for his work, he would have to do 8s. worth of work; that is the occasion referred to by him, when he says I bullied him; he was on the day-shift then, early in 1898; I have no occasion to put any great faith in Dobb; Dobb would be on the day-shift at the time he says I told him to interfere with No. 5 overcast; he would have no right in that place at that time; I would have to take him from the furnace to send him there; I never at any time ordered Dobb to do anything to the ventilation that was not absolutely necessary for the proper ventilation of the mine; I made inquiries as to the statements about the interference with the ventilation; I asked Ambrose about it; I have known Ambrose about five years, and I never found a more truthful, honest man; I never at any time knew when Mr. Dixon was coming into the mine, nor did I ever instruct Dobb or anyone else to do anything to deceive anybody; I had not an opportunity of seeing Taft often after his accident; he never said a word to me about his illness; I only knew Weir slightly; he was a block of a man, about 5 ft. 6 in. high, with a very fresh complexion; he was terribly fat, with rolls of fat about his shoulders.

*By His Honor:* I remember on one occasion he was standing near me, and he was not so tall as I; he was as high as my shoulder, at least higher in fact; I am 5 ft. 10 in. high.

*By Mr. Thompson:* The first fault we came across in the A pit was in the No. 6 narrow bords, about September, 1898; that is as far as I can remember; when I told Bailey to take on the No. 6 places I told him to carry a lamp with him; it was shortly after that that Weir's accident is said to have occurred; if Weir were burnt on the 26th September, 1898, I am certain that Bailey had orders to inspect with a lamp before that date; I believe the 25th September, 1898, was Sunday; I would not see Bailey at all that day; Weir's accident is said to have happened on the night of the 25th September; I gave Bailey his instructions about the lamp either on the Friday or Saturday before that; I am positive it was before the date of Weir's accident; the men were just starting on the fault at the time, the coal having been stripped from it; Rendal was the inspecting deputy at that time; I have noticed lately that Rendal's memory is failing him, so much so that I am compelled to keep a book in which to enter the deputy's duties for him; I heard of Mr. Dixon recommending my father to use the safety-lamp when approaching the faults; he has also advised me when approaching a fault to have a look at it now and then with a safety-lamp; when Bailey was given the position of deputy he did not say to me, "Well, if I find gas I'll have to report it," nor anything like that; I heard Bailey say that he saw the place where Weir was burnt and that the gas came from the coal; I heard Fox say that it came from the shot-hole in the stone; Rendal showed me the place; it was solid stone; it was on the advice of Mr. Dixon that the Sunday shift was reported on after a consultation with Mr. Atkinson; I heard of it in the course of my duties as under-manager; Bailey did not know that Rendal did not make a book report of the Sunday inspection prior to five months ago, so far as I know; 25 cubic feet of gas with a depth of 10 or 11 inches would run a good way along the roof from the face; I followed Bailey with Gall on the occasion referred to by him to ascertain his manner of inspecting, and if there were any truth in his statement; I believe it was in the beginning of this year that I noticed the crack on the glass of the Marsaut lamp; Gall told me about it; it was reported to me as under-manager, I suppose; he told me that it had been cracked through Bailey carrying a too big flame and handling it carelessly; I do not know what Bailey means by the gas being consumed in his lamp; I cannot understand gas outside the lamp being consumed by the flame in the lamp; Gall tested carefully with his lamp at the same time as Bailey on the occasion referred to; the two lamps were quite close together at the time; I saw no pucker in Gall's lamp on either occasion; I have read how to inspect for gas, and have had many practical lessons from many experienced men, including Mr. John Dixon; the place where Gall and Bailey tested for gas on that occasion was in the same state as far as brattice is concerned then as it was on Saturday last, except that the heading has been advanced.

*By His Honor:* Up to two months ago two men had been working there, but since then nobody.

*By Mr. Thompson:* The first time there was a consultation between the manager and Bailey and others there was no charge alleged against me; no charge was laid against me by Bailey on any of those interviews, and I heard nothing of the charges alleged against me till the Court of Investigation; it was John W. Jones who was put on in Bailey's place in No. 6; as far as I know he is a capable and experienced man; I am on duty from 6.40 a.m. till 4.30 p.m., a longer shift than any of the men; I am in the pit every day ten hours; if there is any special need for me I stay longer and also go to the pit when sent for; I had to see the work done by the men during the night when I went on in the morning; Mitchell is still at the mine as far as I know; I do not think the No. 6 narrow headings were going on the

the 25th September, 1893; the accident to Taft happened to him at night-time; I was not there at the time, and had nothing to do with the ventilation at the time of the accident; I had nothing to do with the night-work unless I was specially called in; the inspectors' reports will show that there was always an adequate supply of air for No. 5; there was an inspecting deputy for No. 5 at that time; there was always an adequate supply of air for the men in No. 1; there were 2,000 feet going to four men, and only 400 feet required; as far as I could I enforced, and caused to be enforced, the general rules and the Act, and also the special rules of the colliery; I was never lax in my discipline over the men; I visited the working-places in the mine as often as practicable—one half one day and the other half the next day; it was impossible for me to visit every place in the one day; I always saw that the ventilation appliances were in proper order, and that an adequate supply of pure air was supplied to the men; I always gave immediate attention to any complaints that were made to me; I saw that sufficient timber was sent down the pit every day; the amount of timber required each day is put up in the timber bord by the deputies; the mine has always been well supplied with timber; I carefully and promptly obeyed the orders of the manager as to the use of the naked lights and safety-lamps in the mine; in not suspending Rendal on hearing of Weir's accident I erred on the side of charity towards an old servant; I did not hear of Taft's case till 23rd May last; it is the business of the manager to appoint the deputies; none were appointed on my recommendation that I know of; I kept them up to their work when they were appointed; they are as capable a set of deputies as are to be found in the district; our large output and freedom from accidents is an indication of the capability of the officials of the mine, from the manager down to the deputies; there are many difficulties in the A pit not found in other mines in the district; first, the faulty nature of the roof; that required careful discipline on the part of the deputies, and implicit obedience on the part of the men; the matter of the gas in which Bailey was concerned, and his action with regard to it, are a glaring instance of disobedience on his part; another difficulty we had to deal with was the upheaval of the bottom; that would be due to pressure of some sort; that necessitated a great amount of re-timbering, involving great care in putting it in fresh; the height of the seam was another difficulty; it averages about 7 feet, and meant longer props than usual; the innumerable dislocations of the seam were another source of trouble; the length of the roadways, and then the dip and rise in parts, were more trouble; the roadways have to be carefully attended to every night; the jumps have been so numerous that I cannot give their number; one of the dip jumps seen on Saturday last was about 10 feet; the whole of the coal-bed in the mine is like the waves of the sea, undulating; I ascribe that to some pressure—such as an earthquake; the incinerated coal next to the faults would imply the action of fire or great heat; the two or three creeps in the pit have also had to be carefully watched to prevent them coming in and causing accident; I have never hesitated about going to my father or Mr. Dixon about any matter I was in doubt about; I have always made it a point to ask information of anyone who I thought could give it to me; with the exception of Dobb I have had no unpleasantness with any man in the pit; it was on the 29th March last that I first heard of Weir's accident, six months after it had happened; I did not conceal the same either from the Chief Inspector or the District Inspector; I am pretty well certain that Bailey's lamp was not locked when he made the inspection in No. 6 in my presence; I did not cause the whole of the A pit to be examined with safety-lamps after first hearing of Weir's accident; but after hearing Fox's evidence before the Court of Investigation safety-lamps were carried for inspection purposes by every fireman in the pit; I did not suppress the finding of inflammable gas in the mine by Bailey nor anyone else; I did not know that Bailey had made a statement to the Minister for Mines about the gas until my father called us all together in his office; Mr. Dixon has complimented us on the manner in which our stations are kept in the mine; I did not know of inflammable gas having been found in the mine before Bailey's charges were made; I saw Mr. Dixon on the 12th April last, after hearing of Bailey's charges; I did not mention them to him because I thought he had come there about them and knew about them; I saw that each deputy made his report in the book in accordance with the rules as far as I could; I am positive that Bailey nor any one else gave me any information about gas in the mine till I saw it in the book on the 28th March last; I remember Bailey's appointment to No. 6 as deputy; he had been a deputy in No. 1 for some months prior to that; if Bailey knew of the existence of gas in the mine on the 25th September, 1893, he said nothing to me about it till the 29th March, 1899; I heard him say that he must have seen gas in the mine at least fifty times, and that he had reported it either verbally or by note to me every time; according to that he must have seen it on the average twice a week during the nine months; I never heard a whisper from any of the other men about it; I did not allow Bailey to try the workings for gas with a naked light on the 28th March last; I have never found any difficulty in getting the men to work for me; men that have gone away from the mine have come back there to work during my time.

*By Mr. Edmunds:* The force of the ventilation is brought about by the pressure of the air; that is brought about by the colder air rushing into the place of the rarefied air; I do not know what is meant by calculating the force producing ventilation; I know the formula by which the pressure of the ventilation is arrived at; it is arrived by taking the atmosphere pressure at the downcast and that at the upcast, and subtracting the one from the other; the difference in weight between the column of air in the downcast shaft and the upcast shaft represents the pressure of the ventilation; the quantity going into each split is determined by the regulators, which reduce the area; the quantity of air passing through each split depends, to some extent, upon the resistance offered by each split to the course of the air; the putting of a stopping in No. 5 overcast would not affect the quantity of air going into that district; Nos. 5 and 6 are all one air district; the putting of a stopping there would increase the resistance to the course of the air in that district in comparison with the other districts; it would diminish the air going in that return, but not in the district; the increase of resistance in a return will diminish the quantity of air going in that return, and would relatively increase the volume of air in other places; in this particular case, the air that would be obstructed would get to the district by another route; it would form another circuit of air with a greater length, and, consequently, more resistance; the air adjusts itself to the different parts of the mine proportionately as the circuit offers resistance to it; reducing the volume of air in one district means increasing it in some others; if a place were found with 25 cubic feet of gas in it, it would have to be broken up with a bag; that would take about two hours or two and a half hours; I still adhere to my opinion that it would take two and a half hours to clear out 25 feet of gas under the circumstances described by Bailey; the clearing out of gas in a place bratticed up to the canch would depend upon the volume and velocity of the air passing through that place; on the 28th March last there was passing through

through No. 6 a volume of 10,000 feet of air per minute ; the dip-headings were getting about 7,000 feet per minute ; that volume of air passing through that space would sweep out 25 cubic feet of gas in five minutes, or about that ; the time it would take to get that quantity of gas out would depend upon whether the brattice was brought up to the face or not ; the pressure will force the air a certain distance past the end of the canvas, and then the air will course round the end of the canvas and go down the other side ; between the canvas and the rib the air will be moving all in one direction—towards the face—and then will course round the other side of the brattice ; the whole volume of air will be coursing in the one direction at the sides of the brattice, and beyond it ; I mean that the air will go a certain distance past the end of the brattice, which is the face, and will then turn round the other side of the brattice ; it is the face that turns the air ; on the 28th March last the dip-heading was about 7 ft. 6 in. wide and about 4 ft. 11 in. to 5 feet high ; the height of the canch was 2 feet, leaving the height of the heading on the canch about 3 feet ; 25 cubic feet of gas, a foot deep, and spread over the whole width of the roof, would extend about  $3\frac{1}{2}$  feet from the face ; wherever a rise is met with in the seam, it generally dips again to its former level ; there is a curved surface to the seam all through the mine ; I do not know of any mine in the district with the seam on a perfect plane ; I gave Bailey instructions to do the work of inspecting No. 6 ; I told my father that Bailey had not enough to do in No. 1, and that Wilson had too much, and that I would like Bailey to do No. 6 ; I told Bailey to take the lamp in his inspections of that part of No. 6 which was approaching a fault ; that was not the first time I had had inspections made with the lamp ; I had inspected with it myself, and the deputies occasionally ; when I instructed Bailey to inspect with the lamp was the first time I had had daily inspections made with it ; the first time I saw Bailey use the lamp was on the 29th March last ; I mean that was the first time I had seen him test for gas with a lamp ; I inquired from Rendal what sort of a man he was in his different kinds of work before I put him on as deputy in September, 1898 ; I asked him a few questions as to testing for gas before putting him on ; I was not satisfied as to his fitness for the work of testing for gas, because I had not seen him at work ; I was satisfied only so far as he could tell me of his competency ; we left our lights about 12 or 14 yards from the place where he tested for gas on the 29th March ; I know that Special Rule 78 says that no person shall try the workings for fire-damp with a naked light ; I stood by while Bailey took his bonnet off ; he was not at the face when he took the bonnet off, but near the stantin, sitting down ; I said nothing when he took off the bonnet ; I should say the taking off of the bonnet would make the lamp more active ; I said nothing when he did it, because I was satisfied that no danger could arise from fire-damp, and I wished to notice his procedure ; I did not notice his procedure before I put him on to that work, because I never expected to see gas ; when gas is found in a mine the inspection must be made with locked safety-lamps ; I do not think that every lamp has to be put in charge of a responsible person, because each deputy is responsible for his own lamp ; there must be a responsible person for each individual lamp—the man who is using it ; no particular book was kept in compliance with General Rule 7, unless it was the ordinary report-book that was kept below ; I had no fault of importance to find with Bailey up to the 28th March last ; I came to the conclusion that Bailey had knowingly made a false report with regard to the gas on the 28th March last in the morning ; I told my father of it that evening ; I did not order Bailey to leave the pit when I came to that conclusion ; he continued at his work in the pit all that day ; I let him remain there that day because I did not believe his report was true, and I was on a balance which way to act ; on account of the manner in which Weir's affair had been told to me I would have been telling Mr. Atkinson what I did not believe to be true if I had told him of Weir being burnt ; he asked me if I had heard anything about gas, and the reply was given "No" ; I did not tell him of what I knew of gas in September last, because the affair had been represented to me as such a trivial one that I did not think it worth while speaking about ; since this inquiry I would report the scratching of a man's finger in the mine ; I did not tell Mr. Atkinson about Weir, because he asked if we knew of a man having been badly burnt within the last twelve months ; I took Gall with me on the morning of the 29th March last, because I wanted to have somebody with me as a witness ; I knew that Bailey was to make his inspection then, and do not consider that I was unduly interfering with Bailey in the execution of his duty as a deputy ; Bailey was not interfered with nor obstructed in any manner on that morning ; I wished to go and see the method of inspection, so that, if anything were seen there, I might report it to the manager ; I have said that the air in No. 5 pillars was satisfactory ; I was not there at night-time ; I have tested the air there with my light ; I never saw any black-damp there, and the quantity of air there was quite sufficient to carry any away according to my tests ; I do not think that either Taft or Turner was affected by black-damp ; if Taft, Turner, and Dobb were affected as they have said I should say there was not sufficient air going into that place ; Rendal must know that the inspection with a safety-lamp of No. 6 must have begun before Weir's accident ; the narrow bord would be fenced off on the 24th September, 1898 ; the inspection by Ambrose on that date would not mean an inspection of the narrow bord of No. 6 ; the narrow bords were stopped at that time, and would be fenced off from the point where Ambrose inspected with his naked light ; I know that Rendal sent men into the narrow bord on the night of the 25th September ; my impression is that the men would be going to work on the fault there at that time ; Rendal was sending men in to timber and bale water that night ; Rendal was making the Sunday night inspections at that time in No. 6 ; I do not know that he made his inspection that night with a naked light ; I had given him instructions to inspect every place approaching a fault with a safety-lamp ; it is about twelve months since I first noticed Rendal's weakness of memory ; I have never complained about his unfitness for his work ; Gall was the day deputy for the roads in No. 5 at the time Taft was overcome ; it would be one of the last places he would go to before they went in ; I can remember the deputy reporting Bailey on one occasion for not supplying his men with sufficient sprags ; that was about January last ; except that I cannot recall anything for which he was reported or for which I had to find fault with him ; the brattice that Jarvis put up in No. 1 in-take was completed in the second quarter of this year ; portion of it had been up for seven or eight months before that ; it was put up, and never altered, until it was totally closed off ; it remained unaltered from the beginning of this year till it was completely closed ; I know that No. 1 has had an air current of 4,000 or 5,000 feet of air since September, 1898, till it was closed ; it had an air current in August, 1898, of 11,000 feet ; that indicates that it was in September, 1898, that the brattice was altered.

*By Mr. Thompson :* Bailey has never said where he saw the 25 cubic feet of gas ; assuming it was the place that Mr. Atkinson tried with his lamp on Saturday last, and that the brattice was then as it is now, the air would not allow such a quantity of gas to accumulate there ; it would not require a very great

great force of air to drive out a small quantity of gas; my father assented to my proposal to give Bailey some extra work and Wilson a little less; Bailey says it took him an hour to get rid of the 16 cubic feet of gas by putting up brattice; there must have been a considerable emission of gas on those two occasions Bailey speaks of if what he says be true; I knew that the whole of the mine had been examined with naked lights before the safety-lamps were used, and no suspicion of gas ever entertained; the place examined by Mr. Atkinson on Saturday last was similar in every respect to other places all over the mine which had been examined with the naked light, and no gas ever seen or heard of; Bailey's report of the 9th April last contained no mention of gas; he examined that night, I think, because Rendal was short-handed; the signature to the report of that date in the report-book shown me is Bailey's [*report-book put in and marked Exhibit No. 8*]; Rendal had power to take on a man in that way without consulting me; I would not have agreed to it if he had consulted me.

*By His Honor*: If a shiftman is away the night overman reports it to me if he is one of his shiftmen; Weir's absence after his accident was not reported to me; he was often away; I know that by the time-books; I did not make any inquiries as to the cause of his absence after his accident; Taft's absence was not reported to me; he was not often away; Rendal would not know which of his men are away till he puts them to their work; I would be out of the pit at that time, and would not see Rendal till 4 p.m. next day; no record is kept of the absence of the shiftmen except the time-book, which I see only once a fortnight.

*By Mr. Thompson*: If a shiftman is away two days without sending a doctor's certificate, he would be sent to the manager; if one of Rendal's men were away for two days he would be sent to the manager.

*By His Honor*: Rendal might see the manager on the top and report the absence of a shiftman for two days; he would inform me when he came down the pit.

*By Mr. Thompson*: Bailey never reported in the book the finding of the gas twice on the one day when Gall and I were with him.

Taken and sworn at Court-house, Newcastle, this }  
22nd day of August, 1899, before me,— }

HERBERT C. CROFT.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *James Henwood*, recalled, on his former oath, states (to *Mr. Thompson*):—I have already said that I had had considerable experience in gassy mines; the length of time it would take to get rid of 25 cubic feet of gas as found by Bailey would depend upon the means taken to remove it; the proper way to remove it would be by extending the brattice; it should not be removed in a body but dissipated, otherwise it would cause danger in some other part of the mine; it should be done by advancing the brattice bit by bit, and by breaking a hole in the brattice at the top which would carry off the gas in portions; using that method and with a current of 7,000 feet of air it would take from thirty to forty-five minutes to clear 25 cubic feet of gas; if the gas were issuing from the one fissure I should expect to find the gas there again next day, but not if it were coming from a number of smaller fissures; from my knowledge of the A pit I would not expect to find 25 cubic feet of gas accumulated between the time of knocking off work one day and the time of inspection the next day, nor would I expect to find 16 cubic feet accumulated in the same time in that pit; if it were said to come from a solid face of coal I would not expect to find it exuding from one fissure; if the men knocked off work at 4 p.m. and 25 cubic feet of gas were found the next morning about 6 o'clock, I would call it a very large issue of gas; with other auxiliary elements such a quantity if lighted might possibly blow the A pit up; any man with any knowledge of gas should know that 25 cubic feet of gas is a source of very considerable danger; I cannot conceive of a man finding gas with a permanent blue flame twenty or thirty times, and altogether fifty times in the course of five months in the A pit; I cannot understand a man finding gas so often not mentioning it to any of his fellow workmen or the mine officials.

*By Mr. Edmunds*: There were faults in No. 6 when I was in the A pit; that was about four years ago; the bords were standing there then; there was one dyke passed through in 1898 in the left-hand heading, off the narrow bords; there was no dyke met with in the narrow bords in the year 1898 up to the time I left; the narrow bords were worked continuously in 1898 up to the time I left there in June.

*By Mr. Thompson*: The downthrow of 10 feet would be as likely to cause gas as the dyke, but on the opposite side.

*By Mr. Edmunds*: It would require of air thirty times the quantity of the gas to render the 25 cubic feet of gas harmless; it would take from thirty minutes to forty-five minutes to do that by the method I have described with an air current of 7,000 cubic feet of air per minute; I take into consideration the time necessary for the labour to be done in extending the brattice; it would remove at that rate about a cubic foot of gas per minute; the thing cannot be done too slowly to be safe.

Taken and sworn at Court-house, Newcastle, this }  
22nd day of August, 1899, before me,— }

JAS. HENWOOD.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *James Richardson*, on his oath, states:—I am a miner working in the B pit of the Newcastle Coal Company; I gave evidence before Mr. Wade at the last Court of Investigation; the deposition shown me is mine, and signed by me [*deposition put in and marked No. 9*]; the men and boys working in the pit are the persons who are benefited by the ventilation: the check inspectors are elected by the miners only, not the shiftmen or boys; the miners would be working in by the flat.

*By Mr. Edmunds*: I left the A pit two months ago; I worked in No. 6 twelve months or more ago; I have never known Jones to find any indication of fire-damp in No. 6; I never heard of any gas in the mine till the Court of Investigation.

*By Mr. Thompson*: It was my duty as check inspector to report any inflammable gas that was reported to me; we never examined for gas; I put no obstacle in the way of the men making any complaint to me as check inspector; I have worked in the pit altogether three years.

Taken and sworn at Court-house, Newcastle, this }  
22nd day of August, 1899, before me,— }

JAMES RICHARDSON.

GRANTLEY FITZHARDINGE, D.C.J.

Adjourned till 9:30 a.m. to-morrow.  
Court-house, Newcastle, 22nd August, 1899.

His

His Honor points out to Mr. Edmunds that there is a mistake in the charges as regards Taft's Christian name, he being described as Albert Taft instead of John William Taft, and also with regard to date 28th September, 1898, which should be 25th September, 1898. Mr. Edmunds asks that these mistakes be corrected in the charges. His Honor allows the corrections wherever necessary in the statement of the charges.

This deponent, *Joseph Croft*, on his oath, states:—I am manager of the Newcastle Colliery, and reside at Merewether; I was examined in the inquiry before Mr. Wade; the signature to the deposition shown me is mine [*deposition read to witness, put in, and marked Exhibit No. 10*]; I wish to correct my evidence at page 272 in this respect: that the last words used by me on that occasion were "collusion going on"; Weir's name was mentioned at that interview, but prior to those words; I also wish to alter it at page 291, where I am made to say that I sent Bailey to inspect Nos. 1 and 2 on the 9th April last; I did not send Bailey to inspect those districts on that occasion [*witness marks the No. 10 overcast on the plan E with a C*]; X O on that plan indicates the No. 1 overcast and the main in-take for No. 2; X on that, on the main No. 5 return, plan means No. 5 overcast at No. 1 return [*letter marked I in newspaper in Joseph Croft's evidence put in*]; that was the first letter I saw about the matters referred to therein; I have had thirty-three years' experience in mining, beginning at Minmi; there are three tunnels there now; at that time there was only the one pit; I was there about fourteen years before being appointed manager; prior to that I had been a clerk in the office, but not all the time; I had to attend the New Lambton Colliery, also as a clerk; I assisted to develop the tunnels at Minmi; I helped to make the plans and calculations; I had been gradually acquiring more knowledge by my practical experience, and also by studying; during the last ten years I was there I did all the surveying; I studied surveying under Donald McCabe, formerly town clerk and surveyor for Newcastle; after finishing the surveying I was appointed surface manager at Minmi, and then manager; J. and A. Brown were my masters there in the first instance; James Brown used to look after the business of the colliery principally; he was an experienced man; I remained manager of that mine for ten years; New Lambton passed out of the Messrs. Brown's hands during that time; those mines were gassy; I had to deal with that matter as part of my work as manager of those mines; they were troublesome in that respect pretty well all the time I was manager; I thus acquired skill in searching for gas and dealing with it; I cannot say for certain whether it was while I was in charge of those mines that the two men were burnt in one of the mines; I was temporarily in charge of the mine during the absence of John Brown for twelve months, and it was either while he was away or shortly after his return that these accidents happened; the old Coal Mines Act was in force during that time; no complaint was ever made about me while I was manager of that mine so far as I can remember; I was not the only applicant for the position of manager of the Newcastle Colliery; I was selected out of a number of applicants; I used no influence to obtain the appointment, but depended upon my recommendations and general reputation; there were about 400 men employed in the pit at that time; there are about 800 men employed there at present; the A pit has been developed more than the other; that was done in order to bring about a large out-pit; while developing the A pit we had very great difficulties to contend with, in the shape of faults and dykes in all directions; these had a very bad effect on the roof; it was a very bad roof; the whole locality was disturbed by these faults and dykes—roof and floor; the roof required extra timbering through being so rotten; there was not a single accident to a man through falls in the roof during the whole of that time; there have been about twenty accidents in the mine, exclusive of Taft's and Weir's, during the whole ten years I have been manager; that is very much less than compared with other mines in the district; there have been no signs of creeps in the mine since I took charge of it; the floor of the mine used to heave up, and break the timber, causing extra caution and the use of a great deal more timber; I had to depend upon my deputies and men a good deal to see this properly attended to, but mine was the governing spirit throughout the whole of the operations; I have been down the mine, roughly speaking, on an average three times a week during my tenure of office; I went down to inspect the whole of the districts, and to take the air; I understood it was part of my duty to go down and take the air at least once a month; the breaking of the timber would be caused by overhead pressure when the floor heaved up; I had to set out the ventilation for all the new districts, and to make new overcasts to suit the different places; this was open to the Government inspectors and the check inspectors; I have seen the check inspectors' reports in my office; I have not had an opportunity of seeing the Government inspectors' reports; the check inspectors' reports and mine compare equally with regard to the measurements of the air; I have visited several of the pits in this district; I have seen what the ventilation is in them, and consider the ventilation in our mine compares favourably with them all; my method of getting out the coal has been approved by persons who ought to know; the means of getting out the coal are capable of getting out the largest output of coal in the Southern Hemisphere, and are doing so; my company pays a heavy royalty to the Merewether Estate, and it is an object with them to get out as much coal as possible, and as economically as possible; I have never been found fault with by the directors in my management of the colliery; they have always spoken favourably of the manner in which I have worked it; I have heard that at the meetings from directors and shareholders; the haulage system is by "mane and tail," and is approved of; that was the system in use before I took over the management; it was a system adopted by Mr. Ross, the former manager, who has a very high reputation in the district as a manager, and who is now manager of the Wallsend Colliery; I consider that I am quite competent to manage the mine; I have never studied the scientific part of the matter, but have a thorough practical knowledge of all matters in relation to coal-mining; about a third of the A pit was gone through by the party on Saturday last; the pit was then in the usual state it is in; the deputies in the mine are not a disobedient, bullying lot of men; they were selected because they were good men—even Bailey; my son told me that Bailey was looking for work, and he thought he was a good man; Rendal also recommended him to me; the minor matters in connection with the pit are attended to by the under-manager; the next man in position to him is the night-overman, then the deputies; my experience of my men is not that they are an undisciplined, unruly lot, but quite the opposite; Rendal was in the employment of the company before me—Gall and Newburn also; Sam Jones and Wilson also; many of the men who have gone away to better themselves have always come back to me for employment on their return; I have never known any part of the mine to be called a gassy one; putting aside Bailey's evidence, there is not the slightest ground for saying it is a gassy mine; I have tested for gas constantly when coming to faults; I am not aware of any gross negligence that I have been guilty of in my management of the mine; I heard Bailey say the other day that he had found gas with a permanent blue cap on twenty or thirty occasions;

occasions; he did not say that on the former investigation; I heard him say that altogether he had found gas on fifty occasions in the mine; he did not say that on the former investigation; I heard him say he was constantly finding gas; he did not say that before the other Court; I did not know of Weir's accident within twenty-four hours of its happening; it was six months after that I heard of it; I made inquiries into it when I did hear of it; I did not hear of Weir's accident from Mr. Atkinson; I did not report it when I heard it from Bailey and Rendal, because they had not seen it, and that the man had not been hurt; Bailey first told me that a man had been singed; I asked him who, and he said Weir; I then spoke to Rendal about it, and he said it was nothing, and that nobody had been hurt; I only heard of Taft's matter through the newspaper; I inquired into that from Rendal, who was night-overman at the time; I had never had reason to doubt Rendal's truthfulness in any matter; I asked Taft about it also; I saw both Rendal and Taft together in my office; Rendal had told me the day previous about it, and I told him to be at the office the next morning between 8 and 9 o'clock, as I intended to have Taft there; they were together, and I told Taft that I had seen the matter in the paper, and had made inquiries throughout the mine, but could find no man who knew anything about it; that I had ascertained that it had occurred at night-time; that Taft had had the shakes; that Rendal said to him, "Have you been overcome like this before?" that Taft had replied, yes, and then Rendal had asked him whether it had been in this pit, and Taft had replied, no; Taft was sitting on a chair when I asked him what had happened to him; he replied, "I took the shakes," motioning his arms backwards and forwards to indicate the way in which he had been affected; I did not ascertain from Taft that he had been overcome with black-damp; I told him that those were not the symptoms of black-damp; I thought it was black-damp from what I had seen in the newspaper; Taft mentioned no other symptom but the shaking; I asked Taft if his mate's light had burnt clear, and he said it did; I also asked Rendal if Turner's light had burnt clear, and he replied, yes; I never heard until the inquiry that Turner had suffered from a headache on that occasion; from what Taft told me I satisfied myself that he had not been affected by black-damp; I knew of no personal injury to anyone in the mine beyond the singeing of Weir's moustache, nor any more about Taft's matter than what he told me; I had no opportunity of giving notice to the inspector of either of these matters until months after they had taken place; I knew nothing whatever about Weir's matter about the time of its happening—the 25th September, 1898; I did not know that inflammable gases prevailed in that part of the mine, and that it was dangerous; I did not neglect to have a report made by a competent person in a book kept for the purpose; I did not know of the occurrence at the time of its happening; up to the time I had reason to doubt Bailey's truthfulness; I believed him to be a competent person to make an inspection in accordance with the rules of the Act, and to report thereon; I made all the inquiry I could relative to Weir's matter when I heard of it; I did not know where Weir was at the time I made the inquiry, but heard after that he had gone to England; I saw Fox with regard to Weir's matter on the 5th April last, in the presence of Rendal; I said to Fox, "Rendal has told me that you saw nothing, and no one was hurt; are you positive that that was so?" Fox replied, "Yes"; I do not remember anything more than that was said; when Fox came into the office I told him what I had sent for him for; I said, "Rendal has informed me about Weir's matter, and that you have said that you saw nothing, and that nobody was hurt"; he said that was correct; at that time I asked Rendal where Weir's mate was, and Rendal said in his proper place; that would be in the front narrow bord, not where Weir was said to have been; I did not conceal the matter of Weir's accident from the Chief Inspector nor the District Inspector after being informed of it that I am aware of; the inspection of the pit six months after Weir's accident would not give me any information with regard to the accident, as the place had gone on and the conditions been altered to such an extent; there would have been no use in inspecting with a safety-lamp then; when I did hear of the matter I gave instructions as to the inspections to the under-manager and all the deputies; Bailey was not there then; it was after I had heard Fox say at the investigation that he had seen a flash of gas that I gave those instructions; I knew nothing of the gas before that; I had previously given instructions to the under-manager and deputies to inspect with a safety-lamp when approaching faults; on the 25th September, 1893, I was not informed of any explosion of gas on that date; I had no idea of suppressing the truth when Bailey told me of the gas; I was not personally benefited, nor the directors or shareholders by suppressing any report of gas being found in the mine; I understood from Bailey's evidence that he meant he had always found the gas in the No. 6 district—in the headings; it would be most likely that if he had found gas as many times he says he did that some of the men would have come across it at their work; I did not allow Bailey to remain as inspecting deputy for some time after I had satisfied myself that he was telling untruths about the matters; he was disrated, but not dismissed; I allowed him to remain as deputy before finally dismissing him; after satisfying myself that Bailey was telling untruths I dismissed him; it was on the 30th March that I was absolutely satisfied that Bailey had been telling untruths, and had intentionally reported the existence of gas where there was none; I did not dismiss him till the 14th April; the Easter holidays intervened between those dates, and Bailey had also been away from the mine till after the holidays; I did not dismiss him instantly, because I wanted to give the matter every consideration before doing so; up to the 30th March I had not heard of the interferences with the ventilation that Bailey spoke to the Minister for Mines about; I made no inquiries about those matters beyond that at the office on the 14th April; I am certain of that; I did not allow Bailey to act as examining deputy after the day I disrated him—the 30th March; he was not examining deputy to my knowledge after I had disrated him; he was a shiftman under Rendal after I had disrated him; he was a competent man for that position; I did make inquiry from Taft himself as to his illness; Rendal was present at the time I made the inquiry; I did nothing to prevent an adequate supply of air in No. 6 headings on the 25th September, 1898; as far as I know the usual ventilating appliances were at work on that day; the miners are never allowed to work when the furnace is not going; in the month of July, 1898, I kept the No. 5 district ventilated with a sufficient supply of air in the usual manner, and in accordance with the provisions of the Act; my record for that district with 6, 7, and 8 in June, 1898, was 19,450 cubic feet of air per minute; that is one day's record—the date of my inspection; in July, 1898, the record for the same air-course was 22,550 feet per minute; in August, 21,520 feet; that amount of air was split up among the districts I have named; No. 5 would get a sufficient proportion of that amount for the number of men, boys, and horses working there; the air will not permeate as it ought to if the brattice is left down; it was part of the deputy's work to see that the brattice was kept up to the face so as to get the air up; in the first quarter of 1899 the ventilating appliances for the pillar workings of No. 1 were in good order, and working in the usual manner; in January my reading for the air in that district is 4,500 feet, in February 4,150 feet, in March 4,000 feet; there were four men



working there in January last; that would give an abundance of air for them; the same number of men were at work there in February and March last also; it was the duty of the under-manager and the deputies to see directly to the ventilation of the pit; no complaint came to me of the three occurrences I am now called upon to answer; I first heard of the charge of the 25th September, 1898, as a complaint against me when I was served with the statement of charges in this inquiry; I know nothing of the allegations against me contained in the tenth charge until Bailey began to air his grievances; if the interferences with the ventilation as alleged were true, I do not think they would injure the health of the men in the pit nor their comfort; I certainly did not give any order to the under-manager or deputies to meddle with the ventilation while the Government or check inspectors were in the pit; my only object in reducing the ventilation in No. 1 pillars was to give an increased supply of air to the other parts of the mine, as No. 1 did not require so much air, the men having been reduced; there is a scaling of air through that part now; in the first instance the whole of the entrance at the intake was open; there were twenty or thirty men working there then; that would be about two years ago; that part of the pit had been worked before I went to the mine, while Mr. Ross was manager; there were thirty men working there about the time I speak of as that part being worked under my management [*witness goes through Mr. Dixon's reports for that district during 1898*]; it was about September, 1898, that the area of the air-course was reduced at the entrance to No. 1; a passage was left for the skips to go through; so far as I know, no trickery was ever played with the ventilation there by pinning down the canvas, nor in any other manner; nothing was done there to my knowledge, except what I ordered to be done for the proper purposes of ventilation; Mr. Dixon's report shows a sufficient quantity of air for all the people working there; if Mr. Dixon were examining the places in No. 1 he would go in by the main entrance—by the haulage road; I do not know where Mr. Dixon was supposed to have been when the alleged interference with the ventilation took place; the blocking of the ventilation at the point alleged would send more air into No. 2 district; that district always had sufficient air for the persons working there, independent of any air that would be sent into it by such an interference; I carried out the Act with regard to the special rules by posting them up in conspicuous places in the mine and by distributing them amongst the workmen; I enforced, and caused to be enforced, the general rules under the Act; I consider my management of the mine has been very successful; no breach of any law dealing with the mines has ever been alleged against me with the exception of the present matter; since October, 1896, I have examined the A. pit with a safety-lamp for gas between forty and fifty times; I examined in places where I was likely to find gas; I never found the minutest trace of gas in any of them; Bailey never at any time said to me, "What shall I say if I find black-damp?" nor did I answer, "Oh, just say black-damp"; I knew of no other means of recording my protest against Bailey's report; prior to that I had never heard of anything in the mine requiring such a protest; I obtained the words "permanent blue cap" used in my former evidence from Special Rule 13; I do not consider 25 cubic feet of gas a small quantity, but rather a large one; it would extend about a foot deep from the roof, and for 6 or 8 feet back from the face; I heard Henwood's evidence, and agree with it regarding the dangerous properties of the gas and the caution necessary in dealing with it; I have had no personal experience of the effects of inflammable gas, but saw the results of it at Dudley; it was J. W. Jones who succeeded Bailey as examining deputy; he has never reported the finding of gas since he began his duties; if a man is off work for two days he has to send word that he is ill, or else a doctor's certificate, otherwise he has to see me before he can resume work; before these matters of Bailey's came to light I had noticed that Mr. Atkinson and Mr. Dixon were coming to the mine oftener than they had been in the habit of doing; I am certain Ambrose was present in the office on the occasion when Bailey says he was not; he was also present down below at the interview with Bailey; I am quite positive as to that; I read most of the letters that appeared in the papers signed by Bailey and others about that time; I may have read all of them; they were constantly appearing; it was necessary to let the furnace out about half a dozen times a year for the purpose of repairs; none of the miners were allowed to remain in the pit while it was out; I only took the air reading at the furnace while it was out on the one occasion; the first fault met with during my management was in No. 6 narrow bords; there was a fault closer to where Bailey says he found gas than that; the nearest fault to that place is about 22 chains off; the place where he says he found gas had gone altogether out of that part where I expected gas to be found through the proximity of faults; where he found gas, as he says, was strong, hard coal; I would expect gas to be coming off from the face of the coal; the face was being worked; I would not expect to find it only in the two corners of the heading that was being driven; if he found gas as often as he says, it would show great neglect on the part of the person who had examined before him; I have seen Fox twice with regard to Weir's matter—the first time at the office, and also between the A and B pits; what he said on the second occasion was that he had been asked to go into Newcastle about Weir's affair; I said, "Well, I take it that you know no more about it than what you told me, and will have nothing more to say—you told me then that you saw nothing, and that no one was hurt"; he replied, "I still say so"; at the point where No. 1 has since been blocked up there would be two trains passing each day at the time Price spoke of in his evidence; the blue flame on the cap of the lamp would indicate a large quantity of gas, in my opinion; it was Bailey's duty to have withdrawn the men under such circumstances till satisfied that the place was clear; Mr. Atkinson, on the 12th April last, asked me if the deputies had done anything to throw more air into a district when a Government inspector was inspecting; I told him I did not know of any such thing having taken place, and if I heard of a man doing such a thing I would have dismissed him at once; when Bailey made the discrepancy in his evidence and his report as to where he had found the gas I thought that he knew where he had found it, but had inserted the wrong place in the report; at the interview with Mr. Atkinson, in my office, on the 12th April last, he asked did we know of any man having been badly burnt within the last twelve months; I, with the others, answered, "No," and consider that I would have been telling an untruth if I had said otherwise, because the only thing I had heard of in that way was the singeing of a few hairs of a man's moustache; I never heard of anybody in the mine but Bailey making the mistake as to the front and back headings; my attention was called to the fact of his mistake, and that discredited him in my opinion; he said one heading and reported another; the place where he said he had found gas was pointed out to me by the under-manager and Gall; there was a hole in the roof there in the coal; it was at that time 5 or 6 yards from the face; work had been going on there just prior to the time I was shown it, so that men would be going on and eating into the coal after Bailey had examined it; that hole was such a place as I would expect to find gas in; the hole itself was not big enough to contain 25 feet or 16 feet of gas; it was a drill-hole, about 10 inches in length and  $1\frac{1}{2}$  inch in diameter;



it had been put there for the purpose of firing a shot; Bailey was not usually an excitable man as he was on the 28th March last; I had not the least idea that any Court of Investigation would be held when the interview took place in my office; there was nothing on that occasion to warrant the remark, "Think of poor Mr. Croft's wife and family"; there was nothing of that sort said nor anything that could be twisted into such a remark; the recommendation I gave Dobb was a general one to enable him to obtain his certificate; it was a truthful record of what I had found him to be; the leakage of air in the pit was about 10 to 20 per cent; that was not sufficient to make any of the places unwholesome; there was always an ample supply of air for all the working-places; the whole of the A pit was inspected with safety-lamps after the evidence about the finding of gas had been given before the last Court; prior to that it was inspected with naked lights; I would expect that any gas there would have been detected with the naked lights by some one if it had been there in such quantities and so often as Bailey says; I remember Dobb coming to me about being put from the day-shift to the night-shift; I told him I knew nothing about it, as it was a matter to be dealt with by the under-manager; he made no complaint to me when I told him that.

*By Mr. Edmunds:* The books will show when men are absent by showing the time they are off: the time-books will show that, and the pay-sheets also; those records come under my inspection from time to time; I do not, as a rule, make any inquiries as to the cause of absence if it is only for one day; it has always been the custom there not to question a man as to his absence for one day only; it was the rule there when I took over the management; I have always found Rendal discharge his duties in a proper, conscientious manner; I have never known him not to report a breach of the rules except in the cases of Weir and Taft; I know that Rendal at first said that the safety-lamp was used after consultation with me after the Weir occurrence; I had no conversation with him about that matter; I know that is the only point in which he altered his evidence this time from that he gave before Mr. Wade; he and I were in contradiction as to that on the last inquiry; according to my experience of Rendal I consider it exceptional on his part not to have reported Weir's affair to me on the occasion of its happening; it is not possible that he mentioned it to me, and that I have forgotten it; I kept no notes or minutes of the inquiry I made when he told me of it; I knew that under the circumstances I was liable to be charged with a breach of the Act myself; I did take some notes when he was reporting the matter to me; I took down some notes in pencil of what he told me; I also took down what Fox told me; I cannot remember what became of those notes; I do not remember keeping them; I did not examine Abell, because from what I was told I understood he was working in another bord; he was close to the scene and Weir's mate; I cannot say exactly why I did not question Abell about the matter; I had the statement of the night-overman; I asked Fox and Rendal what they had seen, and if they had seen Weir's injuries; I did not ask either if he had looked to see what were his injuries; I did not tell Mr. Atkinson all I knew about Weir when he asked me about it, because I did not consider there had been a burning in his case; I had no intention of suppressing the truth of the matter; I was satisfied as to the falseness of Bailey's report before I wrote the protest on it; that was on the 28th March last; I do not think I would dismiss a man the moment I was satisfied he had made an intentionally false report; it was after I had inquired into the charges he made against the deputies that I dismissed him; I did not want to do things in a hurry; I wanted to make inquiries; I wanted to make a record of my disapproval of his report; I thought I had a right to enter my protest on that report, because I thought it was untruthful; I have read Mr. Wade's report on the Dudley disaster since the last inquiry, and know that he draws attention to the importance of reporting the finding gas in a mine; I have no book at the mine for the purpose of record in compliance with General Rule 7; a blue cap on a lamp shows a certain percentage of gas in a mixture which is reaching the lamp; it may show for an instant or for an hour; it is no indication of the total quantity of gas present at the time; there was no alteration in the brattice in No. 1 which reduced it and then closed it in the first quarter of this year; one in-take supplies Nos. 5, 6, 7, and 8 districts, and the air going to those districts together is only shown in the book with the records of my readings; it would show the proportion of air going to Taft and Turner; canvas was put up to take the air to them; it was put up off the main return; a stopping of the narrow bords was also put up to carry the air into them; the air was carried up to the face in the heading in which they were working by canvas; when I had my first interview with Bailey, on the 29th March last, I had the other deputies present, so that they might hear what was said; Gall and Ambrose were both working in No. 6 district; I recollect that both Gall and Ambrose said Bailey mentioned black-damp to me at the interview, and that they corrected it on this occasion; both of them told me after the last inquiry that they had made a mistake with regard to that matter in their evidence; it was Taft came to me about going to see Mr. Atkinson; I did not send for him; it would not have made any difference to me if I had not seen him between the A and B pits on the occasion referred to; the book shown me is the shiftmen's time-book, which was kept by Rendal; it shows Weir off on the 21st and 26th September last; the same book also shows that Taft was absent on the night of Monday, the 18th July, 1898.

*By Mr. Thompson:* I knew something about gas before the Dudley accident; to ascertain the quantity of gas in a place I would measure the place with a rule; I would test with the safety-lamp in every part of the place to see how far the gas extended in different directions; Bailey never told me he had found 16 feet of gas; he never told me he had found any gas; I was at Dudley the day of the accident, and saw the results of the explosion; Rendal's memory is not so perfect now as it used to be; the notes I made of what Fox and Rendal said were what I had in my hand when I was questioning Bailey as I have spoken of.

*By His Honor:* On the engine-road interview, myself, H. Croft, Ambrose, Gall, and Bailey were present; on the 12th April, Messrs. Atkinson and Dixon, myself, my son, Ambrose, and Gall were present; on the 13th April, Bailey, Rendal, and myself were only present; on the 14th, myself, my son, Ambrose, Gall, Bailey, and Newburn were present; Taft would come on duty about 10 o'clock on the Sunday night, and go off about 6 a.m. next day; if he left before 6 a.m. he would not be entitled to his full pay; he would only be paid for the time he was in the pit; Rendal should have noted it in his time-book if he left before his proper time; a similar note should have appeared against Weir's name when he left; if that book had been kept correctly it would have shown what time each of those men went off.

Taken and sworn at Court-house, Newcastle, this }  
23rd day of August, 1899, before me,—

J. CROFT.

GRANTLEY FITZHARDINGE, D.C.J.

This

This deponent, *John Williams Jones*, on his oath, states:—I am an examining deputy at the Newcastle Colliery, having succeeded Bailey; I have to examine No. 6 district; I have heard that Bailey said he found gas there; I started my duties as examining deputy there on the 1st April last, a Saturday; I started examining with a locked safety-lamp, and have done so since; I have to examine from eighteen to twenty places in that district; I examined every place carefully; I had been told where Bailey said he had found gas; I have tried that place; when I first examined that place it had not been worked for three days; I did not find even a pucker of gas; I have reported the results of my examinations in the proper books; I have been a miner for thirty years—sixteen in the old country and fourteen here; I have had experience of gassy mines in the old country; I have been in five gassy mines there; I have worked in four mines here; I have been a little over two years at the Newcastle Colliery; the Newcastle mine is well set out, properly ventilated, and the means of haulage are very good, according to my experience of mines; I was on the coal in the Newcastle pit pretty well all the time I have been there; I always found the deputies very good to me, and never knew them to be otherwise to any of the other men; I would not describe them as bullies and tyrants; as far as I can see, the deputies agree very well with the overman and superior officials; I have never seen any matters neglected there that should be attended to.

*By Mr. Edmunds*: The dip headings were worked for three months after I became examining deputy, but have been idle for the last two months; the brattice has always been taken well up to the carch; I have never found it more than 3 or 4 feet from the face; I have had no dispute with Ambrose as to the reporting of gas.

Taken and sworn at Court-house, Newcastle, this } J. W. JONES.  
23rd day of August, 1899, before me,— }

GRANTLEY FITZHARDINGE, D.C.J.

Mr. Thompson states that that is his case for each of the defendants.

Court-house, Newcastle, 23rd August, 1899.

Mr. Edmunds puts in evidence without objection on the part of Mr. Thompson an affidavit by Weir, marked *Exhibit X*.

Mr. Thompson puts in evidence a document marked *Exhibit A*, Bailey's evidence, annexed to Bailey's deposition marked "M."

Court adjourned till 9:30 a.m. to-morrow.

Court-house, Newcastle, 23rd August, 1899.

This deponent, *Joseph Croft*, recalled on his former oath, states (*in answer to His Honor*):—None of the twenty accidents referred to by me yesterday were due to gas, but chiefly to falls of the coal; they happened to the miners and shiftmen, but chiefly to the miners; since October, 1893, there have been about nine accidents, all brought about by the same cause; those that were serious were reported to the inspector; about half of those accidents were reported to the inspector being considered sufficiently serious to report; those that were not serious were not reported; I do not think there were more than three during the latter half of 1898; I believe those were reported, but cannot say for certain; there is no book kept at the mine in which those are recorded; they would appear in the Blue Book; accidents reported to the inspectors would probably be reported to the Department; examining deputies in March last were paid 7s. 8d. a day; Bailey was paid that; the night shiftmen were paid some 6s. a day, some 8s. a day, according to their qualifications; Bailey had been a shiftman before being a deputy, and received a daily wage of 7s.; as examining deputy he was paid 7s. 8d. a day; when he was disgraced he continued to get the 7s. 8d. a day.

Taken and sworn at Court-house, Newcastle, this } J. CROFT.  
24th day of August, 1899, before me,— }

GRANTLEY FITZHARDINGE, D.C.J.

*Evidence in reply.*

This deponent, *Joseph Fox*, recalled, states (*in answer to Mr. Edmunds*):—I told Rendal that I saw nothing to speak of; I told Mr. Croft that I saw nothing to speak of; I did not say I had seen nothing; I told him I saw a slight flame coming across the back narrow bord.

Taken and sworn at Court-house, Newcastle, this } JOSEPH FOX.  
24th day of August, 1899, before me,— }

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *William Rendal*, recalled on his former oath, states:—I told Mr. Croft that Fox had told me that he had seen nothing of any importance; I will not swear that Mr. Herbert Croft did not say to me, "You know, Rendal, that any appearance of fire-damp should be reported; we have never seen it here before, and I think you neglected your duty in not reporting it to me or my father"; I would not swear it was not said to me, but I cannot recall it to mind.

Taken and sworn at Court-house, Newcastle, this } WILLIAM RENDAL.  
24th day of August, 1899, before me,— }

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *John William Bailey*, recalled on his former oath, states:—It is not true that Herbert Croft gave me instructions to use the lamp in No. 6 before Weir's accident; I am certain that it was after that accident.

*By Mr. Thompson*: It was in the rise and dip headings of No. 6 that I found the gas twenty or thirty times with a permanent blue cap; that would not be within an area of a few yards; the two rise headings are a considerable distance from the dip headings, probably 300 or 400 yards; I found about half as many in the rise headings as in the dip headings; I found the other half in the dip headings; I do not mean that there were twice as many in the one as in the other, but half in each place—from ten to fifteen in each; I found the gas mostly in the rise headings without the blue cap; at one time that was the worse

worse place of the two; that was immediately after I took over the inspection of No. 6; I always found it in the roof in the rise headings; these emissions of gas occurred over a length of from 80 to 100 yards in the heading—the rise heading; they occurred over a length of between 30 and 40 yards in the dip headings; that would mean that I found it about every 4 yards, because there were two headings; that does not necessarily imply that the place was fairly filled with gas; the men would take out a yard each shift; I must have found the gas once a week; I did not mention these discoveries of gas to the Minister in any of my communications to him, because I was never asked that question; I do not know whether I told him that I had found the gas with a permanent blue cap on twenty or thirty occasions; I did not tell either Mr. Dixon or Mr. Atkinson that I had found the gas with a blue cap on twenty or thirty occasions; I did not tell them that I had so found it on from six to ten occasions; it did not strike me to tell them unless they asked me the question; I was told to use a lamp when I was appointed to No. 6 district; I was told that by Herbert Croft.

Taken and sworn at Court-house, Newcastle, this }  
24th day of August, 1899, before me,— }

JOHN W. BAILEY.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *Alfred Ashley Atkinson*, recalled on his former oath, states (*in answer to His Honor*):—The form of deputies' report book used at this colliery is fixed upon by the colliery.

*By Mr. Thompson*: I cannot say whether the same form is used throughout the district; the distance between the rise and dip headings in No. 6 is about 594 yards; the coal in those headings is similar to what was seen on the inspection last Saturday—good, strong, hard coal; having heard Bailey's evidence, and having examined the mine so many times, I am of opinion that gas may or may not have occurred in as many instances as he says it did; I cannot give any opinion as to whether it was likely or not that the gas occurred as he says it did.

Taken and sworn at Court-house, Newcastle, this }  
24th day of August, 1899, before me,— }

A. A. ATKINSON.

GRANTLEY FITZHARDINGE, D.C.J.

This deponent, *John Dixon*, recalled on his former oath, states:—I have taken from the Departmental reports the reports of accidents in the A pit of the Newcastle Colliery; there was one reported in 1896, after the passing of the Act, in 1897 two were reported, and in 1898 three.

*By Mr. Thompson*: I inquired into those accidents when they were reported to me; in 1896 the accident was caused by a fall of coal; it was a slight accident; none of the accidents reported to me were very serious; the percentage of accidents at that colliery was very small.

*By His Honor*: On the 16th March, 1893, in the Newcastle A pit, a man sustained a compound fracture of the right leg, which was afterwards amputated; on 2nd August, 1898, a wheeler named Ford had his back badly bruised by a fall of timber; that was not serious; on 30th August, 1898, Thomas Shufflebotham, fracture of the right leg near ankle by a fall of shale roof; I do not call that a serious accident; on 25th February, 1897, a man sustained an injury to his foot on the surface; 10th March, 1897, Aquila Pipe sustained a severe flesh wound while ascending the pit in the cage; on 11th November, 1896, Richard Nash, internal injuries by fall of coal.

Taken and sworn at Court-house, Newcastle, this }  
24th day of August, 1899, before me,— }

JOHN DIXON.

GRANTLEY FITZHARDINGE, D.C.J.

## EXHIBIT C.

THIS deponent, *Thomas Abell*, on his oath, states (*to Mr. Curley*):—I am a miner employed at the A pit of the Newcastle Coal-mining Company; I have worked there since 1888; I mean with that company; I worked in the A pit up to yesterday, when I went to the B pit; we cavit all through in the two pits quarterly; during the last nine or twelve months I have worked chiefly with a man named Weir in the A pit; I was doing shift-work generally; that means general work about the mine; I worked chiefly in Nos. 6 and 7 districts; I remember an occurrence when Weir was burnt with a little gas; that was in No. 6 back narrow bord; that would be about September, 1898; that was at night-time—on a Sunday night—about 11 o'clock; I had gone down the mine about 10 o'clock that night; I was close to him at the time, but not with him; I was in the front narrow bord; that would be about 40 yards from Weir; there would be only one pillar between us at the time; I had been in my place about five or six minutes when it happened, or, perhaps, ten minutes; I heard a report like the crack of a whip; I went round to see what had happened, and met Weir coming out to meet me; I met him just at the cut-through; he seemed to be suffering from shock, and his hair was singed; he looked white, and was trembling; I examined him carefully, and found that his neck and the backs of his ears and the top parts of his arms were burnt a little; he had a flannel singlet on; his arms were bare to the elbow; I advised him to go home, but he said he did not want to go home; we then resumed our work; we both returned to my place; when I went down that night I saw the night-boss, Rendal, at the pit bottom; I also saw the fellow shiftman; Rendal told us our work; he said he wanted some timber set in the back and front narrow bords of No. 6; I believe a man name Wilson was the examining deputy for that district—only for the narrow bord; I believe Bailey was the deputy for the district; I did not see Wilson before I went to my working place; I only knew by custom that that place had been inspected before I went in; we supposed that Rendal examined the places were the men were likely to go to work; nobody warned me about going to those places that night; I have never seen any warning put up; there are stations in the colliery; the station for No. 6 was on the No. 6 flat at that time; that was about half a mile or more from the working-faces; it was about midway between the face and the pit bottom; there was a board at that station; I saw it that particular night; I have seen writing on that board; the last date on it that night was not altered till next morning, or some time after we had passed it; I cannot say what date was on the board that night; the usual thing was on the board that night, that such-and-such places had been examined that night, and found all safe, and signed by the examining deputy; Edward Wilson was the deputy whose name was on the board that night; I presume the places Weir and I were in were the last places he would examine that night; I did not see Wilson during the whole of that shift; we were called away from that part while he was there; that is how we did not see him; when Weir came into me that night, Rendal came in during the shift; it might have been an hour and a half or two hours after the accident; I reported the matter to him; Weir told him he had been burnt with some gas in the back narrow bord, and Rendal said he was sorry to hear it; he said that he had stepped on to the canch with the light on his head, and it had gone off; the canch is the bottom coal that is left; Rendal said nothing further about the gas at that time; I continued to work on there, part of the shift, and part in other places; Weir was not at work with me the following shift; I did not feel the aid bad at all when I went into my place that morning; I would get the air before Weir; these places were not dipping or rising, but on the level; I was in Weir's place a couple of hours after his accident; I saw canvas brattice in the place; it was about 10 yards from the face; we were shifted twice during that shift; I have never noticed any black-damp about any of the places where I was working; from my experience of the ventilation in the colliery, I should say it was not too bad—that is, good enough; I had not been told by anybody before that morning that fire-damp had been given off in those narrow bords; I did not ask Rendal if those places had been inspected that night before I went in; I did not hear Weir ask such a question on that occasion; on another occasion I heard him ask such a question: that was when Rendal was off sick, and Gall was in his place; Weir asked Gall if that place had been examined; that was the week following the burning of Weir; Gall replied, "Do you think I've been sitting on my d—— a—— all night?" that was all that was said; I have never heard Weir ask anybody but Gall that question.

*By Commissioner*: The skin on Weir's neck and ears rose up; I did not consider he was seriously injured; he worked for two-thirds of the shift and then went home.

*By Mr. Edmunds*: I reported the matter to Mr. Rendal only; I never had a chance of looking into the deputies' report-book to see what was the state of the mine; it was kept from our view—at least I did not know where it was; I did not know I had a right to look at that book; I never saw it all the years I worked there; I never looked for it nor asked for it; I had an idea where it was kept in the overman's cabin; I never mentioned the burning of Weir to any of the Government inspectors; I have been at work in the pit when Mr. Dixon has made his inspections; I have never seen anything in the nature of interference with his work at the times of his inspections; I have known of nothing to alter the state of the pit during his inspections; there have been several check inspections of the mine since July last; they were competent miners who carried out those inspections.

*By Mr. Bruce Smith*: Weir worked for two-thirds of his shift the night he was burnt; he only left on the pressure of Rendal; he was perfectly willing to go on with his work and finish the shift; he only remained off one shift; I am not aware that I ever told Bailey of this occurrence; I have never met with any case of faulty ventilation in the mine; since I went to work in the mine in 1888 I have never met with gas in it; I have never seen the flame of my lamp affected in any way by gas; Weir told me his lamp had been blown out by the gas; it was burning when he came to me; I have never known of any alteration in the ventilation of the mine in anticipation of a visit from the inspector; I have never known the ventilation to be turned into one particular district during their visits; I have never known beforehand of the visits of the inspectors; it was always the custom to meet the overman at the cabin; we saw nobody at the station, but the board was always there; there was nothing exceptional in not meeting the Deputy Wilson at the station on that particular occasion.

*By Mr. Edmunds*: Fox was in the back narrow bord at the time of the fire.

*By Mr. Smith*: I know that I contributed towards the expense of the check inspections; I never knew where the check inspectors' books were kept; I never asked for them; they reported to the lodge; I have heard the reports of the check inspectors' inspections read out at the lodge meetings.

*By Mr. Edmunds*: The check inspectors' reports are left at the manager's office, and a copy is taken for the lodge; that is read out at the lodge meeting and afterwards published in the newspapers.

*By Commissioner*: All the men in the mine belong to the lodge; they would all have an opportunity of hearing those reports and knowing what they were.

*By Mr. Bruce Smith*: I have never seen Bailey at a lodge meeting.

*By Mr. Curley*: I have seen as few as twenty men at a lodge meeting, and as many as one hundred.

*By Commissioner*: When we got to the cabin we would meet the night overman, who would tell us to go to our work; he would never tell us all was safe; he was never asked the question; we would see the board at the station; all the inspection was supposed to have been done before we left the overman's cabin; there was a cut-through between the two narrow bords about 20 or 30 yards from the face; Weir was in the bord itself; there was a distinct report when Weir was burnt.

*By Mr. Curley*: I have seen the furnace very low on a Sunday night; that was not a regular thing, but I have occasionally seen it that way on a Sunday night; I have not seen it that way on any other night; I did not take particular notice of it on the night Weir was burnt.

*By Commissioner*: I have never seen the furnace out at the "week ends."

*By Mr. Bruce Smith*: It is some three or four years back that I occasionally saw the furnace low on a Sunday night, but since then I have not seen it so.

*By Mr. Curley*: I might say it was a couple of years ago that I saw it low on a Sunday night; I cannot come any nearer.

*By Mr. Bruce Smith*: I did not expect any later notice on the board on the night of Weir's burning than was on it.

*By Mr. Edmunds*: The pit had been idle on the Sunday; it was Rendal's duty to inspect the pit before we went down that night.

Taken and sworn at Newcastle, this 27th }  
day of June, 1899, before me,— }  
C. G. WADE, J.P.

THOMAS ABELL.

EXHIBIT

## EXHIBIT D.

COURT resumed at 10 a.m. this 28th day of June, 1899, Court-house, Newcastle.

This deponent, *Joseph Fox*, on his oath, states (*in answer to Mr. Curley*):—I am employed at the Newcastle A pit; I have been so for about ten years; I have not worked in A pit all that time; I worked for three-quarters in the B pit; I have worked in the A pit for the last nine or twelve months; I have been engaged in shifting dirt; when I was working on the coal I was working with a man named Phillips; during the last nine months I have worked with George Evans, Charles Hedley, and George Coote; the latter two have worked with me for about four months; I worked with Evans before that; I went to work with Evans, who was there before me; a man named Bailey left his place, and I took his place; Weir was working there as a shiftman, also Abell; I have worked alongside both Abell and Weir; I noticed a small flash of gas there one night while working near them; it was nothing to speak of though; that was in the back narrow bord, No. 6; I saw the flash myself; Weir was in the bord at the time; I was in the bord, and Weir came to me; I was bailing water at the time below the canch.

*By Commissioner*: I had a naked light at the time.

*By Mr. Curley*: Weir came to me and asked me how I was getting on; I said, "All right"; with that he got on the canch with his light, and I saw a small flash of gas at his light; it was not much of a flash, but very small; I went out just at the time; I went back, and was baling water again, using an open light; the light kept in all the time; just at the time the flash came Weir said, "God help me"; the flash went right across Weir's face, and he fell on his knees; his light went out, and he lit it at mine; one side of Weir's moustache was singed; I looked at him carefully just at the time he said his neck was bad; I looked at it, but could not see anything wrong with it; I could not see any skin broken; I looked at it for a minute or two.

*By Commissioner*: I saw him when he went down on his knees, and again when I had baled a couple of tubs of water.

*By Mr. Curley*: Weir kept working that day, but in another bord to which he was sent; he went to the front bord; he worked there till about 3 o'clock; I afterwards heard that he had gone home; I was in that place that morning before Weir; I had just commenced to bale when he came in; this was about 11 p.m. on a Sunday; it was fully nine months ago; I cannot remember what month it was; I took no notice of the month or date, never thinking anything would come of it; I went down the mine at 10 p.m. that day; I went and harnessed my horse, and away I went after getting my orders from Rendal, whom I saw in the cabin at the pit bottom; he told me to go water-baling in Nos. 6 and 7 districts; I saw no cross-rails in that place to stop me from going in; I consider the station for No. 6 is the little flat where there is a signal-board; I saw the board that night when I went in at the station; Wilson's name was on one board and Bailey's on the other, saying, "All safe"; I took no notice of the date on the board; I have never been warned by any of the mine officials about gas in the mine; I have never noticed any gas before that night since; as soon as I saw Rendal I told him about the gas; I had baled a couple of tubs of water after the flash, and then saw Rendal; it must have been two hours before I saw Rendal; I told him there had been a small flash of gas in the back narrow bord; he told me not to go in there again; he came along with the witness Bailey; Bailey was not with him when I first saw him; Rendal told me not to go in there again; I went to No. 7, and when I returned to No. 6 that place was fenced off with two props; I do not know who fenced it off; I believe it was Bailey; I have been in other parts of the mine besides Nos. 6 and 7; I have been all over the pit.

*By Commissioner*: I have been all over the mine at all hours of the day and night.

*By Mr. Curley*: I have never come across any black-damp in the pit nor seen any men affected by it; I thought the ventilation was very good in the place where I saw the flash of gas in the back narrow bord; I saw the furnace that night; I passed it; I saw no furnace-man there; the fire was burning; I cannot say whether there was a furnace-man there or not; the fire was not so big as it is now, nor as it has been, but it was a very good fire; it was not a small fire nor a big fire; I was often at work on the Sunday nights like that; I have seen a furnace-man at the furnace on the Sunday night; he was Peter McGuinness; I was down the Sunday night prior to this; I did not see any furnace-man then; I was down the Sunday before that again; I saw the furnace-man that time—Peter McGuinness; Rendal always gave me my orders on a Sunday night; I have never seen any other officials in the shape of deputies there on a Sunday night; there were no deputies there on a Sunday night; I have never seen Deputy Wilson there on a Sunday night, because it is 3:30 on Monday morning when he comes down.

*By Commissioner*: I must have had between eight and nine years' experience in the A pit.

*By Mr. Edmunds*: It was Rendal's duty to inspect that place on a Sunday night, before I went in; Bailey and Wilson would go round in the morning; Rendal said nothing about the condition of the mine that night when sending me to work; I cannot say what date was on the board; it might have been Saturday morning's date or Sunday night's; that particular part—the two narrow bords—was portion of Bailey's district for inspection; the work went on on the Monday in those two bords; the miners came down at 6 and 8 on the Monday morning; I do not know whether they went to work in those bords on that morning; they must have just started the cut-through at the face on the Saturday morning; there was another cut-through about 35 yards from the face; there was brattice in the bord; it was about 8 yards from the face, and within 2 or 3 yards of the canch which projected 3 or 4 yards from the face; Weir was between the brattice and the face at the time the gas fired; Weir had been sent to work in the front narrow bord; he had no right to be where he was at the time; I heard Rendal tell him and Abell to timber the front narrow bord; I know we have no right to go anywhere but where we are sent to; I do not know what brought Weir into the back narrow bord; I had been baling for about five minutes when Weir came in there; I was below the canch between the end of the brattice and the face; Weir was between me and the face of the coal when the gas flashed; he was about 3 yards from me at the time, and about 4 feet from the face; the canch was about 2 feet 6 inches from the floor, and the height of the coal from the level of the canch to the roof about 5 feet 6 inches or 6 feet; Weir was about 5 feet 3 inches high; his light was pretty close to the roof when he got on the canch; he stood upright on the canch, which would bring his flare-lamp to within a few inches from the roof; his face was towards the corner of the bord, and about a yard from the face; I had noticed the air coming to me; I thought it was very good; I have to pass the furnace every night, and have observed it from time to time; I cannot say whether it was banked at the "week end"; it has always been burning when I have seen it; the furnace-man might be away when I was passing; he fires up and then goes away to the pump; I only know the one furnace-man who is on my shift; another man comes in his place at 3 a.m.; I think his name is Redpath; I have been there when the Government inspectors have been inspecting the mine; I have been there when Inspectors Bates and Dixon have been inspecting; I have seen them there; I have never known beforehand when these inspections were to be made; as far as I know the men did not know of the intended visits of the inspectors, nor did the management; I have never heard it said that the visits were to be made; I have never known the ventilation to be interfered with on the visits of inspectors; I have known the brattice to be renewed when the horse has pulled it down with the skip while the inspector was there.

*By Mr. Edmunds*: The brattice had been pulled down a few hours before it was brought up; I have never known a brattice to have been down for some time, and then put up on the visit of the inspector; the brattice is often pulled down accidentally; I have never known a canvas screen to be put across the road so as to alter the ventilation.

*By Mr. Bruce Smith*: When I went in that morning I look at the board to see if things were all right; I always looked at that board for that purpose; I depended on the names on the board; it was about 4 a.m. that Bailey came to the bord where Weir had been injured; he would come down the mine about 3:30 a.m.; he came there with Rendal; Weir had gone out then; Weir continued his work for over three hours after his accident; he only missed one shift as a result of the accident; Weir's hair was not burnt that I could see; there was no skin raised on his neck that I could see; I saw no injury to his neck at all; he was not doing any work there; he had not started work at all; he should have been in the front narrow bord where Abell was working; I have no idea why Weir came into the place unless it was to see me; he came in, asked me how I was getting on, then jumped on to the canch; the flash took place immediately; he was not in there many minutes altogether; the only place in the mine where I have ever found the ventilation deficient was in No. 1 district, about seven years ago.

*By Commissioner*: Brattice was not carried to the face in those days, but only across the heading.

*By Mr. Bruce Smith*: After the accident I went to my work; neither Weir nor Abell advised me to leave; I was working with a naked light; Weir went to Abell after his accident, and I followed him; the three of us were there together; neither of them warned me against going back to my work, nor spoke of it as being dangerous; McGuinness might have been at the pump when I did not see him at the furnace; the pump is about 30 or 40 yards from the furnace; I could not see him from the furnace if he were at the pump; he might have been at the furnace five minutes before I passed there, and gone down to the pump.

*By*

*By Mr. Curley:* Weir was about a couple of minutes on the canch when the firing took place; he stepped on to it, had a look where they had commenced to cut through, and went to the corner where the gas fired; he jumped on to the canch; he stood there a couple of minutes before the flash took place; there was dirt on the floor below the canch; he stepped on to the stones then on to the canch; I left the cabin that morning before Weir and Abell; when I got my instructions from Rendal I left at once; I got the instructions at the cabin; I heard the instructions given to Weir and Abell at the cabin; he told them to go to the front narrow board and timber; Rendal mentioned the narrow boards.

*By Commissioner:* The back narrow board had been timbered; I cannot say if the timber required any repairing.

*By Mr. Edmunds:* If timbering had been required in the back narrow board the same men would have to do it, but only when instructed by Mr. Rendal.

*By Mr. Bailey:* I had seen you examine that place on the Monday morning before the burning took place; I can speak definitely about that; I saw no one else in that particular district on that Monday morning; you had your lamp with you; it was an open lamp; I always found the furnace burning; I have noticed the state of the furnace on coming out after my shift during the last five or six months; it was always burning brightly; I cannot say how long it would remain bright; the fire was broken up, so that the air could get through it; it was not caked up; the furnace-man went up at 3 o'clock; I cannot say whether the furnace is the same size now as it was eight years ago; there has not been another furnace put there; it is the same old furnace, as far as I know; I cannot say whether it has been made bigger; the mine has been worked regularly for the last four years; during the eight years the working-places would be getting further from the furnace.

*By Mr. Bruce Smith:* I am quite certain Rendal ordered Weir and Abell to go to the front narrow board that night.

*By Mr. Curley:* I left the cabin before Weir and Abell that night; I heard Rendal tell them to go to the front narrow board; I had left the cabin, but went back for my pin, and heard the order given to them.

*By Commissioner:* I think Weir fell down more from shock than anything else; I saw the flame; it was about 6 feet long; I was standing up before I began to work in the board; it has always been the custom to meet Rendal at the cabin before we went to work; none of the men were allowed to go beyond that point until allowed by Rendal; Rendal was always down before us; I went down with him one night, but I was early; he generally went down between 7 and 8 p.m.; on the night I went down early with him he went ahead, then came back and told me to go ahead; as far as I know he had examined the place where I went to work before he sent me there; I heard no hissing or piping sound from the face before I saw the flash, when Weir was hurt; the roof was slightly hollow just there; we had just passed a bit of a fault, and the miners had cut up to get the full height of the seam; there was a kind of pot in the roof, a very small one; it was not far from where Weir was standing.

*By Mr. Curley:* The height of the seam was between 8 feet and 8 feet 6 inches; the canch was about 2 feet 6 inches high from the floor; I never measured it; the manager never asked me any questions about this flash, nor did the under-manager; I have never been to the colliery office in connection with it; Inspector Atkinson has seen me, but not Inspector Dixon; Mr. Atkinson sent for me about a month ago; he asked me several questions, and I made a statement to him; I mentioned the matter of the flash to the shiftmen who were working that night; McCrennon was one of them; it went from him to the others, and became generally known among the shiftmen; there were about twenty of them at work that night.

*By Commissioner:* I did not make a written statement to Mr. Atkinson; he asked me questions, which I answered, and he wrote something down.

*By Mr. Edmunds:* They had cut through the fault in the narrow board on the night of the accident; it ran across the board in a straight line; it was a very small fault, not more than 3 or 4 feet thick; the dyke was close to the canch where I was baling the water; that was about 4 yards from the face; the country was not much disturbed; there was good coal the other side of the dyke; I did not notice whether the coal had been injured by the dyke; after they got through the dyke they carried the board on; there was a bit of cinder coal between the dyke and the good coal, but not much; from where the good coal gave out and occurred again would not be more than about 4 feet; I remember them cutting through that dyke; it was stone all through the dyke; it was the ordinary stone which is met with in faults in the coal seams.

*By Commissioner:* Weir was in front of that part of the roof where the fault was; he could not have put his lamp into the hole caused by the fault; I did not notice whether there was a hole in the roof besides that.

*By Mr. Bruce Smith:* The defect in the ventilation eight years ago, that I have spoken of, was remedied immediately by the deputy.

*By Mr. Bailey:* There were two deputies' boards in No. 6 district at the time of the burning, one at the big flat and another at the little flat; the figures on the board were 1 8 9, and then some in chalk by the deputies; I do not know in what month the second board was put up, before or after the burning; it was on the left side of the road, facing No. 7; the other board was as you came out of No. 8 district, alongside the deputies' box.

Taken and sworn at Newcastle, this 28th day }  
of June, 1899, before me, — }  
C. G. WADE, J.P.

JOSEPH FOX.

## EXHIBIT E.

[Plan.]

## EXHIBIT F.

SPECIAL RULES for the conduct and guidance of the persons acting in the management of the N.C.M. Co.'s (Ltd.) Colliery, in the district of Newcastle, and all persons employed in or about the said colliery, framed in conformity with the provisions of the Coal Mines Regulation Act, 1893, 60 Victoria No. 12.

### Manager.

1. The manager (or the under-manager when acting for him) shall have the daily supervision of the above colliery, and shall have full command over all other officers and workmen employed in or about the colliery, who are to receive their orders from him, and shall apply to him for instructions as often as may be necessary.
2. He shall comply with the requirements of the Coal Mines Regulation Act, 1896, and shall, to the best of his power, enforce the observation of the said Act, and enforce observation of the General and Special Rules.

### Under-manager.

3. The under-manager shall have the daily supervision and responsible charge of the mine under the direction of the manager, and shall give all necessary instructions to the men and boys in the mine respecting their work; and shall, to the best of his power, see that they comply with the rules and regulations of the colliery, as well as the orders of the manager, and shall visit every working-place in the mine daily, or as often as may be practicable, and see that the air-courses and stoppings are kept in a good state of repair, and that an adequate quantity of fresh air is constantly supplied to the men.
4. He shall give immediate attention to any complaints, and shall inspect, personally, such portions of the mine as are reported to be unsafe or in any way to need his attention.
5. He shall see that a sufficient supply of timber is sent down the mine and into the different districts.
6. He shall see that each miner keeps his working-place sufficiently timbered, and shall suspend at once any miner refusing or neglecting to do so.
7. He shall examine every day the different main and district air currents, and shall see that the furnaces are kept in good repair and carefully attended to.
8. He shall, under the direction of the manager, cause safety-lamps to be used, and naked lights to be excluded where required by the Act.
9. He shall see that the deputies, miners, shifters, and all others under his charge in the mine, strictly and rigidly observe the rules applicable to them, and shall suspend immediately anyone infringing or attempting to infringe any rule, order him out of the mine, and report the same to the manager.

Deputy.

*Deputy.*

10. Each deputy shall be informed by the manager or under-manager as to what portion of the workings is to be under his charge, and all persons working in that portion of the mine will be under his direction, and he shall, in the absence of the manager or under-manager, direct the workmen how and where they shall work, and shall see that the rules applicable to them, as well as the orders of the manager or under-manager, are strictly attended to.

11. The deputy or other competent person appointed for that purpose shall be in the mine within four hours before the workmen commence, to enable him to examine the working-places, &c., carefully, and shall ascertain the condition thereof so far as the presence of gas, ventilation, roof and sides, and general safety are concerned, and shall record the result of such examination without delay in a book to be kept at the mine for the purpose.

12. He shall place cross timbers, or rails, thus X, or a signal board, as a signal of danger at the entrance of every working-place which he may find unsafe, and on his return to the station shall state on his board all places so found unsafe.

13. In any place where there is a dangerous appearance of fire-damp, locked safety-lamps shall be used; and no workman shall be permitted to remain where fire-damp has accumulated in such a quantity as to show a permanent blue cap over the flame.

14. Before safety-lamps are taken into the workings the deputy, or some other competent persons duly appointed for the purpose, shall examine the entire lamp, and if all is right, shall lock it for the miner.

15. Should there be any discharge of gas, or any condition of roof from which the deputy apprehends any danger, he shall instantly report the circumstances to the under-manager.

16. He shall report as soon as possible to the manager or under-manager all accidents, dangers, or defects which may occur in his district of the mine, and he shall also so report any accident, danger, or defect to, or in any machinery or structure in, the mine which may come to his knowledge.

*Wheelers.*

17. The wheelers shall report to the under-manager or deputies if any part of the road or roof has been deranged, or is insecure or dangerous.

18. Any wheeler injuring a door or brattice cloth door, and not immediately reporting the fact, shall be suspended. He shall also report to the under-manager or deputy every morning the quantity and different lengths of timber required for his miners.

19. He shall take in without delay any timber the miners may require, and shall at all times carry out the orders of the manager, under-manager, or deputy, in order to facilitate and promote the work of the mine.

20. Any person neglecting these rules will be liable to instant dismissal or prosecution according to law.

*On-setter.*

21. The on-setter shall, subject to the directions of the manager or under-manager, have the sole control of the pit bottom, and the command of the signal up the pit, and on no account shall he allow any person to interfere with the signals. He shall at all times when sending up skips of coal see that none of the coal projects beyond the side of the skip, and shall pay the greatest attention to the signals when men are going to ride, in order that accidents may be avoided. The signals shall be as given in rule 90.

22. No timber, materials, stones, coal, or other things shall, under any circumstances, be lowered or lifted in a pit while men are being lowered or lifted in it, except such as may be necessary in repairing a pit while the repairs are going on.

23. The on-setter shall not, on any account, allow more than six persons in a single cage, or ten in a double cage at the same time.

24. Any person refusing to leave the cage when ordered to do so shall be immediately suspended.

*Miners.*

25. Any miner after passing through a door must instantly close it; and shall not injure a door or leave it open, break down a stopping or brattice, interfere with or obstruct or damage an air-crossing, or an air-pipe, or remove or go beyond a mark or "danger-signal," without orders from the manager, under-manager, or deputy.

26. Every miner shall securely sprag or uphold the coal whilst holing, and shall securely prop up the roof of his working-place, so that accidents may be avoided; and should he not be provided with a sufficient quantity of timber he shall cease working and report the same to the manager, under-manager, or deputy.

27. The seam of coal must be wrought strictly in accordance with the orders of the manager or under-manager.

28. Every miner shall, in all matters relating to the working of the mine or the safety of the men, obey strictly the orders of the manager, under-manager, or deputy; and no person shall go into any part of the mine other than where he is employed, except by the order of the manager, under-manager, or deputy.

*Door-keepers.*

29. A door-keeper must only open a door for the passage of persons, skips, or animals, and must instantly close the same when they have passed through. He must never allow a door to remain open, or to be propped or fastened back, unless authorised to do so by the manager, under-manager, or deputy.

30. A door-keeper must not leave any door or doors under his charge until the work of his shift is finished, or until another person appointed by the manager, under-manager, or deputy takes his place.

31. Any door-keeper becoming aware of any defect in, or damage to, any door, shall report the same as soon as practicable to the manager, under-manager, or deputy.

*Persons in charge of Ventilating Appliances.*

32. The persons in charge of any ventilating furnace or other ventilating appliance shall not leave the same without the permission of the manager, under-manager, or engine-wright.

33. Furnace-men must pay careful attention to the furnace under their charge; and shall maintain the fire in such a state as constantly to ensure efficient ventilation.

34. The fan and fan-engine shall be carefully attended to by the person or persons in charge thereof, who shall keep the same running at the speed ordered by the manager, so that effect may be given to the provisions of the Act as to ventilation.

35. All persons in charge of ventilating furnaces, fans, fan-engines, or other ventilating appliance, shall immediately report any damage, defect, or derangement therein to the manager, under-manager, or engine-wright.

*Lamp-keepers.*

36. No person, except a person authorised by the manager or under-manager, shall either take himself or give out for use in the mine any safety-lamp.

37. Lamp-keepers must see that every safety-lamp is thoroughly cleaned, properly put together, in safe working order, and securely locked when given out for use in the mine. If any lamp be not returned at the proper time they shall at once report the fact to the manager or under-manager.

38. All persons entrusted with the duty of cleaning any gauze, or other part of any safety-lamp, or with the duty of putting any safety-lamp or parts thereof together, shall at once report any defect therein to the lamp-keeper, or if there is more than one lamp-keeper, then to the head lamp-keeper.

39. Whenever any defective or damaged lamp is received from any person by any lamp-keeper he shall report the fact to the manager or under-manager, and shall cause such lamp to be kept in the state in which he received it until seen by one of them.

40. Every lamp-keeper shall see that all oil, spirit, and other inflammable articles under his charge are carefully and properly stored and used, and that no greasy waste or other refuse is allowed to accumulate in or near the lamp cabin.

*Engine-wright.*

41. The engine-wright, or other competent person appointed for the purpose, shall cause the ventilating-fan or other mechanical ventilating apparatus, together with the engines, machinery, and boilers for driving the same, to be properly attended to.



42. The engine-wright, or other competent person or persons appointed for the purpose, shall have charge of all engines, machinery, and boilers used for raising or lowering persons or minerals, or for pumping water, and of all ropes, chains, appliances, or apparatus connected therewith; and of all guides, ropes, chains, conductors, or other appliances in the shafts, and of all other engines, machinery, and boilers in or about the mine. In case he shall discover any weakness, defect, or want of repair therein, he shall, as soon as practicable, cause the same to be repaired and made good, and shall at once report to the manager the fact of such defect, weakness, or want of repair, and also the steps taken to remedy the same.

43. The engine-wright, or other competent person or persons appointed for the purpose, shall make the examinations and report required by General Rule 5.

44. The engine-wright, or other competent person appointed for the purpose, shall cause every rope used for raising or lowering persons or minerals to be securely attached to the drum, so that when either cage is at the pit bottom there shall be not less than two rounds of rope upon the drum.

45. The engine-wright, or other competent person, whenever a winding rope requires capping, coupling, or splicing, shall superintend the same, and shall see that no spliced rope is used for raising or lowering persons in a shaft.

46. The engine-wright, or other competent person or persons appointed for the purpose, shall see that the fences are fixed and maintained at the top of every shaft, and that the guides, signals, covers, flanges, or horns, appliances, brakes, indicators, fences, valves, gauges, and things required by General Rules 18, 20, 26, 27, 28, 29, 30, 31, 32, and 33, or any of them, are fixed and maintained as therein required; and that the provisions of General Rule 25 are carried out above ground.

47. The engine-wright shall cause bells or other signals to be fixed in every drawing engine-house connected with the drawing pit bottom, and with every entrance for the time being in work between the surface and bottom of the shaft; and shall cause the board required by Special Rules 23 and 67, stating the number of persons authorised to descend or ascend the shaft at one time, to be fixed and maintained on the pit bank.

48. The engine-wright shall cause each working boiler to be cleaned and examined as often as the manager shall so order.

49. The engine-wright shall cause the code of shaft signals used in moving the cages to be fixed and maintained at the top and bottom of each winding shaft, and at every shaft to which the provisions of Special Rule 60 apply, he shall see that the point named in that rule is distinctly marked on the indicator.

*Screen-overseer.*

50. The screen-overseer shall have charge of the platform, banksmen, and screens, check the observance of the rules by the banksmen and on-setters, receive the report of the banksmen as to any defects observed by them and communicate immediately with the engine-wright or manager.

51. Shall see that all fires are extinguished when work in the pit is done, and that the safety-bars are put across the shaft.

52. Shall see that the timber, rails, &c., necessary for each day's consumption are brought over to the pit and sent down when required by the under-manager.

*Engine-drivers.*

53. Every engineman shall attend at such time as the manager may appoint, and as required by General Rule 25.

54. An engineman shall not allow any person to interfere with the engine or machinery under his charge, or to remain in the engine-house unless authorised by those in authority above him. A winding engineman while winding must remain at the handle and must pay particular attention to the indicator and signals, and if he perceives anything wrong must instantly stop his engine and not start it again until the defect is put right or until he receives an order to go on.

55. Every winding engineman before commencing work in his shift, and before any person descends the shaft, shall carefully examine the engine, machinery, drums, ropes, brakes, indicators, and signal apparatus in the engine-house or under his charge, in order to ascertain whether they are safe and in good working order, and shall run the cages at least once up and down the shaft. Where shifts are worked continuously, it shall be sufficient if this rule is carried out at the commencement of the morning shift.

56. Every engineman, unless some other competent person is specially appointed for the purpose, shall keep the engines, machinery, and things connected therewith under his charge, properly cleaned and oiled, and shall see that they are in good and safe working condition. He shall see that the provisions of General Rules 27, 30, 31 and 32 are carried out and observed during his working shift, so far as they relate to engines or machinery under his charge.

57. Every engineman must diligently and carefully attend to the working of the engine and machinery under his charge. He must examine such engine and machinery before commencing work, and if he becomes aware of any weakness or defect, or apprehends any danger, he must, as soon as practicable, inform the manager, under-manager, deputy, or engine-wright. He shall not alter a safety-valve without leave from the manager, under-manager, or engine-wright.

58. Every engineman, in addition to the duty in this respect imposed on the engine-wright, shall see that any ropes attached to the drum of the engine under his charge are securely attached, and so that when either cage is at the bottom of the pit there shall not be less than two rounds of rope upon the drum.

59. Every winding engineman, whenever the engine under his charge ceases working, shall see that the cages are left so as not to impede the ventilation.

60. When men are being raised in shafts where the winding apparatus is not provided with some automatic contrivance to prevent overwinding, the cage shall not be wound up at a speed exceeding 3 miles an hour when and after it has reached a point 10 feet from the top of the shaft, as required by General Rule 27, and such point shall be marked on the indicator.

61. The signals given in Rule 90 shall be carefully observed by the engineman.

*Banksman and assistants.*

62. That the banksman shall, subject to the directions of the manager, under-manager, and engine-wright, and screen overseer have the control of the pit top, and the command of the signals down the pit and to the engineman.

63. That the banksman shall be responsible for the state of the pit top, and shall see that the frames and the surface near the pit mouth are kept free from coals, stones, or dirt.

64. That at least one banksman and one on-setter, or other person appointed by the manager, under-manager, or deputy for that purpose, shall be at their respective posts at the proper time every morning, to give the proper signals, and to see the men and boys carefully into and out of the cages at the top and bottom of the shaft.

65. The banksman must be at the drawing shaft at such times as the manager or under-manager may appoint. He shall not allow a person to descend or ascend until the cages have been once run up and down the shaft, but where continuous shifts are worked it shall be sufficient if this is done at the commencement of the morning shift.

66. That the banksman shall not permit strangers or persons not employed in the mine to descend the pit or remain upon the bank, unless authorised by the manager; and shall caution strangers descending to keep carefully within the cage until they are fairly landed. He shall not allow an intoxicated person to descend the pit.

67. That the banksman or onsetter shall not allow more than six persons in a single cage, or ten persons in a double cage; nor shall any person be allowed to ride with or against coals, slack, dirt, &c. Neither shall any person, unless specially allowed by the manager, under-manager, or deputy, be permitted to carry any tools, implements, props, rails, or such like in his hands whilst so riding; but the same shall be securely placed in the cage, skip, or basket, so that no danger may exist of their falling out during their ascent or descent, or of their coming in contact with anything in the pit; and no person shall be allowed to get upon or off the cage at the pit top unless it be standing upon the catches or keeps, or at a mouthing, without the signal first being given and responded to.

68. The banksman must frequently observe the pit top pulleys, ropes, chains, cages, and landing apparatus during working hours, and whenever he becomes aware of any weakness or defect therein, or in anything belonging to the shaft, or any engine, machinery, or winding tackle, he must immediately inform the engineman, and the manager, under-manager, or engine-wright, or screen overseer, so that it may be repaired.

69. The banksman must report to the manager or under-manager any disobedience on the part of the miners or others.

70. The signals given in Rule 90 shall be carefully observed by the banksman.

*Miners and all other persons employed.*

71. No person acting in a place of trust shall depute anyone to do his work without the sanction of the manager.
72. No swearing or fighting is allowed in or about the mine, and no intoxicating liquors shall be permitted in the mine without the consent of the manager.
73. Any person employed in the mine shall inform the person in charge of the workings of the existence of any choke or fire-damp, of any insecurity of the roof, shaft, or any other part of the workings, or of any air-door being damaged or left open, immediately on its being observed by him,
74. No person shall be permitted to carry a naked light attached to the cap or hat on his head whilst handling explosives, or in charging holes for blasting.
75. A safety-lamp must be frequently examined, and if a lamp shows a blue cap, the person using it must carefully draw down the wick with the prickler, cease working, leave the place, and report the same to the manager, under-manager, or deputy.
76. No person shall place a safety-lamp on its bottom unless it is necessary to do so for the safe performance of any particular work, or unless authorised by the manager, and in all cases the lamp shall be hung or placed at least 2 feet from the swing of the pick, hammer, or other tool.
77. No person shall leave a lighted candle or other light in any part of the mine when leaving his work.
78. No person shall try the wastes or workings for fire-damp with a naked light, and no person shall smoke or take a naked light, tobacco pipe, cigar, cigarette, lucifer matches, or candle, where safety-lamps are ordered to be used.
79. No naked lights shall be allowed or taken beyond any danger signal where gas exists.
80. No person shall wilfully kindle a feeder of gas, or negligently have the gauze of his safety-lamp full of fire, or unlock the lamp, or unscrew the gauze, or blow out the flame, or light tobacco or other substance at the gauze, or damage or improperly use the lamp, or leave it in the works, when he has ceased using it.
81. Any person discovering any stoppage or derangement to ventilation, injury to an air-crossing, door, regulator, sheet stopping, brattice, or air-pipe, or observing any injury to or obstruction of an air-course, shall immediately give notice to the manager, under-manager, or deputy, and to any person or persons whose safety may be endangered thereby.
82. Any person passing through a door or sheet must instantly close the same, unless it is a door or sheet ordered to be kept open. No person shall, without authority, remove any caution-board, notice, or danger signal, or pass any danger signal, caution-board, or fence.
83. In case of a shot missing fire the workman shall place a danger signal at the entrance to his working-place, and shall immediately report the same to the manager, under-manager, or deputy.
84. Every miner or other workman in charge of any working-place, before commencing work, and at intervals during his shift, shall examine his working-place, and in case any danger is observed shall at once report to the manager, under-manager, or deputy.
85. No person shall leave coal, slack, or other material so as to impede the ventilation; nor leave a skip or other obstruction in the air-current.
86. Every horsekeeper shall see that no animal under his care is allowed to go to work while in an unfit state, and shall report to the manager, under-manager, or deputy, any injury received by any animal.
87. No person shall wilfully injure any animal whilst in his charge, or permit it to receive injuries by his wilful act or negligence, and shall report immediately to the horsekeeper or a deputy any injury received by such animal while in his charge.
88. No person shall take a horse on to or travel along any incline or plane, either in the mine or on the surface, which is self-acting or worked by machinery, while it is in motion, without special instructions from an officer of the mine.
89. Every person in charge of any animal shall immediately report to the manager, under-manager, or deputy, in case he finds such animal cannot pass along any road without rubbing against the roof or timbering; and no person shall, unless otherwise authorised, give his horse into the charge of any other person than the horsekeeper at the stables.

*Shaft Signals.*

90. The following signals (with such additions as under special circumstances may be ordered by the manager) shall be carefully observed by the engineman, banksman, on-setter, and other persons employed at this colliery:—

- One knock—To go on.  
 One knock—To stop when the engine is in motion.  
 Two knocks—When any person is going to ascend or descend.  
 One knock—In reply before any person is allowed to get into the cage.  
 Three knocks—To lower slowly.  
 Four knocks—To ascend slowly.

91. Every person when on the pit bank, or while about to descend the shaft, shall obey the orders and directions of the banksman; and every person, while in or about the pit, or while about to ascend the shaft, shall obey the orders and directions of the on-setter.
92. No person shall improperly use any signal, signal wire, or signal apparatus.
93. No person shall get into the cage after the authorised number is in, or if forbidden to do so by the banksman or on-setter.
94. Every person who shall couple or fasten any skip to any other skip, or to any rope or chain, shall see that such coupling or fastening is made secure.
95. All persons employed in the mine shall be under the control of the manager, under-manager, and deputies, and shall at all times obey their lawful commands.
96. Any person committing a breach of any of the foregoing Special Rules is liable to be instantly dismissed.

*End.*

Name of the Mine—N.C.M. Co.'s Colliery. Where situated—Merewether. Name of the Owner—N.C.M. Company (Limited). Name of the manager—J. Croft. Name and address of the Inspector of Mines of the District—J. Dixon, Newcastle.

## CERTIFICATE OF SPECIAL RULES, NEWCASTLE COLLIERY.

J. CROFT, Manager.

I HEREBY certify that the above copy of Special Rules has been shown to my satisfaction to be a true copy of the Special Rules which, at this date, are established under the Coal Mines Regulation Act, 1896, for the above-named mine.

5th day of March, 1897.

JOHN DIXON,  
Inspector of Collieries.

## EXHIBIT G.

THIS deponent, *John William Taft*, on his oath, states (*to Mr. Curley*):—I am a miner working in the B pit of the Newcastle Coal Mining Company; there is another pit called the A pit; I have worked in that since about three and a half years ago; I have worked several quarters in that pit; out of the three and a half years' employment by the Company I have been away nine weeks; I have been principally engaged in getting coal; I have also done shift-work in Nos. 5 and 6 districts; I was opening an old heading in No. 5; the ventilation there was not too good.

*By Commissioner*: I mean by that that it was not sufficient where we were working.

*By Mr. Curley*: That would be about nine or ten months ago; I knew the ventilation was not sufficient, because the lights used to burn dull; my head used to ache sometimes, and I used to go down to the flat when I felt that; Turner was working with me; we used to come out like that every shift; we came out on to the main road; there was better air there; on one occasion I was overcome by the bad air; it deprived me of the use of my legs, and my head was ready to burst; I went back to put some tallow in my lamp, and sang out to my mate that I was losing my legs; he came to my assistance, and caught me as I was falling; I consider that was brought about by the defective air; that happened on a Monday night; Rendal saw me that night; my mate had just laid me aside, and Rendal came up the heading; Turner said

to him, "I'm glad you came in; you can give me a hand to take my mate out"; Rendal asked what was the matter with me, and Turner replied, "He's down here; he's got no use in his legs"; Rendal said, "The best thing we can do is to carry him out, and get him out on the main road"; Turner lifted me on to Rendal's back, and he carried me out on to the main heading; Turner then assisted me; I was placed on the floor, and remained there for fifteen or twenty minutes, when I recovered; I do not know what month that was in; I kept no record of it; when I recovered a bit my mate got my flannel and other clothes on, took hold of my arm, and took me out to the pit bottom; I then went home; I did not go to work the next day; I was only off one shift; I did not go back to the same place to work that night, but to No. 1—to the pillars—the next night; I had spoken to Rendal about the bad ventilation before that happened; Turner had also spoken to him about it; I told Rendal that the air was bad, and that we could not keep a light; I worked nearly the whole quarter in that place while the air was like that; that was in the same place as where I was overcome; the air was bad very nearly the whole of that time; there might be an occasional shift when it was better than at others; Rendal generally saw us once a night; if he wanted us to go anywhere else during the night he would come round and see us again; we never saw anybody else there; we were always on the night-shift; Gall used to come in sometimes; in other parts of the mine I have found the ventilation fairly good, in other parts bad; in the No. 1 pillars the air was not very good; that was about the same time as we were working in No. 5; we were working in odd shifts; Rendal used to tell us to go out of No. 5, and go into No. 1 to set timber, or perhaps he would send one of the shiftmen; No. 8 district used to be bad also; that was over twelve months ago; I was working there driving a heading; that was in the daytime; that was in the A pit; the No. 1 pillars were also in that pit; I have not noticed the ventilation bad in any other places, only in the places where I worked; I have seen the furnace at night-time; I would see it going to my work; it is nearly nine months since I saw the furnace; there was what I would call about half a fire going then, not a full fire; I am still speaking of the A pit; there was no one at the furnace that I saw at that time; I did not take particular notice who was there.

*By Mr. Edmunds:* I did not complain to Rendal on every occasion that I found the air bad; I made several complaints to him; I told him whenever the air was bad; I did not complain to any of the deputies as far as I recollect; I do not know who the deputy was for No. 5; I never looked for his report as I went to work; there was nobody there to tell us whether our working-places were safe; there was a board there to show us the condition of the mine; it was not very often that we looked at it; I think Wilson was the deputy for No. 1; I believe he also went round Nos. 8 and 9, but am not certain; I did not on any of these occasions find the air bad at the commencement of my work; it was good at the commencement of my work; I did not complain to any of the check inspectors, nor to any of my lodge officers; Rendal was the only person I complained to about it; I never bothered about looking at any of the check inspectors' reports; there were too many figures for me to count up; if I had gone to the miners' meeting I might have heard it; we do not bother to go and look at the copy kept at the lodge; the result of the inspections was published in the newspapers, but I never bother to look at them; it is the place of the check inspectors to go and have a look at all these places; I never complained to any of the Government inspectors; I do not know that the Government inspectors would inquire into any complaint, even an anonymous one; I have never known beforehand that the inspectors' visits were to be made; I have never heard it spoken of among the men; I have seen Mr. Dixon there, but did not know beforehand he was coming; I have never seen any interference with the ventilation while the inspection has been going on; I have never known the ventilation to be interfered with at any time.

*By Mr. Bruce Smith:* I do not bother much about things that do not concern me; check inspectors are elected by the lodge; I have voted at such elections occasionally; I have voted for men who have done the check inspection previously, although I knew the air was so bad; I have voted for them because others would not go to some of the places; there was one man last meeting who refused to take the office; I never objected to the nomination of any man as a check inspector; the check inspectors are elected for three or six months; I cannot say how many elections I would go to, but of a dozen; I have not attended a meeting for twelve months at a time; I did not go to the election of the check inspectors, although I was working in such bad air; I never took the trouble to look at the check inspectors' books; I never asked any one to tell what the figures were; I worked for about six months in the bad air out of the three and a half years I was in the mine.

*By Commissioner:* I was working in No. 5 district for three months constantly, except at odd times.

*By Mr. Bruce Smith:* I had my senses when I was overcome by the bad air; I had not them so fully as I have now; I knew all that went on; I walked from the No. 5 heading to the pit bottom and then home; I walked over a mile; when I got round I walked from the No. 1 flat home; it was from fifteen to twenty minutes after I had lost the use of my legs that I walked that distance; my headache did not go away when I reached the fresh air; I was on the floor when I lost the use of my legs; my mate was there also, but he was not affected; before I lost the use of my legs a sensation came over my legs; my head had been aching all the time, from half-past 6; it was simply the headache and the loss of the use of my legs; my breathing was heavy—as if I was going to heave my inside out; a deputation from the lodge sometimes waits upon the management if there is cause for complaint; I never made any complaint to my lodge about the bad air; I have told Gall that the air was not very good; it was about the beginning of June last year that I was overcome as I have described; it was on a Monday night; I was not at work on the next Tuesday; there are not many instances about that time when I was off on a Tuesday; it happened three quarters and about a fortnight ago; it would be between nine or ten months ago, as nearly as I can say; I never troubled myself to look at the deputies' boards; they were for the purpose of letting the men know the condition of the working-places; frequently I would go in without troubling to look at the board; I have seen Mr. Dixon in the mine; I have never seen him in any part of the mine where the air was bad; I have seen him in No. 6 and in the B pit; I have only seen him in one bord; I had no complaint to make about that bord.

*By Commissioner:* He came in the daytime.

*By Mr. Curley:* I can write my name and read a little bit, but not much.

*By Commissioner:* All the time I was working in No. 5 clearing up the headings I worked night-shift; on the night I was overcome I went down about 4 o'clock on the Monday afternoon; it would be about 7 p.m. when I felt ill; I vomited a little when I got home; all my limbs were shaking and my teeth chattering; that began when they got me to the flat; I was sweating; we were clearing away a fall for a road; Turner was working with me all the time; we were working on top of the fall, throwing it aside; it was about 200 yards from where we were working to the floor; there was bratticing across the head of the heading; that was about 200 yards off where we were working; we had a road cleared through as far as we had got; nothing was done after I complained to Rendal and Gall that I know of; I went back to the same place on the Wednesday after my sickness; a stopping had been knocked out then; prior to the sickness it did not occur to me that the air there was dangerous to me.

*By Mr. Curley:* Bailey was working on the night-shift at the time of this occurrence; I left the pit at 1 a.m. when I was working on the night-shift; the man who fired up the furnace used to go out when I did; that is the man I knew as the furnace-man; they used to call him Peter; when the light used to burn dull, as I have described, we used to put kerosene in our tallow; I supplied the kerosene myself.

*By Commissioner:* The light would burn all right then.

*By Mr. Curley:* I was never at the colliery office about being overcome till two or three weeks ago, when I was sent for out of the pit; I went to the office and saw Mr. Croft, senior, Rendal, and Mr. Croft, junior; the elder Mr. Croft asked me a few questions about my sickness; I was in the office about forty-five minutes.

*By Mr. Bruce Smith:* I did not complain then about the ventilation of the mine.

*By Mr. Edmunds:* I have the special rules at home, but have never bothered to read them; I may have heard them read, but have never bothered about them; I know that any person finding any choke-damp had to report it to the person in charge; Rendal was there, and knew about my case.

*By Commissioner:* I know that there are rules about reporting accidents and gas.

Taken and sworn at Newcastle, this 29th day }  
of June, 1899, before me,—

C. G. WADE, J.P.

JOHN WILLIAM TAFT.

[Rendal's evidence; also Bailey's evidence.]

Copy of W.R.'s Report.

I FOUND a little gas in No. 6 B.H.—W.R.

J. BAILEY, take a few nails in with you and put a piece of canvas up back dip H. No. 6, a little there.—W.R.

EXHIBIT

## EXHIBIT H.

THIS deponent, *Albert Turner*, on his oath, states (to *Mr. Curley*) —I am working at the Newcastle Company's mine; I am working in the A pit; I have been six months on the coal since I left shift work; I did shift work in various parts of the pit; I was for twelve months on the shift work before going on the coal; I worked with Taft for three quarters out of the twelve months; I have been fully six months on the coal since doing the shift work; I worked the first nine months of the twelve with Taft on shift work; I worked in Nos 1, 5, and 6 districts; in No 5 we were opening an old heading for pillars; we worked in that heading about three months off and on, the ventilation there was bad; it affected our lights to such an extent that we had to put a cup of kerosene into a 4 lb tin of tallow before we could get it to burn; the air used to affect me a little in the knees sometimes, but I used to take plenty of opening medicine; my knees used to shake from under me; it did not affect my head at all; I could not say that it affected my breathing at that time, but at present I am short-winded; I cannot say that is the result of the bad air I breathed in that old heading; it affected Taft; when it affected him he shouted to me, "Albert, I've lost the use of my legs", I went to him, and saw him hanging to the slabs with his hands; that was within 20 yards of where I was working; he had been only a few seconds away from where I was; he was going for a drink, I was at the spot where we were working at that time; I noticed that Taft had lost the use of his legs, and I sat him down; Rendal was coming up the heading at the time; I shouted to Rendal to come, that "Will was down"; Rendal said, "Put him on my back and I'll carry him"; when he had carried him about half way I said I would take him; I carried him to the main in take of No. 1, and we laid him down; we put all the clothes he had on him, and he recovered himself; he then walked out with my help by catching under his arm; he left the mine; he did not work the next shift, I worked there the next shift with Ben Dobb; the ventilation was bad that night when Dobb was there; I have found the ventilation in other parts where I have been very good in the headings; that was when I was working on shift work; off the headings it varied; some places it would be pretty fair and in others very bad; it was very bad in No 5; it was not bad in other places that I went to, as far as I can recollect; I was generally on the headings; No. 5 was the only place in which I found the ventilation bad; I have worked for the Newcastle Company off and on for twelve years; I have found the ventilation during that time very good on the headings; I have found it bad in the bords on occasions when I have got up any distance; I cannot name any district but No 5 where I found it bad, it was bad in No 8 when one had got up some distance; it was about seven quarters ago that I noticed that; I was driving a heading at that time in No 8; Taft was working with me then; we were working in No 8 back heading: it was in the daytime that we noticed the ventilation bad, we did not work at night time then; I cannot mention any other place in which I found the ventilation bad; I did not speak to Rendal about the matter when I felt the bad effects in my legs; he could see for himself; he had to come up the heading steadily, or else he would have lost his own light; that was on account of the defective ventilation; Bailey was on the same night shift as we at that time; I cannot fix the date of the occurrence to Taft, Taft had been working with me in that particular place about three months when it happened; that heading had no name but what we gave it ourselves—the "Zig zag"; I never saw the under manager in that heading while I was working there; we would not see them because we were on night shift; I have seen the board on the flat; all the writing I have ever noticed on it has been "J Bailey" and the date, if there was anything else on it I could not understand it; I could not read it; I was accustomed to seeing Bailey's name there, and that was how I knew it was there.

*By Mr. Edmunds* Bailey was the examining deputy for that part of the mine in which we were working then; I cannot say that the special rules have been read to me; I have had portions of them read to me; I have never had the 73rd special rule read to me, I was not aware that I had to inform the person in charge of the existence of any choke damp; if I had told anyone in charge of it, "my name was Walker"; I have never seen the Government inspector in No 5; I have seen him in the last three months in No 1 B pit, I have never known beforehand of his intended visits; I have never heard in conversation among the men that he was coming; I have never known the ventilation to be interfered with while he has been down the pit; I do not know that the Government inspector will inquire into any complaint made to him, even anonymously; we were clearing a road in No 5—making a road to enable the men to take out the pillars; it was disturbed country there; everything was down; the roof was down to the rock; I did not notice any faults in that part of the mine; I do not know how the air was supplied to us in that heading in No 5; there was no air there at all, except what came there of its own accord; I could walk right over the top of the fall; there was no work done there in the daytime; Taft and I were the only men working there.

*By Mr. Bruce Smith* I believe I have had a copy of the special rules handed to me; I never asked anyone to read them to me; with the exception of the two places I have mentioned—in Nos 5 and 8—I have never had occasion to complain of the ventilation in the mine during the twelve years I have worked there; Bailey must have known of the condition of the ventilation where the accident to Taft happened; I never knew when the inspector was coming down; I have never noticed any alteration made when he was coming; I continued to work in the place where the accident happened to Taft; I did not work there very long afterwards; there was no repetition of any such thing as happened to Taft; it may have been two or three seconds from the time Taft shouted to me till I went to him; it may have been fifteen or twenty minutes from the time he first called out to me and we started off the main heading with him; I remained with him till I put him in his own house; during all this time Taft was aware of all that was going on; he spoke to both Rendal and me; I know it is the custom for deputations of the men to wait upon the management if they have any cause of complaint; I have never known of any case of any of those men being dismissed from the service of the Company; that is because no man can be got to go on those deputations; I have known of no man in the service of this Company who has been dismissed because he formed one of such a deputation; I have known of such deputations wait upon the management; as sure as a man complains his "name is Walker"; I have never known a man to be dismissed by the management of this Company for complaining in the whole of the twelve years I have worked there.

*By Commissioner* Although I said just now that my name was "Walker" I am still in the employ of the Company.

*By Mr. Bruce Smith* I have not received any intimation of dismissal from the Company; it is my own conscience that tells me my name is "Walker"

*By Commissioner* The stopping at the No 5 heading was taken out the night after Taft's accident; about 7 p m. Dobb spoke to me, and about 8 p m the stopping was taken out; I did not go down the pit again after taking Taft home that night; I did not go down till 4 p m. next day; there was some canvas between the main road and the back heading; it was 140 yards from where we were working; it was not more than 4 or 5 yards from the main road; we had to go through the canvas to go into where were working; the canvas cut the air off from where we were working; it was a canvas hanging; we got the air as it came back after being to men who were further in

*By Mr. Edmunds* The canvas was not on the in take at all; it came to us on the return; when we were working night shift there would be no men further in than we were.

*By Commissioner* The air came back the narrow bord to us; it was not directly turned into our working-place; there was nobody working in that particular place in the daytime

*By Mr. Edmunds* There was nothing to turn the air into where we were working; it reached us of its own accord; I do not know how.

*By Commissioner* I cannot tell how it reached us; we could not feel it; it did not reach us, that I know of.

*By Mr. Curley* Rendal used to come in there every night; he came at different times, but his usual time was from 7 p m. to 8 p m.

Taken and sworn at Newcastle, this 29th day }  
of June, 1899, before me,—

ALBERT TURNER.

C. G. WADE, J.P.

## EXHIBIT I.

THIS deponent, *William Rendal*, on his oath, states —I am night overman under the Newcastle Coal mining Company in the A pit; I have held that position for seventeen years; I am acquainted with some of the special rules of the colliery; my duties are to remove dirt from different places, seeing to the putting up of timber, and so on, for the safety of the miners; I am the sole person in charge of the mine during the night; I go down at 4 p m, and remain down till 1 a m.: I then leave the mine; the next men to come into the mine are those who inspect the mine before the miners come in; they are called deputies, or firemen; they come in at 3 30 a m.; between the time of my leaving and their coming in there is no one practically in charge of the mine; all my men leave with me; on Sunday nights I go down the mine between 7 and

7 30 p.m. ; my shiftmen do not go down with me, but at 10 p.m. ; I do no particular work between 7 p.m. and 10 p.m. on Sunday, except going and examining those places where the men have to go to work ; the places where men have not to go to work are examined ; the places where the men have to go to work are places where dirt has to be removed and where repairs are required ; the whole of the headings and travelling roads must be examined in order to see that they are fit for work the next day ; I examine the headings, the travelling roads, and the places where my men have to go to work ; I do not, as a rule examine the bords ; it is not part of my duty ; I make my examination with a naked light and see that all sides and roofs are safe ; I examine all the main headings and travelling roads with a naked light ; sometimes I am travelling with the current of air, sometimes I meet it ; when I have wanted to go to certain places I have taken with me a safety lamp—a small Clanny ; it was not locked ; I examined the dip headings of No. 6 with that lamp ; I have examined them with that lamp as long as they have been headings—about six or seven months ; I have also examined the rise headings in No. 6 with a safety-lamp ; I began to examine any bords with a safety-lamp ; there are no narrow bords in No. 6 district now ; nine or ten months ago we had narrow bords going ; I made no particular examination of the faces of the narrow bords then ; there were two narrow bords

*By Commissioner* I only inspected certain districts on Sunday nights ; a man named Hardy inspects the other part of the mine ; I examined districts 6, 7, 8, and 9

*By Mr. Curley* I examined those districts from twelve months ago till the present time ; I inspected those places in No. 6 on a Sunday night, where my men had to go to work ; the same applies to No. 7, 8, and 9 ; I was not required to make any mark on the board as I was not an examining deputy ; I examined the places where the men had to go to work with a naked light, but not the faces of the headings where they had not to go to work ; twelve months ago I did not examine with a safety-lamp ; I began to examine with a safety-lamp eight or nine months ago ; I began to use the safety-lamp on account of a slight occurrence that took place ; a man went into a place where he had not been ordered to go ; that was in the back narrow bord in No. 6, his name was Weir

*By Commissioner* I used the safety lamp because Weir went to a place to which he had not been ordered to go, and he says that he saw a small flame of gas there ; it was after I heard that that I took to using a safety-lamp

*By Mr. Curley* That place was in Bailey's district as examining deputy, I had not before that time examined those places with a safety lamp on a Sunday night ; I did not order any man to go to that place on that Sunday night ; I give orders to the men on Sunday night about their work ; on that particular Sunday night Weir and Abell had to go to that district ; they had to go to the front narrow board, and put up some slabs ; they had to work in other places that night ; it was not within their discretion where they should go when they had finished in one place they had been sent to ; they could only go where they were told to go ; there were other places in No. 6 that wanted repairing that night ; there may have been other men in No. 6 that night on my instructions ; I cannot remember all the other men who went to No. 6 that Sunday night, but Fox was one who went as a water baler : Fox had to go into the back narrow bord, but not to the face, as the water was lying back from the face ; I knew he was going in there ; I ordered him to go there ; I had been into that place that night as far as I wanted a man to go to work ; that may have been several yards from the face ; I cannot say how far ; it may have been 10 yards from the face—the commencement of the water, I think it was about 10 yards from the face—the commencement of the water ; I did not inspect the face ; it was not my work to do so ; on that particular Sunday night it was not my work ; it was the work of the inspecting deputy who came in in the morning ; I cannot say whether that place had been inspected on that Sunday morning ; I cannot say whether it was the practice for the examining deputy to inspect that place on a Sunday morning at that time ; it is the practice now ; I had to examine it on the Sunday night even if it had been examined in the morning, because the law says so ; there was such an interval between the inspection in the morning and the time I went down ; there would be no necessity for me to make the inspection on the Sunday night if one had been made previously on the Sunday night ; there was no such inspection on the Sunday night, I call it an inspection if I see that the places in which the men have to work are safe ; I heard of the accident to Weir about 1 a.m. ; I was on my round visiting the men, and when I came to Weir and his mate, Weir told me he had been in the back narrow bord, and that the gas had ignited slightly ; I asked him what right he had there ; I told him I had placed him to work in the front narrow bord ; I think Abell was present ; I asked Weir once or twice what right he had there when I had placed him in the other narrow bord ; I pressed the question, and they made some frivolous excuse which I cannot remember ; I allowed them to work on in the mine ; I did not press Weir to go home later on ; I went back to the district about 4 or 5 a.m., and Weir was still working with Abell ; Weir said he thought his face was smarting a little, and I told him if that were the case he ought to go home ; I had a good look at him, and all I could see were a few hairs burnt on his moustache ; Weir told me first of the occurrence ; Abell may have said something to me about it, but I cannot remember whether he did or not ; I think Abell said, "Weir seems a bit shaky," or something to that effect ; I cannot remember that I asked the water baler anything particular about it at that time ; I did not allow him to go in there again ; I put up a danger-mark there ; I did not make any inspection of the place ; I had only a naked light with me ; it was Bailey's work to examine the face there ; when he went there to inspect it I went with him ; that would be shortly after 3 30 a.m. ; he had a lamp with him and went in and examined the place ; I may possibly have read General Rule 7 of the Act ; I complied with the rule by placing a danger mark at the place so that no one should pass there until the examining deputy came in and inspected it ; I knew where there was a safety-lamp, and could possibly have got it ; I made no inspection with the lamp ; I was told of the occurrence some time about 1 or 2 o'clock, and saw Bailey some time between 3 30 and 4 a.m. ; I told him that this slight occurrence had been reported, and that that place had been fenced off ; Bailey went up and examined this place ; I was near at hand at the time ; I was not right up to the face with him ; I was several yards from him ; he was examining right up at the face with the safety-lamp ; he took the lamp himself ; I did not hand it to him ; I cannot say how long it took him to make that examination at the face ; it would not take him many minutes ; I did not find any report of that examination in the book ; it was not my place to look for it ; if the report was put in the book it would be put there about the time I would be leaving the mine ; I did not ask Bailey to make any report of that examination ; the full height of the seam there was from 7½ feet to 8 feet ; that includes from the floor to the roof ; I examined those places with a safety lamp after this occurrence ; I only did so once a week—on the Sunday night ; I did not leave any note in my lamp after making those examinations ; I did not so leave any pencil note initialled "W R" ; I have so left a note on other occasions than a Sunday night ; what was on the note was this : "To Mr Bailey—I have discovered a small bit of gas in the back dip heading" ; that was about six months ago ; I only left a note like that once ; the miners had been ordered to take only a portion of the top band ; they had taken a little more of this band than they should have ; they had caused a crack in the roof ; on examining the hole that was pointed out my light came in contact with this crack and ignited, but only very slightly ; it was an open light ; I was going round in the ordinary way ; a safety lamp would never have detected it ; Weir's accident happened about eight or nine months ago ; I may have mentioned it to the under-manager ; I did not make a formal report of it to him nor to the manager ; it was the first occurrence of the kind that had taken place while I have been overman ; I may or may not have mentioned it to the under-manager ; I did not report the finding of the gas by myself about six months ago ; it was such a paltry matter, I did not think it worth reporting ; I just mentioned it to Bailey in a friendly manner

*By Commissioner* : I did not think there was any risk about it, but told Bailey of it so that he might make a more careful examination of the place when he went to inspect

*By Mr. Curley* I do not admit that Weir was burnt ; his moustache was slightly singed or burnt, but I do not call that a burn ; I assisted Bailey in that place to put a little more canvas there ; we may have put up 3 or 4 yards more canvas ; that would take me to the face ; I did go up to the face ; that was after Bailey had examined the face ; I did not examine the face with the lamp ; Bailey had the lamp ; I cannot say how many places there were in No. 6 district at that time ; I do not know how many men were working in that district at that time ; I expect there would be half a dozen places in No. 6 district at that time ; I do not know of any man being taken out of the pit suffering from black damp ; I do not know of any man being overcome with black damp in the pit ; I know of a man being overcome with sickness in the pit ; his name was Taft ; that was about ten or twelve months ago ; he was engaged in cleaning up an old heading in No. 5 district to recover pillars ; it happened during the night ; it was not reported to me ; I knew of my own knowledge that the man was sick ; I saw him ; he appeared to be like a man who had the ague ; he was all of a shake when I saw him ; I think he must have been at his work a considerable time when this happened ; I came to see him on my usual rounds ; a man named Turner was working with him at the time,

*By Commissioner* I saw him at first where he was working ; I spoke to him, and he to me ; he was sitting up at the time ; Turner spoke to me first ; he said, "Rendal, my mate, is sick," or "bad," I am not certain which term he used ; I replied to this effect "If he is sick we had better take him out" ; we three then went out on to the narrow bord ; I carried him part of the way, and he walked part of it ; Turner assisted him also ; for some time after being taken out he seemed to have these "shakes" on him (say) for ten minutes ; it was about ten or fifteen minutes from the time I first saw him



him till I left him; he had got up and walked about a mile to the pit bottom; he seemed a bit sick; the ventilation in No. 5 is fair; we have not had what can be called black-damp there; the air may have been a bit light in that particular part; I mean by that that you could not call it so pure as that on the engine-road; I have never known any of the workmen to be affected by reason of defective ventilation; it was during the week that Taft's case happened; there are three men attending to the furnace in the A pit at the present time; at the time of Weir's accident there were two furnace-men employed; one man's shift extended from 7 a.m. till 4 p.m., the other's from 6 p.m. till 3 a.m.; on the Sunday night the one shift started at 7 p.m. and knocked off at 3.30 a.m.; at the time of Taft's sickness there were two furnace-men employed; I have not made it a point to examine the deputies' report-books; I have not examined them; I do not hold any certificate; I have not read many books on mining; I do not know that I have read any books particularly on mining; I have read little sketches here and there, but have never taken up any book on mining and thoroughly studied it; I know of the Dudley disaster that occurred in this district last year; I read portions of the evidence in that case; I have not read the report issued by the Mines Department on that disaster; I have not had a copy of it.

*By Mr. Edmunds:* My hours were from 4 p.m. till 1 a.m., except on Sunday, when I go down between 7 and 7.30 p.m., knocking off about 6.30 a.m. on the Monday; while I am in the pit I take the place of the under-manager; I have charge of the pit; there is not, as a rule, any mining going on when I am down; in exceptional cases a couple of men will be cutting the coal while I am in charge; the only work, as a rule, that goes on while I am in charge is that of the shiftmen getting ready for the following day; I am the person appointed to examine the working-places for the shiftmen before they go to work on Sunday nights only; hewing of coal does not go on, as a rule, on any night of the week; I have also to examine every part of the mine where the men have to work or pass during that shift; the shift for which I examined was the shift of shiftmen; another man and I had to inspect each place where the shiftmen had to go to work; before the miners come in there is another inspection, with which I have nothing to do; I used to make a written report of my Sunday night inspections in the report-book, but that was not done twelve months ago; I began to make those reports about five months ago; during the last five months I have made regular reports in the book; I had no idea that such a slight injury as that sustained by Weir had to be reported to the District Inspector; I had no idea that the burning of a few hairs of his moustache could be called a personal injury; I knew that the law required a personal injury by explosion of gas to be reported by the management; Weir did not come to work the next shift; nobody gave him permission to absent himself from his work; I saw no injury to his arms, neither did he show them to me; I did not look at his arm; I could see nothing wrong with him, and did not think I had to report the matter to the management; I knew Special Rule 16; I did not regard it as an accident or danger looking at the consequences of it; neither the manager or under-manager had instructed me to report all cases of explosion; I could see nothing in Weir's appearance, as far as personal injury was concerned, to warrant me in reporting the matter; I knew that inspections had to be made with a locked safety-lamp where inflammable gas had been found in a mine; I continued to make my inspections with an unlocked safety-lamp; I knew that was not in compliance with the Act; Taft and Turner are still employed in the Company's pit as miners; no doubt the copy of the note read to me [Exhibit G] is a correct copy of the note I left in the lamp; I did not leave two notes, but only one; that is the one about finding a little gas; I have no knowledge of the note instructing Bailey to take in some nails; I have no recollection of leaving a second note in the lamp for Bailey; on my inspections I always make it a point to examine the ventilation, seeing that the current is going its usual course and that the usual quantity of air is passing; on Sunday night I make a report, showing the state of the ventilation; work began in the face of the narrow bords about seven hours after the accident to Weir; the miners came down about 6 a.m.; I did not regard any part of the mine to be dangerous on account of gas; I put up the danger-board in the narrow bord on the strength of what Weir told me; I was supplied with a copy of the special rules of the colliery by the management.

Taken and sworn at Newcastle, this 28th day of }  
June, 1899, before me,—

W. RENDAL.

C. G. WADE, J.P.

Court adjourned till 10 a.m. to-morrow.  
Court-house, Newcastle, 28th June, 1899.

This deponent, *William Rendal*, recalled on his former oath, states (to *Mr. Edmunds*):—I never knew beforehand of the visits of the Government inspectors; I never heard from any conversation among the men that the inspectors were expected.

*By Mr. Bruce Smith:* I have been twenty-two years in the service of this Company; with the exception of the burning of Weir and the little puff of gas I saw about six months ago, I have never seen or heard of gas in the mine; the gas mentioned in the note I left in the lamp referred to that little puff; I have nothing to do with the getting of the coal; on the night I sent Weir and Abell to the narrow bord to timber there were no men getting coal in the mine to my recollection; the men who went down with me were engaged in shift-work; I examined every place where those men had to go to work; at 3.30 a.m. Bailey would come down and examine all the places where the men had to get coal; there was no timbering required in the bord where Weir went to and was injured; I examined up to the point in that bord that Fox would have to go to bale; there would be no shiftmen in the mine between 1 a.m. and 3.30 a.m.; there would be a man left behind to look after the furnace; the date of Weir's accident was the 25th September, 1898; I fix that the date by reference to my time-book; the time-book shows that Weir did not come to work on the following day—a Monday night; it shows that he was off that Monday night and on the previous Sunday; I can find no other record showing that he was about that date off on the Monday night and on the Sunday.

(The witness at this stage became unwell, and was unable to continue his evidence.)

This deponent, *William Rendal*, recalled, on his former oath, states (in answer to *Mr. Bruce Smith*):—I remember going with Bailey on one occasion to put up canvas in No. 6 (referring to Bailey's evidence on pages 3 and 4); this was just after Weir's accident; I placed the canvas up on account of Weir's complaint and accident, in order to carry away any impure air there might be there; that was my only object in putting up more canvas; it was the proper thing to do; I did not do it immediately after hearing of Weir's accident, but placed a danger-mark there; when I met Bailey about 3 a.m. I took him to put up the canvas; the extra canvas was placed there solely for the purpose of better ventilating that place; I have no recollection whatever of telling Bailey that Taft was carried out of the mine; I carried him 15 or 20 yards, and Turner may have carried him the same distance, or perhaps a little further; after we had carried him, he was placed on the ground and covered with coats; that was 4 or 5 yards from the narrow bord; he was helped from the ground after being placed there; he walked from there to the pit bottom; he had assistance, but he could use his legs; he was not carried any more by either of us; the first part of Exhibit G I acknowledge, but I know nothing whatever of the second part, directing Bailey to take in a few nails; beyond that note, I have no recollection of writing any other note about gas at any time; I remember being present at an interview in April last between the manager, Bailey, and myself; I do not know of anyone else that was present on that occasion; it took place in the office on the surface; I do not remember anyone coming in while it lasted; Croft first asked Bailey, "Where were you last night that you were not at work?" Bailey replied, "The Chief Inspector knows why I was not at work last night"; Croft remarked, "Oh! you've seen the Chief Inspector?" Bailey said, "Yes, I've been further than the Chief Inspector; I have seen the Minister for Mines"; Croft said, "Did you go to Sydney?" Bailey replied, "Yes, I went farther than Sydney; I went to Lithgow"; Croft then asked Bailey if he had told the Minister for Mines about some canvas being put up, and he replied, "Yes, I have spoken to the Minister about this canvas business"; Croft then said, "Where was this done?" he replied, "Oh! on the No. 2 engine-road"; Croft said, "Who did it?" Bailey replied, "I did it"; Croft then questioned Bailey about the other things which he had reported, such as the gas, and about Taft; I do not know that he mentioned Taft's name, but he spoke of a man being carried right out of the mine; Bailey replied that he had heard of such a case; this questioning and answering went on for about ten minutes; I then had to go down the mine; the interview had terminated before I left; it terminated, as far as I can recollect, in this way: Croft said to Bailey, "You went to Sydney and told the Minister for Mines that Weir was off some days on account of this accident; how do you know that he was off three or four days?" Bailey replied, "Oh! I heard so"; Croft said, "And you went to the Minister, and told him the man had been off three or four days, because you had heard so?" I do not remember Bailey making any reply to that nor anything further that Croft said; I believe Bailey asked, "Can I go to my work?" Bailey had been off work three days the first week; this conversation took place in the second week; Croft replied that Bailey might go to his work; I then left, and Bailey also; Bailey had never asked my permission to go off for those three days; it is not a usual thing for men to go away from their work for two or three days without asking permission; the men are supposed to send and let me know if they cannot come

come to their work ; there have been cases where men have stayed away without permission ; in such cases the men have been referred to the manager ; while Bailey was off, I got a message I think from his brother to this effect, "John Bailey is not able to attend to his work" ; I took it that Bailey was sick ; I have no recollection of either Taft or Turner telling me at any time that he could not keep a light ; they have complained to me about the air in this way ; when I have gone in, I have said, "Well boys, how are you getting on" ; one or both might reply, "Oh, it's a bit hot" ; they never made any formal complaint that the ventilation was bad ; if they had done so, I would have removed them ; I used to go round and see the men at their places, and would go right into the air in which they were working ; in the whole of my experience in the Newcastle Company's mine ; I have never known a man to be overcome as Taft was that night ; I never even heard of such a thing in the mine ; I never knew when the check inspectors were coming ; they came in the daytime when I was abed.

*By Mr. Edmunds :* That part of No. 5 where Taft and Turner and Dobb and Turner worked was inspected by me on the Sunday night ; it would also be inspected in the daytime during the week ; Taft's affair took place about ten or twelve months ago, to the best of my recollection ; it was after Weir's accident that I began to use a safety-lamp in that part of the mine—the No. 6 narrow bords or dip headings ; the fall in that heading was an old fall, and may have been there for years ; we had crossed four or five old bords in this old heading in clearing it up ; that would mean about 80 yards ; the stuff they cleared they threw into the old bords and laid down their road as they went on ; it was completed right through the heading, a distance of about 112 yards ; there was no work done in that heading during the daytime ; Taft and Turner were the only two men engaged in that work ; the air came to the men over the old bords ; there was no brattice up there at this time ; the air was forced up to the men working the coal at the pillars, and would then naturally take its course over the old bords to where Taft and Turner were ; Taft and Turner were working at a point 70 yards from where the men were working the pillars ; that was by the course the air would take ; the men working the pillars were reducing the distance between them and Taft and Turner each day they worked ; the air was taken to the men working the pillars by canvas up to the face.

*By Commissioner :* The air taken to the men at the pillars could get into different bords, and Taft and Turner might not have got all the air that went to the men at the pillars.

*By Mr. Edmunds :* I cannot say that any particular inspection was made to see what air was getting to Taft and Turner.

*By Mr. Curley :* I do not think Bailey was working under me on the night-shift at the time of Taft's sickness ; I do not remember ever saying a word to Bailey about Taft's affair ; Bailey was the official to inspect Taft's working-place in the morning ; I did not enter the result of my Sunday night inspections at that time because I was not requested to do so ; I did not point out to the manager that it was necessary for me to do this ; he pointed it out to me ; I did not, either at the time of Weir's accident or Taft's sickness, point out to the manager that it was necessary for me to report in the book ; I did not go to the face on my inspections for the water-baler or Weir ; I inspected as far as I thought the man ought to go ; I know the place where Weir was burnt ; when I inspected it that morning for the water-baler I did not put up any cross-rails there on that morning, because I did not see any necessity for them ; Bailey inspected that place on the morning of the 26th September ; I was at a distance when he went up to the face ; I never told Wilson to look out for gas in that place ; I have no recollection of ever mentioning anything of the kind to Wilson ; the under-manager had not warned me about it ; that was the first occasion I had known of what one might term fire-damp in the colliery ; of those two narrow bords, I think the front one, got the air first ; I knew the No. 6 headings ; what was termed the front heading got the air first at that time ; the air continued in those headings like that until they stopped at the boundary.

*By Commissioner :* For the last five or six months I have been making my reports in the book ; that is since the manager spoke to me ; prior to that if I found anything wrong I took care to put it right ; if there was anything wrong, and I could not put it right, I would verbally warn anyone coming after me ; it is only within the last five or six months that I have learnt it was necessary for me to put my report in the book ; prior to that I thought it was only necessary for the man making the inspection for the day-shift to make his report in the book ; I left the note for Bailey about the discovery of the gas in the pillars of the safety-lamp ; I did it as a friendly warning to Bailey ; Bailey never left such a note for me ; I never left such a note for anybody else ; I came to use the safety-lamp after Weir's accident because the manager and I thought it better to do so, in order to make sure if ever such a thing occurred again ; Bailey used a safety-lamp after this also ; neither lamp was locked ; I had no key for my lamp ; there may have been a key there but I never had it ; I was making my usual rounds to look after the men, and see that everything was going on properly, when I discovered the small puff of gas in the roof of which I have spoken ; I cannot say whether it was on my inspection or not that I discovered it ; I suppose my first round would be my inspection ; I cannot say whether I reported this gas to the management or not ; it was inflammable gas ; it was in the same air-district as that in which Weir was burnt, but in a different heading ; I did not go to the canch at all in the place where Fox was working ; the canvas would be 3 or 4 yards from the canch ; sometimes I would be meeting the air with my naked light in making my inspections ; I knew that the air in the place where Taft and Turner were working was what we termed a bit light ; there could not be much difference between the air getting to the men at the pillars and that getting to Taft and Turner ; I never heard any complaint from the men at the pillars ; they were working in the daytime ; a safety-lamp could not have detected the gas I found, because I could not have got a safety-lamp in there, and there was not sufficient there to be detected without the lamp getting to it.

*By Mr. Curley :* Bailey has not made any inspection with me on a Sunday night since this occurrence ; Bailey was supposed to come back with me at night to inspect No. 2 district ; he came back on 6th April last, and went to inspect No. 2 district ; he examined the No. 2 district on the night of the 9th April last.

Taken and sworn at Court-house, Newcastle, this 29th day }  
of June, and 4th day of July, 1899, before me, —

W. RENDAL.

C. G. WADE, J.P.

#### EXHIBIT J.

THIS deponent, *Edward Wilson*, on his oath, states:—I am a deputy—inspecting deputy—at the Newcastle Coal Company's mine ; I have held that position about nine or ten years ; at present I inspect Nos. 7, 8, and 9 districts ; I have inspected those districts since September, 1898 ; before that I was in Nos. 6, 7, 8, and 9 districts ; I cannot say for how long before September, 1898, I inspected those four districts ; I did so for months ; it was some time in September last that I discontinued inspecting No. 6 ; I think Bailey was sent to inspect No. 6 after I had left it ; I was told by the under-manager that somebody else would inspect No. 6 ; he told me there would be more bords working in Nos. 8 and 9 ; I heard of an occurrence that took place in No. 6 ; I heard that a man had been burnt there ; I do not know exactly what it was ; I cannot say from whom I heard it ; different people told me of it ; I believe it was Bailey I heard first speak of it ; I may have heard it spoken of out of the pit, but I do not remember hearing anyone else in the pit speak of it ; when I first heard of it I was not inspecting No. 6 district ; it may have been two or three days, or a week, before I heard of it that I had given up No. 6 ; I inspected No. 6 with a naked light ; I never noticed any fire-damp ; I cannot remember whether anybody had spoken to me about fire-damp in No. 6 ; I know Rendal ; he said nothing to me about it ; nor had the manager or under-manager ; Rendal never handed me any pencil notes when I was inspecting No. 6 ; Bailey did not tell me of the occurrence personally, but I heard him speak of it ; I may have been at the pit bottom when Bailey told Rendal of it, but I did not hear him do so ; I have said that I would rather not be brought into this matter ; I said so to the men in the pit ; I spoke of it in the presence of Bailey ; I said so, because I would have preferred to keep out of the inquiry altogether ; I did not tell Bailey that at the time of the concurrence ; I cannot say how long after it I told him that—whether it was a week, or a month, or a few days ; I cannot remember when I told Bailey that ; it was more than a few weeks back ; it was a few months back, but I cannot say how many ; I cannot tell the exact date it was that I took over Nos. 7, 8, and 9 districts for inspection and gave up No. 6 ; it was some time in September, 1898 ; the 21st September last was the last date on which I inspected No. 6 ; I find by the book that the latest date was the 23rd September last ; I first commenced my inspection of Nos. 7, 8, and 9, without No. 6, on the 28th September last ; I used to enter the mine to inspect at 3:30 a.m. ; when I had completed my inspection, I went to look after No. 9 district ; I made a report when I had completed my inspection ; I did that in the cabin at the pit bottom ; that would be between 5:15 a.m. and 5:45 a.m. ; that is the report in the book ; I did not enter the time of making that report in the book. [*Book now put in and marked Exhibit I.*] I made no other report, except that in the book ; I worked in No. 9 district every day, and not in other parts of the mine ; I was doing deputy work—looking after the wheelers and miners, and laying roads ; my shift ended at noon ; I never knew when the

Government



Government inspector was coming into the mine ; I never heard the deputies talking about the inspectors coming ; I was never told by the manager that they would be coming, nor by the under-manager ; I have seen the Government inspector in the mine ; on those days I have not been told off to do anything special, such as putting up canvas ; I have renewed canvas where it had been torn down ; I have never been told by anybody to do that while the inspector was in the mine ; I knew it was my duty to do it ; I have never seen canvas put up to turn the air from one district to another while the inspector has been in the mine ; I have never done it myself ; I have never known a door to be opened while the inspector has been down, in order to turn the air into the district where he was ; I have never held any doors open for that purpose while he has been down ; I have heard lately of it having been done in the mine ; I have heard it spoken of since this case came up ; I never heard of it before then ; I have never heard any complaints from the men as to the ventilation ; I have only been in No. 9 district, and have heard none there ; I do not remember ever having occasion to warn any men not to go to any particular place on account of defective ventilation ; I have never seen the brattice right up to the face in the places I have inspected ; it has always been from 3 to 5 yards from the face ; I have seen bits of falls in No. 7 heading ; I have never known men to go out on account of defective ventilation ; I cannot state the greatest distance from the face I have seen the brattice on my inspections ; after the occurrence with the fire-damp that I have spoken of, I made my inspections with naked light, in the same way ; I have done so ever since.

*By Mr. Edmunds :* When I ceased inspecting No. 6 the fault in the back narrow bord had nearly been got through ; the fault extended for 8 or 10 feet ; I believe this one was a rise fault ; after getting through the fault it might be necessary to use timber for the roof ; I could not say so for certain ; the roof seemed good when I was there ; on my inspections I always saw that the air was nice and fresh in the working-places ; I cannot say who inspected No. 5, nor who does so now ; I think it is the man in Bailey's place ; I think his name is Jones ; the furnace is attended by a man at night and another by day ; I do not go down the pit on Sunday, but on Monday morning ; I have seen the furnace fires a bit low at times ; I have noticed that on going down in the morning ; it has not been so brisk as through the day ; I cannot say how often that happened ; sometimes when I have gone down I have seen it a bit low, at other times it has been brisk ; I have never seen any black-damp in the mine ; I have never found any fire-damp ; I cannot say that I know No. 5 district ; it is years since I was in there.

*By Mr. Bruce Smith :* I have been about nineteen years in the service of the Company, and have held the position of deputy about nine or ten years ; I do not remember ever having seen any gas or black-damp during the whole of that time ; I know the board upon which the deputies' report is written ; on the 26th September I would place my report on that board as in the book ; I would do it the same day as I wrote the report in the book ; I consider it the same report ; I only wrote the one report in the book and on the board ; as far as I recollect, I have always written the same report on the board as on the book ; Bailey was talking to another deputy and myself when he spoke of the man having been burnt ; I was sitting outside the cabin door at the time, and heard him mention it ; that was the first I had heard of it ; the men have never hesitated to tell me of anything that was amiss ; if ever they have wanted anything remedied they have told me of it, and I have tried to remedy it ; after inspecting Nos. 7, 8, and 9, I am generally employed about No. 9 and the bottom of the pit ; I do not go into Nos. 7 and 8 to work ; when I have seen the furnace rather low it has generally been raked out to clean it between shifts ; I have stirred it up myself at times ; it has always been in full when the men have gone down.

*By Commissioner :* I have seen deputy Jones examining with a safety-lamp during the last nine months ; he goes into No. 6 ; he has used it ever since he has been there ; he has been there since Bailey left in March ; the Jones that was inspecting in September last was another man of the same name ; I have seen Bailey in the mine with a safety-lamp, but not inspecting ; he has been going about his work ; he and Jones are the only two I have seen with safety-lamps there.

*By Mr. Curley :* I cannot say what men worked regularly in the bord in which the rise fault was ; Weir and Abell worked there at times ; I cannot recollect whether I have seen men working at the face in that bord ; I only saw the men working there on Monday morning when they were there ; there may have been other men besides Weir and Abell there.

*By Commissioner :* They were doing shift work when I saw them on the Monday morning.

*By Mr. Curley :* The last time I saw them there they were standing about 20 yards back from the face ; they were not working at the time ; I would see what they had been doing when I went into the bord on my inspections.

Taken and sworn at Court-house, Newcastle, this }  
29th day of June, 1899, before me,—

E. WILSON.

C. G. WADE, J.P.

Court adjourned until 9:30 a.m. to-morrow.

Court-house, Newcastle, 29th June, 1899.

This deponent, *Edward Wilson*, recalled on his former oath, states (*to Commissioner*):—I was inspecting deputy for Nos. 6, 7, 8, and 9 till September last, when I left off No. 6 ; I used to meet the deputies at the cabin in the morning ; I used to see S. Jones and Bailey ; I would see Gall and Ambrose through the day at the cabin ; I stated in my evidence that I had heard Bailey telling one of the deputies about Weir's accident ; Sam. Jones, Bailey, and myself were the only persons present then ; It was Jones he told of the accident.

Taken and sworn at Court-house, Newcastle, this }  
13th day of July, 1899, before me,—

E. WILSON.

C. G. WADE, J.P.

Adjourned till 9:30 a.m. to-morrow.

Court-house, Newcastle, 13th July, 1899.

## EXHIBIT K.

THIS deponent, *Benjamin Dobb*, on his oath, states :—I am a coal-miner employed at the Sea pit of A. A. Company ; I have worked also at the Newcastle Coal Company's mine, in the A pit ; I have not worked in the B pit ; I have worked in mines for thirty years, and at coal-mining for about twenty years ; I hold an under-manager's certificate ; I have held that for about two years ; I have also obtained the Honor Certificate for Mining Knowledge of the Public Instruction Department ; that was about eighteen months ago ; I have made a study of gases in connection with my examinations ; I was examined principally on black-damp, fire-damp, and the different gases which are given off in a mine ; I worked in the Newcastle Company's A mine up to the end of last year ; I was working there for about five and a half years prior to that ; I think I was through the whole of the mine during that period with the exception of one or two portions of the return ; I have noticed black-damp in the mine, both in No. 6 pillars and in Nos. 5 and 1 ; I noticed it through the lamp not burning and my feeling unwell at times ; it was between eighteen months and two years ago that I noticed it in No. 6 ; I did not complain to anyone about it ; I have been engaged in drawing timber, doing deputy's work when the deputy has been off, and laying turns ; from time to time I carried out the examinations prescribed by the Act to be done by deputies ; when the deputies were off I have been round and made the examination in their places ; I worked in No. 6, where the air was bad, from the time the pillars were started till I was placed on the night-shift ; I was not regularly employed there, but only when I was sent ; I might be in Nos. 1, 2, and 6 during the day ; I was what might be called an auxiliary deputy ; I was employed to go wherever I might be sent in the mine ; I first saw the black-damp in No. 5, but mostly at night, when we were drawing timber ; that was between eighteen months and two years ago ; that was timber that had been used on the pillars which had been worked out ; that black-damp would affect the men working there ; I noticed the black-damp for a period of eight or nine months in No. 5 ; I know a man named Turner ; I have worked with him on the night-shift in No. 5 ; I found the ventilation there bad ; there was not sufficient air to take away the impurities ; the impurities consisted of black-damp ; I judged it was black-damp by the sensation that came over me when I was in it ; I had to retreat to the fresh air.

*By Commissioner :* My sensations were that I felt lazy and sick, and too lazy to be sick ; I seemed to lose the whole of my strength.

*By Mr. Curley :* I think No. 6 was better ventilated than No. 5 ; No. 1 was very heavy ; I mean by that that there was not sufficient ventilation to take away the heaviness, or not sufficient pressure to take it away ; there was not sufficient pressure to take the air-away from where the men were working to the return ; in No. 1 the ventilation has been bad for the whole of the five and a half years I have been there—more especially since they began to work the pillars ; I did shift-work in No. 1 ; I might be in Nos. 1, 5, and 6, during the day ; I went wherever I was sent ; I knew when the inspector was likely to make his visit to the colliery ; I knew that by being told in the morning to be prepared for it ; I was told that by the under-manager ; that extended over about three months, in 1895—till towards the end of September, 1895 ;

that is in July, August and September, 1895; it lasted till February last; the under-manager was Mr. H. Croft; I mean I was so informed of this from about the beginning of July, 1895, till February, 1898; Croft has told me of that when he has been in the position of under-manager, and Mr. Mouter when he held that position; there was never anybody else present when I was told anything like that; I have seen attempts made to divert the ventilation when the inspector has been in the colliery; I think I first noticed that in July, 1895; I made a note of it that night; I cannot tell what day of the month it was; I was sent into No. 1 return by Croft, the under-manager; Inspector Dixon, at the time, was going through Nos. 7, 9, and 6 districts, leading through and coming out by the No. 1 return way; I knew that, because it was his general course; I never knew him to alter his course through the mine; I noticed canvas in the return to block the main return airway; I went back from there; went into the main intake headings of No. 2, where I came across Newburn, the deputy, and Bailey, with a canvas across the main intake airway; each was holding the canvas at the side, thus preventing the current from going in its proper course; to the best of my opinion they were holding it; I went within 10 or 12 yards of them; they were on the other side of the canvas, and did not see me; I would rather say I went to within 20 yards of them; I did nothing in connection with that; I went back and went through to No. 1 return; in going back I passed under the canvas I had previously seen in the return. [*Witness marks with a broad arrow, in pencil, where he saw the canvas on the main intake, where Bailey and Newburn were, and also where he saw the canvas on No. 1 return.*] The effect of these canvases would be to prevent the air going into Nos. 1 and 2, and cause more to circulate through Nos. 6, 7, 5, and 9; I knew Bailey was on the other side of the canvas, because I heard him talking; I heard Newburn talking and laughing; they were both chatting and laughing; I could not hear what Newburn was saying; I have noticed a similar occurrence at another time; I made a note of it at the time; it was on the 15th February, 1898; the check inspectors were going round the mine; my duty was to supply the furnace with best coal; I was told to do so by Mr. Croft, the under-manager; Croft told me the check inspectors were coming; he said, "They are coming"; I knew whom he meant; I think he used the word "inspectors"; he instructed me to get ready the furnace with the best coal; that after a certain time of the day he would be in another part of the mine, and would place No. 5 overcast all right, and that I must see to the removal when they were coming out; he mentioned the names of the check inspectors when he told me they were coming; they were Hardy and George Clapton; I carried out his instructions about the overcast; when I got there I found the airway partly closed, and I cleared it; there was as much of it closed as could be closed nearly; I suppose the airway was about 4 feet by 4 feet; the overcast was that over the main haulage road. [*Witness marks position by broad arrow.*] The effect of closing this overcast would be to decrease the air in Nos. 5 and 6 and increase it in No. 2; the overcast was closed with canvas and timber; I saw the check inspectors coming out from No. 2 that day; I say definitely that it was on the 15th February, 1898; I think it was on the 15th February, 1898, I removed that canvas; the mine was working that day; I noticed nothing else that day beyond that before I removed it to show that I did not like the work, I met Mr. Croft and asked him where it was, although I knew where it was; he replied, "Good God! go ahead, and get it out of the road"; I noticed something else on the 25th February, 1898; I made a note of it on the same day; I made the other note about the stopping of the overcast on the 25th February, 1898, and not on the date of the occurrence; I made the two notes on the same day; on the 25th February, 1898, I blocked No. 5 return while the inspector was in No. 2; that was the Government inspector; I received instructions to do that from the under-manager, Mr. H. Croft; he said, "You'll go in front of us and wait until we go past Block No. 5 and take it away when we are coming out"; I told him I thought I could be employed at something better; the blocking that time would have the same effect as on the former occasion; I saw the inspector that day—Mr. Dixon; the mine was working that day; on several other occasions I have seen similar occurrences in the mine; I have only seen these things done during the period from July, 1895, to September, 1895, and from the beginning of the year till February, 1898; for that period of two years and nine months I was instructed to get the best coal ready for the furnace-man when the inspector was expected; the only occasion in 1895 when the canvas was put across the road—the ventilation diverted—was in July; that is the only one I have a date for; it has happened since that, but I have no dates for that; that was between July and September, 1895; the next occasion on which it happened was in February, 1898; there were two occasions in that month on which it happened; I did not see it on any other occasions; on the 28th February, 1898, I was put on the night-shift; No. 6 district was going in a south-west direction; I have a good knowledge of the positions of the different collieries adjoining the Newcastle Company's; No. 6 would be striking Burwood and New Lambton; I have never noticed any gases in No. 6, except the black-damp; I have seen black-damp in No. 6 pillars; I have noticed the air vitiated by it so that the lamp would not burn properly; the men suffered from the vitiated air; I heard Weir was burnt in No. 6; I heard it three or four days after it had happened; it was generally known throughout the mine; James Mouter was under-manager before Mr. H. Croft; I have heard Mouter say that there was a danger in approaching the fire-damp going through the faults in No. 6; he is not working in the colliery now; he is in England; there was a different under-manager between September, 1895 and February, 1898; Mouter was under-manager between those dates; H. Croft has been under-manager from February, 1898, to the present time; the notes of the occurrences spoken of were made in the book shown me on 19th July, 1895, and the 25th February, 1898; I left the Newcastle Company's employ at the end of 1898; I did not leave of my own accord; I was working on the night-shift, and seven or eight of us received notice at the same time to leave; the notice ran: "Mr. Dobb, your services will not be required after," then a date came, "at this colliery.—J. CROFT"; the manager gave me no reason why he dispensed with my services; he said he had too many; I did not ask for any reason myself; when I was put on the night-shift I asked for the reason why I was shifted from the day-shift; that was on the 25th February, 1898; when I received notice to leave I put a cavil in and it was accepted; I could have gone on the coal if I had desired to do so; I did not stop to work, however, but left; in that way I left the colliery of my own accord; I could have gone on the coal, but I did not see fit to do so; I thus left the colliery of my own accord.

*By Mr. Edmunds:* I reported in the book, when I was acting as deputy, every time I inspected; I never in any of those reports made a complaint about the ventilation, or reported the presence of any noxious gas; I was only employed as inspecting deputy for eleven or twelve days during the whole time.

*By Commissioner:* I did not see black-damp in any of those inspections I made as deputy; when the ordinary deputy was not there I was the competent person appointed to make the examination under the Act.

*By Mr. Edmunds:* If I acted as deputy during the eight or nine months I noticed the black-damp in No. 5, I did not notice the black-damp on any of my examinations; the boards in No. 1 that I spoke of as being bad were those going towards the fault, and beyond the point where the air turns back; I would have inspected No. 1 during the five and a half years I said it was bad; I worked with Turner only once; H. Croft was in charge of the works at that time; I did not inform him that I had found choke-damp there; I did not consider it my duty to inform him; there had been provision made for some air to scale over the door to that place in No. 6 way; the air came through through breaking open the stopping in that heading; I think Bailey was the examining deputy for that part; the board was up there to say it was safe; Turner and I were the only two persons working there at that time; I am speaking of the night when Taft was off; I only worked that one night with Turner; I do not know what the date was; I made no entry of it in my book; the entries in my book are, "July 17th, cutting canvas, pipe stolen, and chain thrown at me by J. Harrington"; "July 18th, in return No. 1 came across to force it in No. 6 cross No. 2"; "N. & B. x 2 road—In in 6"; "July 19th, remarked on it at pit bottom when sniped about *re* J. H."; the next entry, "H. rough on me for seeing his father" refers to the fact that when I was being put on the night-shift I went to see old Mr. Croft to know what was the reason in being disrated by being put on the night-shift; Mr. Croft said he was not the overman; I replied, "No, Mr. Croft, you're the manager, and I've come to you for redress"; he then said, "If you don't like it, you can leave it"; I told him it was not so; that I did not like it, but could not leave it, because perhaps I might not be able to better my position; the next morning the under-manager, H. Croft, got on to me about having gone to his father; I asked him what he would do if he were placed in the same position; he said I was a "bloody traitor" to go and see him; H. Croft used to tell me when the Government inspector was coming; Mouter used to tell me when he was there; I cannot give any of the dates of Mr. Dixon's visits; the deputies were informed of his visits also; I have taken word to them of it; I have told them that he had come, not that he was coming; I have been told before his visit that the inspector was likely to come; the furnace-man always knew when I was getting the best coal what was meant by it—that the inspector was to come; there was no blocking of the air-ways to my knowledge when Mouter was under-manager; Mouter was a gentleman of an upright honourable character as far as I know; the first thing I came across was the canvas I found in No. 1 return; I knew that would increase the air in Nos. 6, 7, and 9, and stop it in No. 1; I knew there were men working in No. 1—sixty, I suppose—but I did not think I was required to report it to the manager; I did not warn the men in No. 1 that they were getting no air; the men in No. 1 were friends of mine to a more or less extent; the blocking of the air from No. 1 meant death to them in course of time; I know that I should have informed someone of the stopping of the air; I told the under-manager of it afterwards, and he told me to keep my mouth shut; I did not warn the men in No. 1 because I ran the risk of losing my bread and butter.

*By Commissioner* : I did not know, when I first came across the canvas, that it had been placed there by the order of the under-manager ; for all I knew, it had been placed there against his direct orders.

*By Mr. Edmunds* : I did not consider it my duty to tear down the canvas when I saw Bailey and Newburn holding it up in the airway ; I did nothing to prevent the stoppage of the air ; Bailey and I were doing their best at the time of kill the men in No. 1 ; when I stopped up the overcast in No. 5 I would be doing my best to kill the men in No. 5, of whom there were forty at the time ; it was not entirely blocked up ; I blocked it with canvas and timber which had been lying there from the time H. Croft had blocked it ; I did not block it completely, because the canvas would blow back and let some air through ; I did not tell Mr. Dixon of this ; I was disrated almost the next day over it ; I was afraid of being further disrated if I had done that ; I do not know that the inspectors receive information from the workers without divulging the names of their informants ; I gave information in connection with this case ; that was about 20th April last ; that was the first time I had given information to the Government officials ; I had been dismissed since the beginning of the year ; I did not inform the Government of what I knew because I might not have got on so well as I have ; I did not risk my bread and butter by telling, as I had lost my position ; I do not think it would have done me any good to have told ; it would have done good for the men in the mine, I admit, but a man has sometimes to look out for himself ; if my story is true, Newburn, Croft, Bailey, and myself did this in order to trick the Government inspectors ; the inspector cannot provide against trickery of that sort ; it was a fraud to comply with the manager's request at the time ; it was a fraud on the men to give satisfaction to the persons employing me.

*By Mr. Bruce Smith* : I have said that I did not leave the colliery of my own freewill, and that I did leave of my own accord ; that means that I did not leave the work I was at of my own freewill, but that I left rather than go on the coal of my own accord ; I have given all my reasons why I was taken off the shift-work ; when I was taken off the shift-work the work had come to an end there ; it is not true that I told Mr. Atkinson I had left the shift-work because the work I was doing was finished, and the Company were reducing their hands ; probably that was the reason why we were dispensed with—owing to contract work coming on and there being too many shiftmen ; I knew that certain special work on which I was engaged had come to an end ; I did not believe that I was dispensed with in consequence of the work being finished ; I did not tell anybody that I left because that work was finished ; I might have said that I was dispensed with in consequence of the work upon which I was engaged coming to an end, and the Company reducing their hands ; I do not think that I stated to Mr. Atkinson that I was employed as a shiftman, and left in consequence of some work upon which I was engaged being finished, and they were reducing their hands ; I do not think I stated that to him ; it is four months since I communicated with Bailey about this matter ; I have seen Mr. Curley every day since he came into Court ; I have had no interviews with him outside about it ; I saw May first more than two months ago about it ; I saw him at his own house ; there was nobody with me ; Bailey was not with me ; I think Bailey asked me to go and see May ; I was asked to go there in connection with this investigation ; Bailey asked me to do that ; I knew that the investigation had not been granted at that time ; I was at May's house about an hour's time, which was devoted to the facts of this case ; May did not take notes, I think ; May knew that I was coming ; the next time I spoke to May about the case was after the inquiry had been granted ; I met him in the street, and spoke to him for about half an hour about the case ; I did not see him again till these proceedings started ; that was yesterday ; we spoke a little about this case yesterday ; I had not been in Court ; Bailey spoke to me about this matter shortly after he had been discharged ; before he was dismissed he spoke to me about the matter, and asked me what I would do in his place ; that was before he went up to Sydney, and before he was changed from night to day shift ; it was over three months ago that he spoke to me about it ; I saw him immediately after he was dismissed ; I met him, and he told me ; that was about the same day as he was dismissed ; he and I have been cheek-by-jowl over this matter, and have worked together over it ; when I saw Bailey and Newburn holding up the canvas Bailey did not see me ; it was after Bailey had seen the Minister that I told him I had seen him holding up the canvas ; I was not very thick with Bailey at the time I saw him holding up the canvas, although I am at present ; I scarcely knew him at that time ; I have never kept an exercise-book like that shown me before, with notes of that description in it ; I made a note about the chain being thrown at me at the time, because I meant to complain to Mr. Croft, the manager, about it ; I was using the book at the time ; that note was made on the day on which it happened ; I copied it into the other note-book so that I should have the dates if I were asked about them ; the note of the 18th July in the exercise-book I entered on that date ; the letters "N" and "B" were done at the same time, as far as I can recollect ; I have no recollection of inserting them after the rest of the entry ; to the best of my knowledge, the words in dark pencil were put in at the same time as the others ; I think I copied the notes into the note-book on the night of the 21st instant ; I did so because I could not get the exercise-book into my pocket ; that was my only reason ; I depended upon the notes for my recollection of the circumstances ; I put in the words "Was told to keep my mouth shut" in the note-book on the night of the 21st instant ; I was not in a comfortable billet in 1895 ; the first entry shows that—the chain being thrown at me ; I did not complain to Mr. Croft ; the words "Was told to keep my mouth shut" were not in the exercise-book in the original entry.

*By Commissioner* : I wish to qualify my evidence as to doing my best to kill the men by blocking the airway ; I knew we were doing wrong ; I knew it was to the injury of the men, and that if the airway had been completely blocked up it would have eventually killed them.

Taken and sworn at Court-house, Newcastle, this }  
30th day of June, 1899, before me,—

C. G. WADE, J.P.

BENJAMIN DOBB.

Inquiry adjourned till 10 a.m. on Tuesday, the 4th July next.  
Court-house, Newcastle, 30th June, 1899.

Inquiry resumed at 10 a.m. this 4th day of July, 1899, Court-house, Newcastle.

This Deponent, *Benjamin Dobb*, recalled on his former oath, states as follows (*to Mr. Bruce Smith*) : I began to make notes in the exercise-book as far back as 1895, because I thought I had been wrongly treated by the chain being thrown at me ; I thought I had been unjustly dealt with, and I thought the notes might come in useful afterwards ; I thought I could lay the matters before the manager afterwards ; the remark about the notes being useful afterwards applies to all those notes ; I thought the under-manager had not treated me properly when I complained to him about my treatment, and I accumulated these notes with a view to bringing them under the notice of the manager when I should go to him for redress ; I went to the manager on the 25th February, 1898, to complain to him about my treatment ; I waited till 1898 before I went to get redress—three years after I had cause for complaint ; it was after I had been put off my particular work by the under-manager that I went to see the manager about my treatment ; I was particular in recording the notes in the book ; there was no necessity to insert the words, "Was told to keep my mouth shut," in the original note ; the small note-book was produced by me in evidence before the exercise-book, and I stated then that the note-book contained the original notes, made at the time of the occurrences ; I have said that the notes in the note-book are a copy of those in the exercise-book ; I merely looked at the exercise-book, then copied the notes into the note-book from memory in copying the notes from the exercise-book to the note-book ; the notes in the note-book have not been copied directly from the exercise-book ; the ten or eleven days for which I acted as deputy were after 1895 ; I did not on any of those days detect any gas in the mine ; if the light were not put out, or the man carrying it put it out, I would not report the presence of black-damp ; I have never on any occasion as examining deputy reported the presence of any gas in the mine ; I have never on any of those occasions found any gas ; I cannot single out any occasion on which I was told that the examining inspector was coming ; I was told it on most occasions ; I was told it by Mr. H. Croft and Mr. Mouter ; they are the only two people who told me ; there was nobody present when I was told by either ; they would not want such a thing known ; I never took a note that I was told of this ; I thought it was a wrong thing at the time ; it was after 1895 ; I did not make any report of this matter because I was not looking for any redress in connection with it ; it was a regular thing for me to be told of the visits of the inspectors, so there was no necessity for me to make a note of it ; I have never made a note of being told of their visits ; I saw the plan produced [C] two or three days before the Court opened ; it was in Bailey's house ; Bailey explained it a little to me ; I pointed out the other day in my evidence what the arrows and different coloured lines meant ; that plan is drawn in the manner common to show the direction of the air-current ; I was able to give the dates of Mouter's under-managership because I remembered the date of his leaving for England, and the date, or about the date, he became under-manager ; I knew of the obstruction to the air-current when the check inspectors were in the mine ; I knew the inspectors were there on behalf of my fellow-workmen—that they were to check the air current on behalf of their fellow workmen ; I knowingly allowed them to be deceived ; I was acting in my own interests ; I have never from that day to this told them that I had connived at their deception ; I generally saw the reports of the check inspectors ; very likely I saw their report issued after this particular inspection ; I knew that that report was a false one, and likely to mislead my fellow workmen, but I did nothing to undeceive anybody ; the check inspectors

inspectors had the right to go into the mine without any notice ; I always knew when they were coming ; I knew from H. Croft ; I never told the check inspectors that I knew they were coming ; I took the obstruction to the air-current away because Mr. Dixon had to go to that part, and he would have seen it at once ; I knew it was an improper thing to put it up, and I knew it would have to be taken down before the inspector came there ; I deceived the check inspectors, and the Government inspector also ; the check inspectors and the Government inspector were not there at the same time ; the check inspectors were there on the 15th February, 1898, and the Government inspector on the 25th February, 1898 ; the obstruction was not up all that time ; the obstruction was regarded by Croft as a serious thing, both for the men and for him, if it had been found out ; I looked upon it as a serious thing for the men ; I did not go to find out if any of the men had been in any danger through the diverting of the current ; from my position at the time I could not go to see whether any of the men were in any risk ; I was from three-quarters of a mile to a mile from where the men were ; "best coal" is large coal ; it was not a usual thing to use large coal on the furnace ; we always used small, except when the furnace got dirty, and I used to ask for some good coal to brighten it up ; I went to the furnace, or near it, nearly every day when I was down the pit ; McGinness was the furnace-man on the night-shift ; a man named Frank "Asthma" was on the day-shift at one time, and more lately a man named Watson ; the best coal was got for the furnace before the inspectors came into the pit ; if it were not used up then it would be used in the furnace afterwards ; at the time I was put off the shift-work and left the mine I had not seen Bailey at all about these matters these subject of this inquiry ; I had my cavil in before I was put off the shift-work ; I had had notice from the management, and before the expiration of that notice I put my cavil in ; it depended on what place I got whether I took my place in the mine or not ; I did not intend to go to work in any part of the mine for the reason that I had had enough of the atmosphere in certain parts of the mine, and I would not have gone back to them ; I did not tell the manager of any single incident of those noted in the book of mine ; he did not give me a chance to do so ; I went to him to ask him why I was being put off the shift-work ; he told me he was not the under-manager ; I did not tell him anything to the effect that improper things were going on in the mine ; all I spoke to him about was my own position, and not about any irregularities in the mine ; I never wrote to him about any of these irregularities ; there was no use in doing so if I could get no redress ; the whole thing hinged on my getting redress ; I did not know in 1895 that I was going to be put off shift-work in 1898 ; there was no need for me to seek redress after Mr. Mouter came back, because I got redress from him ; there is a note in the exercise-book about a misunderstanding in January, 1896 ; I obtained redress from Mouter in 1895 ; the entries of 1898 were put there because I was not getting proper treatment, and I objected to do the dirty work that was going on.

*By Commissioner* Mouter was not there at that time.

*By Mr. Bruce Smith* : The furnace man never told me that he knew the inspector was coming ; he never knew till I commenced to put the best coal on.

*By Mr. Edmunds* I remember how Mr. Dixon did his inspection on the 25th February, 1898 ; he went to No. 2 first ; then the general practice was to take the in-take in No. 1 ; I knew he did so, because there was a mark there of the area of the air-current ; there were figures there which I understood to be the record of the air-current there ; after finishing No. 1 Mr. Dixon would come out of it ; I do not know when he would leave the mine ; I do not know when he went to No. 5 ; it was about 10 a. m. that I first saw Mr. Dixon on the 25th February, 1898 ; he was then going past No. 1 in the main heading towards No. 2 ; that would be about 600 or 700 yards from the pit bottom ; I do not know whether he came direct from the shaft to that point, or whether he had gone to some other part of the pit first ; I do not know how long he had been down at the time I saw him ; the news of the inspector's presence in the mine would soon spread all over the mine ; I cannot say that on every occasion of Mr. Dixon's visits it was known he was coming ; two or three times he came there without my knowledge beforehand, and I went and told the overman at once ; if I saw him at the pit bottom unawares beforehand to me, I would slip through another part of the mine and tell the overman ; I would have no idea of how long he had been engaged on top of the mine before he went down ; when I was working with Turner in No. 5 on the occasion of Taft's absence we were both using naked lights ; several times our lights went out ; Turner's light burnt a little better than mine because it was nearer the leakage of fresh air through the stopping ; my light was extinguished by the choke-damp ; I relit it each time without any difficulty ; there was not any time at which an ordinary light would not light ; we could always relight our lights ; we could always keep our light going ; Turner was better provided than I, as he had kerosene in his tallow.

*By Mr. Bruce Smith* : The pencil writing on the plan C is not mine ; that is the writing about B. Dobb seeing the canvas up ; there is none of my writing on the plan.

*By Mr. Curley* : On the 25th February, 1898, I both put up and removed an obstruction in No. 5 ; I did not regard myself as an official of the colliery at that time ; I was a shiftman, roadman, timbering—anything I was told to do ; I was not doing any mining for coal at that time ; on the 15th February, 1898, I removed an obstruction that had been put up ; I might have stopped at the mine if it had suited me, because my cavil was successful ; I did not stop there, because the part I cavilled had not good air ; that was No. 8 ; I knew it was not good, because I had worked there, and knew that the air was bad throughout that district ; when I say it was bad, I mean it was hot ; it was hot on the main heading, and very hot on the face ; I have read the thermometer records of the check inspectors there on several occasions, and it ranged from 78° to 84° or 85°.

*By Commissioner* : When the light is burning dimly the least movement of the head will put it out ; if the light is not attended to it will not burn properly ; I have never had an experience where my light has gone out and I have been unable to light it again ; that is as far as this mine is concerned ; black-damp is given off more or less in all mines ; with the ventilation in proper order it should be carried off ; I regarded it as unpleasant to work in, and dangerous to health if a man stayed in it for any length of time ; he might work in it for a lengthened period—four or five years—without experiencing any ill effects, and then it would "cook" him altogether ; when I spoke of the ventilation as being bad, I meant it was not sufficient to carry off the gases ; on the first occasion in July, 1895, when I saw the canvas in No. 1 return, I had been sent there by H. Croft to do some timbering ; that was the first knowledge I had of canvas being placed across the airways ; Mr. Dixon used to inspect the mine about every two months ; when I spoke of the course he took through the mine, I did not speak of what I saw myself, but of what was his usual course through the mine ; I have seen him take No. 9, and come back through Nos. 7 and 6 ; after going through 9, 7, and 6, he would come through No. 5 and out of No. 1 ; No. 2 would be inspected on another occasion ; the mine was too big to inspect all in one day ; in inspecting No. 2 he would generally just go into No. 1 and take the in-take ; that was his general custom ; I did not actually see him do that on the 25th February, 1898 ; I looked upon it as a disrating to be put on the night-shift ; the wages were the same, but it was more uncomfortable to work on the night-shift ; I could get my night's rest on the day-shift ; it was on odd dates between 1895 and 1898 that I acted as examining deputy ; I acted for one week at a time when a man named Jones was off ; when I found the air bad, I did not alter the canvas, because it was not my place ; it was the place of the deputy in that district ; I did not ask him to improve the ventilation ; if I had asked him to do so, and it had come to the under-manager's ears, he would have thought I was taking more upon myself than I should have.

*By Mr. Bruce Smith* : I understand the minimum required by the Act for each man, boy, and horse in the mine ; it is 100 cubic feet per minute ; I never troubled to find out the amount of air circulating in No. 8 ; I should think 130 cubic feet of air per minute sufficient to take off the bad air in No. 8 ; I refused my place in No. 8 ; I never made any test to see what amount of air was circulating in No. 8 ; 130 cubic feet per minute would be sufficient for each man, boy, and horse if taken to the places ; I refused my place in No. 8 about the end of last year ; 140 cubic feet of air per minute would be sufficient for each man, boy, and horse if taken to the places ; if not taken to the places, twice that quantity might not be sufficient ; the check inspectors do not measure in the bords ; it is not likely they would do so ; I have seen the check inspectors doing their work ; I would not like to say whether they did their work properly or not ; I have seen the check inspectors' reports ; I do not think their reports are a fair record of the air which the men are getting ; it was impossible for them to give a fair report when the obstructions were placed in the airways as I have described ; I refer to the obstruction I placed there myself ; if all the men in the mine are honest, the check inspectors' reports would be a fair record of the quantity of air the men were getting ; if ten times 140 cubic feet of air were passing, it would not be enough if the air were not pure ; if it were air of the proper sort, it would be sufficient ; I have heard that the holing in No. 8 was not very good ; it was what is called "ginger-bread" ; I do not like "ginger-bread" holing.

*By Mr. Curley* I have passed through the returns in the A pit—of the returns for 7 and 8 ; they had one return for those two districts and No. 9 ; that return was very good ; I also knew the return for No. 1 district ; that was not too good ; when I noticed it last it was closed up ; one could not travel it ; it was practically blocked through a fall of the roof ; that was about the 15th February, 1898 ; I have been through No. 2 return also ; you cannot travel it ; I have been through

through it only to see that the different stoppings were right ; it cannot be travelled owing to the falls and the presence of water in one portion of it ; I should call it a bad return ; I have not been through No. 10 return ; I have not been in it at all ; I have only travelled No. 2 once ; I have been to each end of No. 10 ; it was all right there ; the ends were a long way apart ; I have never been through No. 5 return ; No. 1 district was nearly always filled with men ; there would be from fifty to sixty men there ; that was three or four years ago ; there would be from forty to fifty men in No. 2 district when I noticed the return as I have described.

Taken and sworn at Court-house, Newcastle, this }  
4th day of July, 1899, before me,— }  
C. G. WADE, J.P.

BENJAMIN DOBB.

## [Evidence in reply.]

This deponent, *Benjamin Dobb*, recalled, on his former oath, states :—I do not recollect having a conversation with Newburn at his garden ; I have had no conversation with him for the past year and nine months to my recollection ; I did not tell Newburn that I had got the run about the third pay in the quarter before the last ; I did not say to him, "Have you heard about Weir?" Newburn did not say, "No" ; I did not say, "I'll make it warm for young Croft yet" ; no such conversation took place between us ; I never at any time in 1898 called H. Croft a tyrant and a bully ; I have never spoken to him since the 26th February, 1898.

*By Mr. Bruce Smith* : I live at Merewether ; Newburn lives in Merewether, about three-quarters of a mile from my place ; I do not pass his house on my way to and from work ; I pass his house sometimes ; I do not know that I was on friendly terms with him ; I spoke to him ; I say that I have never once spoken to Newburn since he was deputy ; I have spoken to him over his garden fence more than once, perhaps ; I believe that young Croft was at the bottom of the chain-throwing ; he was there, and took as much delight in it as any of them ; I felt angry with him at the time ; I am not angry with him now ; I cannot say that I harbored that feeling of anger against him longer than the time the thing was actually happening ; I made up my mind to speak to his father about it when I got the chance ; I did not speak to his father until years after, and I had been disrated.

*By Commissioner* : I was not more than two or three minutes in No. 2 in-take when I heard Newburn and Bailey there on the occasion of the canvas being held up there ; it was down to the floor.

*By Mr. Edmunds* : The whole in-take was taken up.

Taken and sworn at Court-house, Newcastle, this }  
14th day of July, 1899, before me,— }  
C. G. WADE, J.P.

BENJAMIN DOBB.

## EXHIBIT L.

THIS deponent, *James Bullerwell*, on his oath, states :—I am under-manager of the New Lambton mine ; I was at one time employed by the Newcastle Coal Company as a shiftman in the old pit ; I was working in the mine about seven months ; I found a small indication of black-damp once, but never reported it to anybody ; I never came across any inflammable gas, nor heard of it from anybody ; I never heard of any other case of black-damp ; I was subpoenaed last week to give evidence on behalf of Bailey ; I was not seen by anybody prior to being subpoenaed ; I was in attendance for two days, and was then told that I would not be required ; I left the mine of my own accord entirely, because I thought I was not being paid sufficiently for the work I was doing ; I asked Bailey why I was called as a witness, and he said something about No. 7 headings, but I could not catch distinctly what he said ; I cannot remember what he said.

*By Commissioner* : I left the mine on 22nd August, 1898 ; I was for three or four weeks acting as examining deputy, and it was during that time that I found the black-damp ; it was in No. 5 pillars that I found it ; it affected the light when I went to the face ; I found a bit of canvas had been knocked down by a bit of a fall ; I re-erected it, and the black-damp was taken away ; there was a good deal of fallen ground about there then ; it was during the latter part of my time that I was examining deputy ; I went down at 3.30 a.m. ; there were men working there then, but I cannot say who they were ; they were working the pillars.

*By Mr. Bruce Smith* : I remember Bailey asking me about five or six weeks ago whether I had found black-damp in the mine ; I refused to answer him ; I have no recollection of his telling or asking me anything about the furnace at the Court the other day.

*By Mr. Curley* : It was about 3 or 4 yards from the face of the pillars that I noticed the indications of the black-damp ; there were two pillars working there ; I noticed the indications in both pillars—about the same distance from the face in each case ; I have a little idea about the affairs of Turner and Weir ; I examined the pillars where they were working some time after they had worked there ; they had finished working there when I began to examine those pillars ; I did not report the black-damp because I found the canvas down and the air was not travelling in as it ought to have done ; when I replaced the canvas it cleared it all out ; I reported "all safe" when I found the black-damp was all out ; my report was made in the morning.

Taken and sworn at Court-house, Newcastle, this }  
12th day of July, 1899, before me,— }  
C. G. WADE, J.P.

JAMES BULLERWELL.

## EXHIBIT M.

COURT of Investigation opened at 10 a.m. on Monday, the 26th June, 1899.

Mr. W. Edmunds, instructed by Crown Solicitor, for the Chief Inspector of Collieries.

Mr. Bruce Smith, instructed by Mr. H. J. Brown, for the Newcastle Company.

Mr. James Curley, on behalf of the Colliery Employees Federation.

This deponent, *John William Bailey*, on his oath, states (*in answer to Mr. Curley*) :—I am a coal-miner ; I have been what is termed fireman deputy in the Newcastle Company's A pit ; I hold a second-class certificate of competency ; I have not brought it with me, but can produce it if required ; it is an under-manager's certificate ; I was last employed as fireman at the Newcastle Company's pit on the 30th March last ; I had held that position for about nine months ; when I went down the mine as fireman I examined the working-places ; that was at 3.30 a.m. ; I made a report in the ordinary report-books ; on the 28th March last I saw gas in the mine ; I saw a little gas at a point about 3 inches from the roof ; I was examining with a safety-lamp ; I reported that in the book ; I reported that I had found the gas, and had put it out and left everything safe ; the document shown me is a correct copy of my report except that the word "front" is in instead of "back" dip heading ; the protest on it is the same as was placed on my report with the exception that the words "as it is not a correct report," instead of "it not being a correct report" [*document put in and marked A*] [*original report now produced and put in evidence as Exhibit B*] ; the report in that book is correct ; I have made a mistake respecting the wording of the report, and that in the protest ; I copied the report and protest from memory ; my evidence regarding the wording of each is incorrect ; this particular heading had a front and back, but sometimes I was mixed as to what was back and what was the front ; I examined both places ; I say now that I saw the gas in the first of the two headings ; the plan shown me is mine, and was drawn by me ; it is wholly mine with the exception of the pencil marks ; I decline to say who inserted the pencil writings [*plan put in evidence on the understanding that the pencil writings are not to be taken as evidence until the person who wrote them gives evidence, plan marked Exhibit C ; witness marks on the plan the spot where he saw the gas on the 28th March last—marked with a cross*] ; I drew that plan from memory ; I did not copy it from any colliery plan ; it is not drawn to scale, but approximately so ; I would term it a rough sketch plan of these particular districts ; the district where I found the gas I call No. 6 dip heading ; I had been fireman in the pillar district of No. 5, No. 6, and No. 1 ; I had been going round the district where I found the gas for six or seven months ; during that time I inspected those headings regularly every morning ; I had seen gas before the 28th March last ; I did not report it in the book ; I reported it verbally and by note to the under-manager—Mr. Croft ; those notes were destroyed by the under-manager in my presence, except the last one which I destroyed ; I cannot remember whether any remarks were made when I handed those notes to the under-manager ; the notes reported that I had found gas and had removed it ; I have seen other notes referring to gas ; I found them in the safety-lamp ; they were hanging between the pillar and the glass of the lamp ;



lamp; that was the lamp I used for inspection; I had those notes in my possession; they were in the writing of William Rendal; he is in the district at the present time; I sent those notes to the Minister for Mines at his request; nobody saw me post the letter forwarding those notes; I posted it at the Newcastle Post Office; nobody saw me drop it into the letter box to my knowledge; I did not enter my report as to the finding of the gas in the report-book, because I was instructed not to do so by the under-manager, H. Croft; it was said to me at the time I took over this gassy place; I said it would have to go into the report-book; he said it would not, that I would have to report it to him; that was about nine months before the date of my discharge; what Croft said to me about not reporting in the books was said on the morning before I took charge of the gassy part of the mine; that was the whole of the conversation as far as I can recollect; I cannot say with any certainty whether it was nine months before my discharge that this conversation took place; it was about eight or nine months; I had been told something by Rendal before I took over this gassy part of the mine; he was night overman; when I went down the mine that morning Rendal was waiting for me; I went with him to a certain part of the mine—down the back narrow bord down the dip to No. 6; I did not examine the place, but immediately started to put up some canvas [*witness marks about the spot on the plan marked with a circle*]; Rendal assisted me in putting up the canvas—about two lengths 12 feet long; the canvas was about 10 or 12 yards from the face when I went there; that would be to the carch; Rendal got that canvas from somewhere.

*By Commissioner:* As far as I could see the place was being worked.

*By Mr. Curley:* I do not know who worked in that particular place; I made this report in the book on this occasion because the under-manager had handed me back my last note, with the report on it, without reading it; after that I made verbal reports to him, and he did not seem very pleased when I did so; the under-manager was H. Croft; he seemed averse to receiving notes and to verbal reports; after I had made my report in the book nobody spoke to me about it until the under-manager came down; I spoke first and told him what I had done; that was on the same morning as I had made the report—28th March; I told him I had found gas in one of the dip headings and had reported it in the book; I forget what he replied; he seemed vexed; I told him to reach the report-book down and read it for himself, and he did so; he made a remark then to the deputies, who had arrived by that time; they were W. Ambrose, W. Yardley, W. Gall; Croft handed the report book to them, showed it to them, and said, "Look what he has done"; I cannot remember if he said anything more than that; nobody else spoke to me about it at that particular time; I then went on with my work; nobody spoke to me about that report on that day; when I went down next morning, about half-past 3, to make my usual examination, I found the under-manager in his cabin cleaning the lamp; he asked me to look at the report-book; I did so, and in it read his protest; I said, "That's it, is it?" and he replied, "Yes"; I then said, "Must I take my own lamp?" and he replied, "Yes"; I meant the lamp with which I made the inspection; that was a Marsaut lamp; I did not notice what description of lamp he had; it was not the lamp I used on my inspection; I asked should I go my own road and he replied, "Yes, call by the furnace"; I there saw Deputy Gall firing up with best coal; I started on my usual round and Gall and Croft followed me round; I went right round my usual rounds; it was about 3:30 a.m. or 3:40 a.m.; I noticed a slight movement of the flame of the lamp; I noticed nothing else.

*By Commissioner:* I noticed the movement in the flame of the lamp in two rise headings, shown in the plan [*witness marks points on the plan with a circle, with a line through it*].

*By Mr. Curley:* The brattice had been rearranged and tightened up in those places since I had been in there the previous morning.

*By Commissioner:* I had seen gas in those places on other occasions, but I cannot say whether I had seen it there the previous day.

*By Mr. Curley:* I made a report in the book on the morning of the 29th March last—the same book as contained my former report [*Exhibit B; report marked Exhibit D*]; when I took over the gassy part of the mine I used to examine every day, and make my reports in the book every day, in accordance with the Act; on the 29th March, Mr. Joseph Croft, the manager, spoke to me; I was sent for about 9:30 a.m. to where I was working to go to the deputies' cabin; I went there and saw Mr. Joseph Croft there as well as Gall, the deputy; H. Croft came up also; there was no one else there; Joseph Croft said to me, "As you're a little deaf, Bailey, we will go into a quiet place; I want to speak to you about your report"; we went up the No. 8 engine-room; about half way up we sat down and he said, "I want to speak to you about that report, as I consider it is not a correct one"; I said, "All right, Mr. Croft"; he had a copy of the Coal Mines Regulation Act and a copy of the Special Rules; I asked him what his objections were, and he said I had not mentioned roof or sides; I said, "I have no need to say anything about roof or sides, because I consider them sound"; Croft said, "Would you consider a small aperture in the roof as a defect?" I said, "No, I take that to mean a roof that is breaking away"; he then proceeded to read General Rule 4 in the Coal Mines Regulation Act, and another out of the Special Rules; I cannot say which of the Special Rules it was he read, whether it was No. 15 or No. 11 [*copy of the Special Rules put in and marked Exhibit E*]; after he had read them I said, "Would you allow me to read them, please?" I read them, sentence by sentence, and at the end of each sentence said to him, "Have I not done that?" I cannot remember his answer, but he finally said, "Well, Bailey, I wanted to keep that word 'car'—and then he hesitated, and his son said, "carburetted"; "I wanted that left out"; Joseph Croft seemed to be in a difficulty about pronouncing the word, and H. Croft told him "carburetted hydrogen"; Joseph Croft then repeated the words "carburetted hydrogen" and said he wanted those words left out of the report; I said, "What will be the consequences if I don't?" he replied, "Oh, nothing"; I then asked, "How must I report this gas?" he replied, "Say there's a little gas, not dangerous"; I then asked him how I should report the black-damp in No. 5 pillars; he replied, "Oh, put black-damp"; Gall interjected during the interview; he was present during the whole of this conversation; Gall said he could blow what gas there was there out; I said I did not want any bluff from him, but straight talk; that, practically, ended the interview, and I returned to my work; when I went down next day at 3:30 a.m. I found Gall firing up at the furnace; he accompanied me round the workings; I saw nothing exceptional that day; I did not see the manager; on the 31st March I received a letter from the under-manager removing me from my position as fireman [*letter produced and put in as Exhibit F*]; I did not go to work as requested in that letter; on Easter Monday I went to Lithgow to see the Minister for Mines; I saw the Minister and spoke to him; I then returned home and to my work; I cannot say when that was; I think I was off three shifts; the work I took up when I resumed was general shift-work at night; I worked at that for about a week; then one evening about 4 o'clock Rendal asked me to go over into the office, and I went with him; we saw Mr. Joseph Croft there; there was nobody else there; we spoke generally about the gas; I can remember saying to Mr. Croft, "Well, what about the man being burnt if there was no gas there?" I cannot remember what answer was made to that; Croft asked me where I had been; I said I had been to see the Minister for Mines and Mr. Atkinson, the Inspector of Collieries; he seemed annoyed, but I cannot remember any answers that were made to my questions in that interview; I left the office, and went to work with Rendal; the next day Rendal told me to go over to the office about 4 o'clock; I went there and saw Mr. Joseph Croft; there was nobody else there just then; he said the deputies would be in shortly; he got up and went outside for a minute; the deputies then came in—W. Newburn, W. Ambrose, W. Gall, and H. Croft; Rendal was not there; Joseph Croft came in about a minute before the deputies; they all sat down, and Joseph Croft said, "I want to speak about the gas and the canvassing business;" there was not much said about the gas; I cannot recollect what was said about the gas, but something was said about the canvas; Joseph Croft said to me, "Who did you see put the canvas up?" I replied, "W. Newburn"; Newburn denied it; I then said W. Ambrose had kept the door open on the No. 8 engine-road; that door is shown on the plan marked C [*witness marks spot on plan—a red line across the blue, close to the words "Wood-door."*]; Ambrose replied, "It's a lie"; they all wanted to speak at once; Newburn called me a traitor; Gall called me a b—— liar; and, finally, Croft, senior, who seemed excited, leaned over the table and shook his fist, and said I was a d—— liar; Joseph Croft said to me eventually, "Well, I'll not have you about the ground"; I asked him if I was to understand I was dismissed, and he said, "Yes"; as I was leaving the office some jeering remarks were made; I cannot exactly remember what they were, but there was one, "What were you dismissed from the Borehole for?" or to that effect; I then left the office, and I have not worked in the mine since; I saw the canvas being put up by Newburn, to which reference has been made by me; that was on the main in-take engine-road going to No. 2 [*spot marked with a red pencil-mark across the blue on the plan*]; that particular case of Newburn's happened about 1895; the effect of putting up the canvas there would be to increase the current of air in other districts of the mine—both in No. 6 and No. 1; I cannot fix the month in which that took place; it was about the middle of 1895; it was done during the daytime; the mine was working on that day when that was done; at that time there were between 300 and 400 men employed in that mine; I understood there were inspectors in the mine when this was done; I think Inspector Dixon was there at the time; I have known brattice to be put up in a similar way in the mine since then; that was about six or seven months ago; I have seen the canvas put up in this way on the only road connecting Nos. 7 and 8 districts; that was, approximately, about seven or eight months ago

[Indicated

[indicated on the plan by an arrow on the blue line ; also a red line across the blue line.] ; I put it up ; I was told to do it by W. Ambrose ; the putting up of the canvas there would practically cut off the air from No. 7 district, and send it down to No. 6 ; I was sent to put up that canvas, but was rather late in getting there ; W. Ambrose was already there, and I assisted him with it ; there was nobody else there ; that was done about 10 a.m. ; when I left the pit bottom at 6:40 a.m. that day the Government inspectors were expected ; I cannot fix the date of this ; I did not see the Government inspectors in the mine that day ; I heard in the office before leaving that the inspectors would be down that day ; I cannot remember whether anybody said anything about their coming that day ; I cannot say what was said to lead me to expect the inspectors would come that day ; someone in the office said they were coming ; the usual deputies were in the office at the time ; nobody took me out of the way on the occasion of which I am speaking ; I saw no brattice put up any other time to turn the air ; the door of which I have spoken as being kept open on one occasion was kept open by W. Ambrose ; that door led to No. 8 district ; that was about the 3rd or 10th March last ; there was a boy looking after that door ; he was with me when this door was kept open ; his name was Harry Jones ; I went up No. 7 headings with him ; I did so in order to be out of the way ; that was an instruction given to me by W. Ambrose ; he told me to take the boy out of the way for a bit ; I was away with the boy for forty-five minutes or an hour ; when I returned the door was open ; when I had left the door was shut, I believe ; I saw Ambrose when I left—at the box about 10 or 12 yards from this door ; the door was shut when I left with the boy to go up No. 7 ; when I came back the boy was with me ; the door was wide open when I came back ; I was told to go away again by W. Ambrose ; I took the boy with me ; I was away about the same length of time as on the first occasion ; when I returned that time the door was shut ; I cannot say who told me the inspectors were to be there that day, nor where I was told ; I was told in the mine.

*By Commissioner :* The visits of the inspectors were generally known to the men before they came ; I cannot say whether their intended visits were known to the management.

*By Mr. Curley :* On one occasion I myself knew of an intended visit by the inspectors ; I know that by being in the under-manager's position that day ; a deputy told me about 6:40 a.m. ; I do not know his name ; he told me that the inspectors were expected that day ; I do not know of any other occasions on which doors were kept open or canvas put up.

*By Commissioner :* Canvas was once put up by Newburn, once by Ambrose, and on one occasion the door was kept open by Ambrose ; those are all the occasions of which I knew.

*By Mr. Curley :* It was within nine months before my discharge that I was told the inspectors were coming ; I have come across black-damp in my inspections ; that was in No. 5 pillars ; the position of that place is indicated by the letters C. o. 2 with a black circle near them ; I know one man who was overcome by the black-damp in the mine ; his name was W. Taft ; I did not see him overcome myself ; I was told of it by the night-overman, W. Rendal ; Rendal said he had had a little trouble on ; he then told me that Taft had been carried out of the mine ; he did not state what was the cause of his being overcome ; he said he had been taken from No. 5 ; he was taken out at night ; that shift began at 4 p.m. ; Rendal said Taft had been carried out of No. 5 ; that was the gist of what he said to me ; Taft's shift would begin at 4 p.m. ; he was engaged in recovering pillars.

*By Commissioner :* That would mean that the headings had fallen in and he and the others were getting them up to lay the road and win the pillars.

*By Mr. Curley :* I cannot remember whether Rendal mentioned at what time Taft had been carried out ; I do not think there were any men working there in the daytime ; nobody inspected those parts of the mine between shifts ; if no men were working there in the daytime, there ought to be some inspection before the shift went in ; nobody did inspect those places ; the notes I posted to the Minister for Mines I found in my safety-lamp ; I have copies of those notes in my possession now ; I copied them myself ; what I produce now is a verbatim copy of what I found in the lamp ; I took particular pains to copy them correctly [paper put in and marked Exhibit G] ; I found those two notes on different occasions ; I put the date on the second note on the day I took it out of the lamp ; I got other notes, but destroyed them ; four or five members of my own family saw me enclose those notes to the Minister, as well as Mr. Dobb ; I have studied the question of gas in coal-mines to some extent ; I have seen references to it by writers ; I regard fire-damp as a very serious matter in a coal-mine ; I was examined with respect to gases when I obtained my certificate ; I have read Pameley on Coal-mining ; I have also read text-books on coal-mining ; I have read Peel on the subject ; I have not studied closely any mines reports ; I have read some of them with respect to this gas ; I read that regarding the explosion at the Dudley mine ; I consider General Rule 4 renders it imperative on my part as a deputy fireman to report the presence of any gas in the mine.

*By Mr. Edmunds :* It was one day during the last nine months of my employment at the mine that I acted as under-manager ; young Mr. Croft had met with an accident to his feet, and I took his place for that day ; I think I only acted for that day ; I was in the mine from 3:30 a.m. till 4 p.m. ; Mr. Dixon did not see me that day ; I have seen him in the course of his inspections ; his duties as inspector would bring him into relation with the under-manager ; if he had inspected during the day I acted as under-manager he would have seen me ; he did not make an inspection of the mine that day ; it was five or six months ago that Ambrose put up the brattice ; I cannot say how often Mr. Dixon inspected the mine ; I have only heard of Mr. Atkinson inspecting the mine once or twice besides Mr. Dixon ; I have seen Mr. Dixon carrying out his inspection of the mine ; I can only recall two occasions to my memory ; nothing was done to interfere with the ventilation on either of those occasions ; I never spoke to Mr. Dixon with reference to what I had seen regarding the door and brattice ; I used to meet Mr. Dixon pretty frequently about that time ; in private life he and I were not at all strangers to each other, and there was no unfriendly feeling between us ; I never mentioned the matter to him, either officially or privately, until I went to the Minister ; I was somewhat doubtful about Mr. Dixon as an inspector of late ; knowing the ventilation in the mine was bad, and that Mr. Dixon was the local inspector, I thought he should have known of the bad ventilation ; I should expect Mr. Dixon to be a man who would not tolerate any interference with his work as an inspector ; I did not report the matters I have spoken of to him because of my want of faith in him ; I have never measured the air-current with an anemometer ; I cannot say on how many occasions I have detected the presence of gas in the mine ; besides the 28th March last I detected gas in the mine on the 21st March last ; I always reported as instructed when I found gas ; I made no written report till the 28th March last ; the opening of the door would not shut off the air totally from another district, but would rob it of some ; that district was No. 6 ; there would be about thirty men there ; I do not consider there was sufficient air for that number of men when that door was opened ; I was absent that day for about an hour and a half or two hours ; the boy was with me all the time ; during that time there would not be sufficient air for the men in that part of No. 6 district ; I knew it was a wrong thing to do—to open that door on such an occasion ; I also considered it was wrong to deprive the men in No. 6 of that quantity of air ; the men in No. 8 district got an increased supply of air by the opening of the door ; this occurred between 9:30 a.m. and 11 a.m., perhaps later than 11 ; I did not see Mr. Dixon making an inspection that day ; I did not think it was my duty to remonstrate with Ambrose about what he had done, as he was a superior official to me ; I did not report the circumstance to anybody above him ; I first mentioned the matter to the Minister for Mines on Easter Monday ; I did not mention any of these circumstances to anyone in authority in the mine, nor to Mr. Dixon, nor to Mr. Atkinson ; it was generally known in the mine when the inspector was coming ; I knew it from general conversation among the deputies ; I may have seen Mr. Dixon there on more than two occasions inspecting, but it is too long ago for me to remember ; I cannot say now whether he did visit the mine to inspect it on the occasions I have mentioned when he was expected ; I have said that when I went inspecting with Mr. Croft and Gall I noticed the flame of the lamp affected ; I called Croft's attention to it ; I told him there was just enough to make the flame of the lamp pucker up ; it only happened the once ; the flame would consume what little gas there was there ; it was just a little flicker ; the puckering of the flame only lasted a moment ; I saw just the same thing in No. 6 rise headings ; I drew the attention of Croft and Gall to it ; each of them had a safety-lamp ; I believe Gall tried the air for gas ; I cannot say whether Croft did ; my lamp was not locked.

*By Commissioner :* I was making the inspection prescribed by the Act at the time ; my lamp was not locked, because the management provided no key with which to lock it ; it was never locked ; the lamps used by Croft and Gall were not locked, as far as I could tell.

*By Mr. Edmunds :* I knew it was my duty to examine with a locked lamp, and that I was committing a breach of the law in examining with an unlocked lamp ; I made no complaint about having no key for my lamp ; I did not ask for a key.

*By Mr. Bruce Smith :* I saw the Minister for Mines personally ; I did not know him personally ; I went all that distance to see him, because I felt the stigma to my name in being disrated ; I thought there were things which the Minister ought to know about the mine ; if I had not been disrated there would have been no need for me to have gone to him ; I went to complain to him about my disrating ; I thought it my duty to let him know all these breaches of the law of which I have spoken in my evidence ; I had some compassion for the workmen who were working in the badly-ventilated mine ; I made no complaint to the Department from 1895 to 1899, and then not until I was disrated ; during that period I knew something about the Act and the regulations under it ; I knew of General Rule 4, section 1 ; I also knew Special Rule 11 ; I was inspecting that part of the mine in which work was going on for six or seven months before the



28th March last; I only reported the presence of gas in the mine on the one occasion—28th March last—as prescribed by that rule; I had met with gas on at least half a dozen occasions before that date; I did not report those findings as prescribed by the rule; I did not report the finding of the gas on 21st March last, as required by the Act; I knew it was wrong on my part not to report the gas in the prescribed manner; I was not prepared to lose my situation; when I was disgraced I went to the Minister and reported the matter; I gave a verbal report of the gas because I was instructed to do so; I remember an interview that took place in the manager's office after the 28th March last, when Ambrose, Newburn, and Gall were present; I cannot remember Mr. Croft saying there was some underhand work going on; I did not tell Mr. Croft that some one had induced me to make that written report; I did not admit to them that somebody had instigated me to make that written report; I cannot tell whose handwriting is in pencil on top of the plan produced—[*Exhibit C*]; I decline to say whose writing it is; I refuse to say whether I know whose writing it is or not; I cannot say for certain whose it is, because I did not see it done; I have seen similar handwriting, but cannot say which of my friend's it is; I cannot say it is that of any certain person; I cannot recognise it as the writing of any particular person; I decline to say whose writing I believe it to be; the writing is familiar to me.

(Commissioner tells witness that he must answer the questions as to writing.)

*By Commissioner*: I have two friends who write like that.

*By Mr. Bruce Smith*: My reason for withholding the name of the writer is that I am not going to divulge my private business here; if I mentioned a name I might fix on an innocent person; I am not going to say who my two friends are who write like that.

(Commissioner instructs witness that he must answer the question put.)

*By Commissioner*: I consider it not right for me to divulge the names of my friends in this matter without their permission; that is where the private business comes in; it may be the writing of Mr. Dobb; I decline to say who the other friend is whose writing it is like; it may be the writing of Mr. May.

*By Mr. Bruce Smith*: Mr. May is an expert mining gentleman; he is a mining lecturer; I will not swear that I did not take the plan to Mr. May and show it to him before I brought it to Court; he saw it before it came to the Court.

Taken and sworn, at Newcastle, this 26th day }  
of June, 1899, before me,—

J. W. BAILEY.

C. G. WADE, J.P.

Court adjourned till 10 a.m. to-morrow.  
Newcastle, 26th June, 1899.

Court of Investigation resumed at 10 a.m. this 27th day of June, 1899, Court-house, Newcastle.

This deponent, *John William Bailey*, recalled, on his former oath, states (*in answer to Mr. Bruce Smith*):—I met Mr. May about 9:30 p.m. yesterday, and was with him for about half an hour; we were talking about things generally in connection with the case; I have known him about seven years as a student in his class; the plan produced [*Exhibit C*] has been prepared about a fortnight; it was copied from an original, which is worn out; I submitted the plan to Mr. May; the plan has been in the hands of both Mr. May and Mr. Dobb; Mr. Dobb's name is mentioned in the pencil-writing; I cannot say if the pencil-writing was on the plan when it was submitted to Mr. May; I asked Dobb this morning if he had put the pencil-writing on the plan, and he said he did not know; it may have been a fortnight, it may have been a month ago, that I submitted the plan to Mr. May; I cannot say exactly when that was done; I considered it a trivial affair, and nothing to remember; I believe I showed the original plan to May; I pointed out small details in the plan to May when I submitted it to him a month ago; I discussed my complaints with him when I submitted the plan; I know that certain correspondence is published in the local paper this morning regarding Mr. May's position in this matter; I have seen that correspondence; that correspondence may have been the subject of our conversation last night; I cannot remember if it was; I cannot remember whether it was; my mind was in such a state that my memory has become affected; I will swear that I cannot remember whether that correspondence formed part of our conversation last night; I will leave it to the Judge and solicitors to say whether I am in a fit state to give evidence this morning as to what took place a week or a month ago; I went over to May's last night as one friend would go to see another; perhaps Mr. May invited me to go; I believe he invited me to go to his house; I think I remember he asked me to go over yesterday morning; he did not ask me after the Court was over to go to his place last night; I did not see him between the time the Court rose and 9:30 p.m. yesterday; I cannot remember whether those letters were discussed between us last night; other details were in my mind, and I cannot remember trivialities like them; I cannot say whether I knew those letters were going to appear in the paper this morning; I was not surprised to see those letters in the paper this morning; I knew Mr. May had them; they might have appeared in to-morrow's paper; I cannot say whether I expected to find them in the paper this morning; I did not arrange with Mr. May last night that they should appear to-day; I have read the letters; I have not compared them with the originals, and cannot say whether they are correctly printed; I have May's letter in my pocket; I cannot say whether May has the original letter I wrote to him of the 19th June; he has not given it back to me; I find I have not May's letter on me; I must have pulled it out of my pocket with my handkerchief.

*By Commissioner*: I last saw it about 10:30 p.m. yesterday in my pocket; I was at home then.

*By Mr. Bruce Smith*: I had my letter to May last night; I had the two together then; it is a copy of my letter to him I am referring to; I have copied all my letters during the last eight weeks; I have not had the original letter from me to May since I sent it to him; I am certain there were original letters to these two letters; I can remember writing that letter; I cannot particularly remember receiving the letter from May; I cannot say whether the printed letters are substantially the same as the originals; I wrote to May: "The Minister for Mines has granted an inquiry into the subject of my dismissal and other matters connected with the Glebe mine"; I wrote those words to May; my dismissal was naturally the first subject I would speak or write of; I placed my dismissal first in order, because I thought it was the proper order in which to put them; I thought it was of first importance; I wrote to the Minister; the letter produced is mine (5th April, 1899); I had seen the Minister when I wrote it; the suggestion spoken of was mine; Messrs. Humble and Bates are Government inspectors; I have seen Mr. Bates once or twice, I believe; all the suggestions in the letter as to the method of carrying out the inspection are mine [*marked for identification—1*]; the writing on the margin of the letter is not mine; I wrote that letter as a full statement of the case to the Minister; I do not mention in it that I had been asked not to report the finding of gas in the mine; I cannot say why I omitted that from the letter; the letter produced (April 15th, 1899) is mine; after my letter of the 5th April the Minister did not ask me to write to him again; when I saw him at Lithgow he asked me to write to him, and I took that to mean I was to write more than one letter; I did not write the words "don't acknowledge" on the letter; I cannot say if in any of my letters to the Minister I spoke of being prohibited from reporting the gas in the books; I wrote five letters to the Minister altogether (5th April, 15th April, 19th April), enclosing the original notes, 10th May, 9th June; I also wrote a letter on the 27th April; I will not say I did not submit the last-mentioned letter to Mr. May before sending it; I cannot remember whether he assisted me in writing it; I was assisted in the writing of the letter, but I cannot say by whom; in that letter I suggested Mr. May as one of the persons to inquire into the matters I had brought under the notice of the Minister. [*Letters of 15th and 27th April marked 2 and 3 respectively for identification.*] When I wrote the letter of the 19th June, appearing in the newspaper, I had spoken to May frequently about my case; May would probably know from the papers that the Minister had granted an inquiry into my charges; I will not swear I had not told May that before; I spoke of my defective hearing in the letter to May of 19th June; I felt that my defective hearing placed me at a disadvantage in the conduct of this case; I expected that May would assist me in the matter before the Court of Investigation; I have not had half a dozen conferences with Mr. Curley over this matter; I cannot say how many I have had with him; I may have had half a dozen conferences with him over this; I cannot say how long these conferences lasted; they may have lasted an hour, or more, or less; I first saw him about the case about a month ago; I cannot say I knew a month ago that Mr. Curley was going to conduct the case on behalf of the miners; I knew it about a fortnight ago; I wanted May to conduct the case for me, because I had a high opinion of his abilities; I nominated May first as one of the tribunal to investigate this case; I did this although I had frequently consulted him about my case; I saw May very frequently; I wrote to him for the ordinary reason that I would have liked him to assist me; I wrote to him instead of asking him verbally, because it was the first thing came to my mind; I have not written to May in connection with this matter, except in that one instance; I cannot remember writing to the Department for permission for May to assist me in this matter; I did not do so, because I wrote to the Minister; I only remember writing to the Department of Mines; I cannot remember writing to the Department of Education for May's assistance in the matter; I cannot remember if I ever asked any Department to allow May to assist me in the conduct of my case; I cannot

cannot give any reason why I did not ask the permission of the Department for May to assist me in the conduct of the case; I first suggested that May should assist me, and first spoke of obtaining the permission of the Department for his assistance; my letter of the 19th June, in which I said, "If I obtain the permission of your Department," referred to the future, I expect; I did not apply to the Department because I was waiting for the answer from Mr. Cook; I expected a letter from the Department of Mines saying I could have May's assistance; the date of my last letter to the Department was 9th June; the letter shown me is that letter; I think the sentence in the letter, "I think you will give me fair play," refers to my request for May's assistance in the conduct of my case; I have no record of any later letter in my list; Mr. Curley was one of the deputation, and five Members of Parliament; I cannot name any other letter written by me in June; I believe the letters published in the newspaper this morning were written before yesterday; I will not swear they were; I cannot swear they were not written yesterday; I will swear I received a letter from May bearing date 20th June, 1899; I will not swear I received the letter published of that date; I will not swear I wrote the letter of 19th June, as published; I did not compare it with my letter; May and I spoke last night about the case—about what had transpired during the day in the Court; we spoke of the evidence that had been given; I cannot remember any details of our conversation last night; I cannot remember whether those published letters were discussed between us; I believe my memory is reliable enough to be taxed with questions as to occurrences of three months ago; I will not swear I did not write a letter in the words of the published letter, and dated 19th June; I cannot remember whether I did or not; I cannot swear whether May wrote a letter yesterday, dated 20th June.

*By Commissioner:* I believe I asked May last night if he had written on my plan; I cannot recollect any conversation between us as to the letters of the 19th and 20th June.

*By Mr. Bruce Smith:* I did not show the note on the plan to Mr. May yesterday; it was to ask him about that writing that I went to see him; I believe I asked him if he had written that note; I believe he said he had, but I cannot say definitely nor give the words he used; I understood him to say he had written the note; I cannot recognise any other writing of May's on the plan. [*Witness reads pencil note on the plan.*] I do not know how May knew that Dobb had seen the canvas stopping on the 18th July; I cannot say that I did not tell him of that; he may have seen Dobb; when the copy of the report-book was put in my hands yesterday, I said there were two words in it that were not correct; I wrote the letter dated 20th June [*marked 4 for identification*]; I cannot say whether I received a reply to that; I did receive such a reply [*marked 5 for identification*]; I look at the report in the book [*Exhibit B*]; it is correct that when I first wrote the report it concluded with the words "all safe" and that the writing which comes under the printed matter was not put in at that time; I afterwards took up the book and said, "I am not satisfied with that report, I am going to add something to it"; I then wrote in that portion referring to the finding of the gas; I prayed many a night for strength to put those words in, but had not the courage to do so until then; I found that courage because I asked God to help me to do my duty; I did not go through the formality of kneeling to pray, but I certainly asked God to assist me between the time of writing the first part of the report and the addition; I cannot say whether I have ever told anybody that I wrote that report at two different times; I felt I had been signing a lie; I did not make any additions to my former reports as to the finding of gas, because I could not; I had only one report for each day; I did not find sufficient gas to make it worth reporting after that date; there is enough gas to make it worth reporting when the light gives a blue cap; I cannot remember saying yesterday that I ever saw a blue cap to the flame; there was a blue cap on the 28th March last; I cannot remember whether I said anything about that in my evidence yesterday; I remember two occasions, which I mentioned yesterday, when the light was affected; there was no blue flame on either of those occasions; therefore, in my opinion, there was not sufficient gas to make it worth reporting; that is why I did not report it; I do not think I said yesterday in my evidence that I did not report them because I had been prohibited from doing so; I detected gas various times before the 28th March last, I cannot say how many; I saw the blue flame on three or four occasions; on those occasions I reported nothing in the book but all safe; I reported the gas verbally; I reported the finding of the gas on the 28th March last because the ventilation in the mine was getting worse and worse; I believe the ventilation of the mine was in its worst state in January, February, and March, this year, and perhaps two or three months prior to that; it was as bad in March as in January and February, speaking from memory; I did not test the air with a thermometer or anemometer during those months; my opinion of the state of the air is practically guesswork; the men in the mine have the privilege of checking the ventilation in the mine; I know that there should not be less than 100 cubic feet of air for each man in the mine; if 158 cubic feet of air for each man, boy, and horse in the mine were supplied it would be sufficient if it went to the faces of the working places; I consider No. 8 district was insufficiently ventilated; 188 feet per man, boy, and horse were sufficient if the men got it at the face; 180 feet would be sufficient under such circumstances; I had doubts about the ventilation in No. 8 district; when I was examined with regard to the report yesterday, I said the copy was all right except that the word "front" was used instead of "back"; I remember meeting Ambrose, Yardley, and Gall on the morning of the 28th March last; I do not remember telling Gall that I had got mixed about the back and front; I cannot say whether I told him that it was in the back I had found the gas, although I had said the front in the report; it was the front heading going in; there always used to be a misunderstanding between Rendal and myself as to the front and back headings in that district; I remember the two occasions after the 28th March on which I saw the flame move in the lamp; Gall was with me at the time; I told him the flame was moving the lamp; he said he could not see it; I then replied, "Oh, it's exhumed"; I cannot say those were the particular words I used; I think I said it was consumed; I meant that the light had burnt it and given off its product; I gave that as the reason for his not seeing it, there was such a slight quantity of gas present; I said yesterday that when I had the last interview with Mr. Croft, the others present jeered me, and asked me why I was dismissed from the Borehole?; that referred to a circumstance at the Borehole Pit in which I was concerned; I may have mentioned it to the men below; I spoke yesterday of cases in which the canvas had been tightened up; those places had had canvas there before; it is a common thing for the canvas to sag and become loose through the action of the atmosphere; I spoke yesterday of being sent away from the door with the boy Harry Jones; it is not a fact that I asked Gall to allow the boy to go with me to put up some canvas; I did go with the boy and put up a piece of canvas; we were told to go and put in our time somewhere out of the way; I said nothing yesterday about putting up canvas; I am certain I was sent away from the door twice; I cannot say that nobody took the boy's place while he was away; I found Ambrose there when I came back; when I went back the second time the door was shut; I only remember seeing Ambrose at the door when I went away with the boy; I will swear it was Ambrose and not Gall there when I went away; I obtained my information regarding Taft from Rendal and Taft himself; I only knew what happened to him from what he and Rendal told me; I missed Taft from his work the next day; I did not mention Taft yesterday as one of my sources of information with regard to his accident; I have said that I missed Taft from his shift; he was on the night-shift, which ended at 1 a.m.; I went on at 4 p.m., and knocked off at 1 a.m.; I cannot be sure whether I missed Taft myself, or whether I heard it from someone else; I remember the interview I had with Mr. Croft in the presence of Messrs. J. and H. Croft and Gall on the 29th March last; Ambrose was not there; I did not see him there; I did not hear Mr. Croft, senior, say, "There is something behind the scenes that caused you to make that report"; I did not reply, "Yes, there is"; I said, "Some time ago a man was burnt"; I cannot remember if Croft asked me who it was; I may have said it was Anthony Wear; I cannot remember if I said, "He and his friends have been talking over the matter, and say I ought to have reported finding the gas"; I do not remember Croft saying, "Whether you found it or not?" and I replied "Yes"; I did not hear Croft say, "I have lost confidence in you."

*By Mr. Curley:* I know Wear; I never saw him till the 20th May last; Mr. Inspector Dixon said something to me on one occasion at the Coal-mines Office; it was suggested that I should see Mr. Keightley; Mr. Dixon asked me would I see Mr. Keightley; Mr. Atkinson asked me would I see Mr. Keightley; I replied, "No, what would be the use, the man would not be put on oath"; Mr. Atkinson said I could have Wear, Abell, and one or two others to support me; that they would have the deputies there, and if I proved that they had done this thing they would be dismissed; Mr. Atkinson asked me at the "Great Northern Hotel" to write to him; he said, "Write me a reply"; I cannot remember whether Mr. Atkinson told me that he had informed Mr. Croft of my statements; I saw the Minister with reference to the notes which I say are missing; I saw him at the Mines Department; I said I had sent the notes on as he had requested; he said he had not received them; on one occasion Mr. Atkinson was present; I asked Mr. Atkinson if he had received them; he replied, "Why do you ask me, Bailey?"; that seemed to be his reply; as far as I recollect that was his answer; I have brought my certificate with me to-day [*letter forwarding certificate put in evidence as Exhibit H*]; I obtained that certificate by examination in Newcastle; I was examined by Messrs. Humble, McCabe, and Kater; I have been a practical coal-miner for twenty-four years; I have worked in mines in England, Australia, and New Zealand; I have worked in the North Staffordshire district in England in Earl Granville's mines; there was fire-damp in that colliery;

I worked there for two or three years; I also worked for the Chatterleigh Coal and Iron Company in England; there was fire-damp in that mine; I worked there about four years; I also worked in another pit of Earl Granville's in England; I have worked at the A. A. Co.'s mine, the Burwood, the Newcastle Coal Co.'s, and the Corrimal mine in this Colony; I worked at the A. A. Co.'s mine for two or three years and for about the same time in the Burwood; about three months at the Corrimal; I have worked at the Newcastle Co.'s mine about seven years; my experience in and about mines extends over a period of twenty-four years; I was three or four years outside mines; I believe gases were one of the subjects of my examination; I consider carburetted hydrogen is a dangerous element in mining, even in small quantities; I have read other works besides Peel's and Pameley's on mining.

*By Mr. Edmunds:* I am 36 years of age; I saw the Minister about the 3rd April last; I saw him again on the 18th April, I believe; that was at the Mines Department; he asked me to send him the notes Rendal had left; that was at the interview on the 18th April; Mr. Atkinson told me that Mr. Keightley was prepared to inquire into the matter, and if he found any of the employees of the mine to be in fault to dismiss them; he asked me if I had complained to Mr. Keightley about the injustice of my dismissal; he may have said that he thought it was the proper course for me to complain to Mr. Keightley and see what he would do; he seemed favourable to my complaining to Mr. Keightley in the first instance as a proper and reasonable course to take at first.

*By Mr. Bruce Smith:* The notes I have been refreshing my memory with are copied from a diary I kept; I have kept it since March last—since my dismissal; the notes are condensed from that diary; I never kept a diary before March last.

*By Commissioner:* I cannot say how many times I saw gas in the company's mine; it would be from six to ten times; that was when examining as a deputy; I think I saw the gas only when I was examining; I was never employed at cutting coal in the mine; when I saw the gas I usually tightened up the brattice, sometimes I extended it; I generally cautioned the deputies to carry the brattice well up to the face; they generally did so, but latterly, in my opinion, became negligent; I have seen a permanent blue flame on the lamp; that was on the 21st March last; I reported that verbally; I reported in the book "All safe"; I reported the finding of the gas verbally to the under-manager, H. Croft, about an hour or an hour and a half after finding it; there were men working where I found it; they were working there when Croft came down; I left a note for the manager that morning; I spoke to the deputies about it about an hour after I had reported it to Croft; I cannot recollect the names of the deputies; I considered there was fire-damp in that particular place; I know General Rule 13; I considered there was not enough gas for the men to see or be injured by after I had removed it; the gas lasted momentarily; it took the light away that time; I should say there was 7 or 8 per cent. of gas there; there may have been more or less; I had seen a permanent blue cap on previous inspections; that would be some time between last March and June, 1898; the effect of opening the door that I have spoken of would have the effect of decreasing the quantity of air in No. 6 district; that would have an ill-effect on the men in No. 6 district by robbing them of their proportion of air; I took no steps to see if they were suffering from any ill-effects; when the canvas was put up between Nos. 7 and 8 districts the air was cut off from No. 7 district; there were twenty or more men at work in that district at that time; there was a general feeling that there was not sufficient ventilation under ordinary circumstances; I took no steps to find out whether the men in No. 7 were put to any inconvenience by putting the canvas across on that occasion; I do not know who the check inspectors were; there have been check inspections between June, 1898, and March last; I made no complaint to them about the bad ventilation; I did not consider it my duty to do so; I thought I would eventually risk dismissal or disrating if I did so; I was on friendly terms with the check inspectors as far as I know; they are men chosen by the miners themselves for the purpose; I knew there was black-damp in the mine; I cannot say whether the falling of the roof would release black-damp; the ground where I saw the black-damp might be called rise and fall ground; I had been to the place where Taft was injured, but could not say how long before his accident; the conditions may have changed in that time, but from the nature of the work I should not think so; when I corrected the report of the 28th March it did not occur to me to alter the report of the 21st March; I would not alter a report that had gone by; I consider a report gone by when the under-manager comes down and takes charge; when I spoke to Mr. Croft on the 28th March and 29th March I told them of the gas I had found on the 21st March; I believe I mentioned it to Mr. Croft at the interview in the engine-room on the 29th March last; I would probably say I had seen a blue cap on that occasion; I believe a Marsaut lamp would show as low as 2 per cent. of the gas, or even less; I knew that the inspectors make a custom of examining the deputies' report-books when they inspected a mine.

*By Mr. Curley:* I knew that by seeing their signatures on the reports; I cannot say what dates I saw those.

*By Commissioner:* It was in one of the dip headings in No. 6 district that I saw the gas on the 21st March last, but cannot say which; I believe it was the first that one comes to on going in; it was about 5 or 6 feet from the face, and about 3 inches from the roof; I did not measure any of the distances; as soon as I saw it I commenced to remove it by means of the canvas; there was sufficient current of air to remove it after I had canvassed up.

*By Mr. Curley:* From my knowledge the ventilating furnace is damped down at the week end.

*By Mr. Smith:* I can swear to that.

*By Commissioner:* I am speaking of eleven months ago now; it has not happened to my knowledge since then.

*By Mr. Curley:* I did not go to see the furnace every morning when I was going on my inspections; I occasionally went there to do so; one of the three firemen deputies usually went in to see the furnace; the shift of the furnaceman would end about 1 a.m.; I do not think there was anyone then to attend to the furnace till the fireman deputy went down at 3:30 a.m.; I have fired up the furnace myself; there was nobody there then.

Taken and sworn at Newcastle, this 27th }  
day of June, 1899, before me.— }

J. W. BAILEY.

C. G. WADE, J.P.

This deponent, *John William Bailey*, recalled, on his former oath, states (*in answer to Mr. Bruce Smith*):—The original plan from which *Exhibit C* was made was destroyed by me; it was drawn on thin paper, and was of no use through rough handling; I tore it up; I prepared the original plan wholly; I would not swear to the pencil writing on the top of the plan, unless I saw the man writing it; I have said it was written by Dobb or May probably; I have heard Dobb say he did not write it; I think it is Mr. May's; I do not know when he wrote it; I cannot tell when he had the plan in his possession; it may have been a week, a fortnight, or a month ago; I took it to his house; I cannot say how many times I have had it in his house—not half a dozen, I think; I cannot say if I had it there three times; possibly I did; probably I left it at his house; to my knowledge he did not write that on the top of the plan while I was with him; I expect I gave him the information about Dobb to enable him to write it; when I went to the Minister at the "Great Northern," I did not know any of Dobb's dates; I gave him the dates of Dobb's incidents after the deputation had waited on the Minister at the "Great Northern"; the deputation was on the 30th May last; I do not know when I gave May Dobb's dates; I forget whether I gave him those dates in writing or verbally; I may have written down the evidence of one or two witnesses, and gave it to May; I think it was Alfred Johns' evidence that I gave to May; I took Dobb's evidence in writing, and then told May of it; I may have given May Johns' evidence in writing afterwards; I forget whether I took down Dobb's evidence in writing; as far as I can remember, I told May Dobb's evidence verbally; I gave May the evidence of no other witness to my knowledge; I cannot say for certain when I prepared the plan; I am not sure whether it was prepared on the date of the deputation; I have made three sketches with more details on than that produced. [*Exhibit C.*] It was the original of *Exhibit C* that I showed to May, and not the original of any other sketch; I cannot say when I first spoke to May about this inquiry; it was about a fortnight after I had received Croft's letter disrating me from the position of deputy fireman, that I gave May information about the black-damp and other matters in the mine; it was on the morning of Good Friday—31st March—that I got the letter from Croft; I cannot say how long after that I consulted May about the facts of this inquiry; it may have been a fortnight or more; it was soon after I had received the letter from Croft; I consulted him as a pupil would a teacher; I have taken no note of the number of times I have seen May between that time and the opening of this inquiry; perhaps I have seen him a dozen; I will not swear I have not seen him twenty times between those dates; everything on the plan produced [*Exhibit C*] was put on it by me, except the writing in pencil on the top; I will not swear I made that plan in May's house; I think I did; probably May was present when I made that plan; I cannot say whether I have any blue-ink in my house; I think I have red-ink in my house; probably I have used red and blue ink in May's house; the only use I would have for those would be to prepare a plan; I can mention no other plan that I made in May's house; I will not admit that that plan was made in May's house; I cannot remember talking the plan over with Mr. May in his house as I made it; I can remember going to Lithgow on the 3rd April last; some things are burnt in; I can remember meeting the Minister, and the room in which I saw him; I do not remember what

what papers I had with me ; I cannot swear positively whether I made that plan in May's house ; just now I cannot remember that ; perhaps, after other things have worked off my brain, I may remember that clearly ; May may have had red and blue inks in his house ; I believe I have seen my children using other inks than black ; I recollect distinctly writing the letter marked l for identification in my house ; if my memory serves me right, I wrote it in my own house ; I do not think I showed it to May ; I will not swear I did not ; I do not remember May suggesting the "surprise inspection" mentioned in it ; I will not say he did not ; I do not think that letter was shown to May before being sent to the Minister ; I will not swear it was not. [*Letter put in evidence, and marked Exhibit.*] I cannot say whether I showed the letter marked No. 2 to May before I sent it to the Minister ; I may have done so or not ; I cannot recollect whether I told May I was going to write to the Minister before I wrote to him ; I cannot swear whether May advised me to write to the Minister ; I had other people advising me to write to the Minister ; my whole family were doing so. [*Letter put in evidence, and marked Exhibit M.*] On the 27th April I wrote to the Minister suggesting a tribunal, representative of the Department, the owners, and the miners, and suggesting that May should be the representative of the Department ; I cannot recollect whether, at the time of writing that letter, I had consulted Mr. Parton about my case ; I will not say I had not ; the Robertson referred to in the letter was Dr. Robertson ; I cannot say how long I had been consulting May about my case when I wrote to the Department suggesting him as one of the tribunal to try the case ; I cannot say how many times I had seen May at that time ; I will not say I had not seen him a dozen times ; I cannot say I did not show May the letter in which I mentioned him as the Departmental representative ; I told May I had nominated him as one of the tribunal after I had written that letter ; I cannot say whether I told him of it before I wrote the letter ; I will not say that May did not ask me to nominate him ; I do not think I showed May that letter before I sent it. [*Letter put in evidence, and marked Exhibit N.*] I do not recollect writing any of the four letters shown me in May's house ; I will not say I did not or I did ; as far as my recollection goes I wrote them in my own home ; I cannot carry all things in my head ; I can carry in my head all the facts about the gas and other happenings in the mine ; that is because they have to do with this investigation ; those four letters are trivial things in my estimation ; it is a trivial thing in my estimation that May should have been consulted about my case, and then nominated by me as one of the persons to try the case ; I see nothing reprehensible in that. [*Letter put in evidence, and marked Exhibit O.*] [*Letter marked 5 for identification now put in evidence, and marked Exhibit P.*] I wrote to May on the 19th June last ; in the previous month I had had numerous verbal communications with him ; I cannot think of any other communication that I put into writing and sent to May ; I will not admit that I sent Dobb to May's house ; he may have met him in the street for all I know ; if Dobb says I sent him to May I will admit I did ; I had seen May several times about this case, and had sent the witness Dobb to see him ; I may have sent him to May in connection with some facts in the case ; I wrote to May to inform him what I was going to do in face of the fact that I was seeing him frequently about that time ; I do not think I had asked May to conduct my case before I wrote that letter published in the paper ; I cannot recollect whether I had or not ; I produce the letter sent to me by May, and a copy of my reply to it. [*Both letters put in evidence and marked Q.*] Before the 20th June last, May had assisted me along with others ; I remember a deputation waited on the Minister for Mines at Newcastle on the 30th May last ; May's letter to me (Q), bears a water-mark "New smooth ivory" ; I did not give May that paper ; my letter of 5th April is written on the same paper ; that of 15th April (M), is written on the same paper ; *Exhibit N* is also written on the same paper ; I wrote to the Minister on my own paper ; I have a book of that paper at home ; I always took it to be the same paper ; as far as I recollect I got my paper on which my letters to the Minister were written from my own book at home ; I believe I got May's letter to me (Q), through the post ; I will not swear so ; I cannot recollect whether he handed it to me ; the paper on which the letters are written is a popular one, and there is a good deal of it about ; I cannot say where I got my paper ; the Minister spoke in a low tone to the deputation, and I could not hear one-quarter of what he said ; I did not know the name of the boy who had opened the door at the time the deputation waited upon the Minister ; I believe the Minister said I had declined to give the name of the boy ; I had declined to give the name of the boy because I did not know it ; as far as I can recollect I said I had reasons for not divulging the name of the boy ; my reason was that I could not divulge it—I did not know it ; the report in the newspaper shown me is a correct report of the words I used ; I have said that Croft, junior, destroyed my notes regarding the finding of gas in the mine ; I cannot say how many notes there ; I can remember two ; I gave them to Croft, junior, immediately he came down ; I cannot be certain there was anyone else present at the time I gave them to him ; I think, S. Jones, one of the firemen, was present when he burnt one ; I destroyed one myself ; I believe young Croft was in his own cabin at the time I gave him the two notes, I can recollect ; he burnt them by his naked light in the cabin ; I believe S. Jones was present at the time he burnt one ; the two notes comprised in *Exhibit G*, were on separate pieces of paper ; they were put in the lamp on different occasions, some days apart ; the date 9/3/99, was put upon the back of the second note by myself ; I found the second one in the lamp ; I wish to qualify my evidence by saying that I do not remember giving May the note-paper on which is letter to me is written ; I may have been given the cartridge-paper on which the plan is drawn by May ; I will not swear I was not given it by him, or that it was.

Taken and sworn at Court-house, Newcastle, this }  
5th day of July, 1899, before me,— }  
C. G. WADE, J.P.

JOHN W. BAILEY.

Adjourned till 9-30 a.m. to-morrow. Court-house, Newcastle, 5th July, 1899.

This deponent, *John William Bailey*, recalled, on his former oath, states (to *Mr. Bruce Smith*) :—I have said that the under-manager seemed averse to receiving notes ; I have also said that he gave me instructions not to report in the book ; I do not think anyone heard him give me those instructions, unless the furnaceman heard him ; he told me that near the furnace ; he spoke in a tone loud enough for me to hear him ; I suggested there should be a written report ; I did not report in the book because I feared disrating ; I made the notes about the gas in order to have a record of it that I should not forget it ; when the under-manager came down at 6-30 a.m., I handed him those notes ; he took them from me, and destroyed the first in the lamp ; the second he handed back to me without looking at it, and I tore it up ; as far as I can recollect S. Jones would be present, but whether he saw or heard what went on I do not know ; he was an old man, and only half-awake on the occasions when the under-manager told me not to report in the book, destroyed the note, and handed back the note to me ; I cannot fix any time for these occurrences ; I always seemed to feel that S. Jones was present ; perhaps others were present ; those others would be the day deputies—Ambrose, Gall, and Yardley ; the note was handed back to me by the under-manager in the cabin ; the note was burnt in his cabin ; it seemed to me that he seemed averse to receiving the notes considering he handed them back to me ; that is my reason for using that phrase, "He seemed averse."

*By Commissioner* : It was about eight months prior to last April that the under-manager told me he did not want the reports put in the book ; it was in January or February last that he handed me back the note.

*By Mr. Bruce Smith* : I knew that it was my duty to report the finding of gas in the book ; I knew that I was breaking the Act in not doing so ; I did not take a note of this because I considered Special Rule 15 met the case ; I had reported the finding of the gas to the under-manager, and thought I was protecting myself in that way ; I was fairly safe under that rule.

*By Commissioner* : I know that General Rule 4 was the rule that ought to have been complied with in connection with the finding of the gas on inspection.

*By Mr. Bruce Smith* : I knew Special Rule 11, and knew that I was infringing that rule in not reporting the gas in the book ; I have said that on the 29th March, in going round, I saw the flame of my lamp move ; young Croft and Gall were with me, and very close to me ; it is a fact that after I had made that addition to my report I was followed round on my investigation for two days ; I did not report the flickering of the flame on that occasion because the quantity of gas was so small that it was not worth while reporting ; there was no blue cap to the flame ; I knew the general rules very well twelve months ago ; I could give the forty-eight of them off without any hesitation ; I knew them pretty well when I saw the flickering of the lamp ; I did not report the gas then because there was no blue flame ; I stayed away from the mine three days after the 29th March ; I did not ask for permission to do so, but sent a note to a shiftman, to be given to the night overman, to say that I would not be at the pit that night ; I cannot say which night of the three that was ; I do not know what date I sent the note ; that is the only communication I sent about abscenting myself from the mine for three days ; I have said in my evidence that they heard in the office that the inspectors were coming that day ; that was said in the overman's cabin ; all the deputies would be there—Ambrose, Yardley, and Gall ; I do not know which of them mentioned the coming of the inspectors ; if I have said that the visits of the inspectors were known to the men, I meant to the officials ; I consider the deputies necessary to the management ; by the "men" I mean the deputies ; I have said that within

within nine months of my discharge I was told of the inspectors' coming ; I cannot say which of the deputies told me that ; as far as I know the three deputies were present ; I am certain one of them was present because he was the source of my information ; I was under-manager on only two occasions, and this happened on the first of those occasions ; probably May gave me the cartridge-paper on which the plan is drawn ; I cannot say whether I carried that paper from May's house to mine before the plan was put on it ; probably I drew the plan on it at May's house from my original ; to the best of my belief I drew the plan at May's house.

*By Mr. Curley :* I have attended May's class as a student ; I have studied under May off and on since 1895 ; I have attended his classes at the Technical College ; in those classes I have had to draw plans ; I have always been intimate with May since attending his classes ; Dobb attended the same classes as I ; I have been intimate with May since before 1895 ; I believe I have been in May's house before this case came up ; I cannot say how often ; when I took charge of the gassy portions of No. 6 district I took particular care to examine for gas in making my examinations ; I cannot say when I first discovered the gas there ; I found it several times ; I did not report it in the book the first time I found it ; I believe it was before I found the gas there that I was told not to report it in the book if I found it ; the under-manager gave me those instructions ; when I went to May I went as a friend ; I believe I told Dobb about the instructions I had got not to report gas in the book ; Dobb lives about half a mile from me ; he was working in the mine when I was working there ; I occasionally met and conversed with him ; I always marked my letters which have been put in evidence "private" on the envelopes ; I cannot say definitely whether I saw Mr. Parton about this case or not before I asked for him to be one of the tribunal to try the case ; to the best of my belief I had not seen him at that time. [*Letter 22nd June put in, marked R.*]

*By Mr. Edmunds :* When I put the word "private" on the envelopes enclosing my letters I thought they would be regarded as confidential, and that they would not turn up in this inquiry, and that, although I was a witness in this inquiry, sworn to tell the truth and the whole truth.

*By Mr. Bruce Smith :* I did not know two months ago which Department May belonged to.

*By Commissioner :* I examined the place where I believed Weir was burnt a few hours after he was burnt ; I believe that I found a slight cap there, but would not swear so ; I was not inspecting-deputy of No. 5 when Taft was overcome ; I was not in that district when Taft was there ; I knew where Taft and Turner were working in No. 5 at night ; I have every reason to believe I inspected that place, but cannot be certain ; I have found black-damp there ; it varied in quantity ; I have found a large quantity there ; I did not report it in the book, but verbally to the under-manager and the deputy, Gall ; I was inspector in No. 1 pillars during the first quarter of this year, when Watts was working there ; I cannot say that the ventilation in No. 1 was good ; it was indifferent, and called for a remedy in my mind ; I did not remedy it ; I always told the under-manager or Gall when I had any reason for complaint.

Taken and sworn at Court-house, Newcastle, this }

6th day of July, 1899, before me,—

C. G. WADE, J.P.

J. W. BAILEY.

Dobb's exercise-book now put in evidence, and marked *Exhibit S*. Dobb's note-book now put in evidence, and marked *Exhibit T*.

Mr. Bailey's case is now closed, and evidence on behalf of the Department is now called.  
Court-house, Newcastle, 6th July, 1899.

This deponent, *John William Bailey*, recalled, on his former oath, states :—I recollect the meeting at the office on the 14th April ; to my knowledge I never used the words in the office to Newburn, "I can have you—can't I get a friend to come and swear that he passed under the canvas while we were holding it up" ; I did not use those words ; I did not say that I had my notice in my pocket ; I did not mention the name of either the Minister for Mines or the Chief Inspector with regard to my notice ; I did say that I had my notice written out ; Ambrose never charged me with being asleep while at my work ; on the second occasion I went away with the boy Jones ; Ambrose did not ask me if I had put up the canvas ; I did not reply no ; he did not say, "Go back and put it up" ; he did not ask me if I had canvassed the gannin bord ; he did not ask me the next morning why I had not canvassed the gannin bord, nor did I reply, "I was laying some rails."

*By Mr. Bruce Smith :* It was at the end of the interview, on the 14th April last, that I said I had my notice written out ; I am sure I did not say to Newburn, "I can have you, Newburn" ; my reason for saying I did not say it is that I do not recollect it ; if I had said it I would recollect it ; I had not my notice in my pocket at the time ; it was written out, but at home ; I had written it out because I was indignant at the treatment I had received ; I will swear I did not say, "I have my notice in my pocket" ; I said I had written it out ; I did not say that the Minister had told me not to hand it in ; possibly the Minister may have told me that ; I cannot remember whether he did or not ; he did not tell me in definite terms ; I may have told him that I was going to send in my notice, and he may have said, "I would not do that" ; I will swear Ambrose did not tell me of three bords when he sent me away with the boy on the 3rd March last ; he told me to go into the back heading of No. 7, and if it wanted a length of canvas to put it up ; I did it with the boy ; he did not ask me the next morning why I had not bratticed the gannin bord in No. 7 ; I can remember that distinctly ; I can remember that next morning he did not tell me that I ought to have bratticed it ; I am quite certain I was never told that ; Ambrose has never complained to me about canvas while I was under him in his district ; I can remember that he sent me away to put up some canvas in No. 7 ; that was why I went away from the door ; Mr. May has spoken to me about going into the witness-box ; he has not asked me to call him, nor have I asked him to go into the witness-box ; May showed me a note the other day which he said he had sent to Mr. Brown, asking to be put in the witness-box ; I do not know how many times I have spoken to May since I was examined as a witness ; I may have spoken to him twenty times since then.

*By Commissioner :* I did not inspect No. 5 at all at the time Taft was overcome ; I inspected that district afterwards ; I was in No. 2 in-take about half an hour holding up the canvas ; no train passed during that time ; some trains may be half an hour away, some less ; a train might be delayed ; there were no trains moving about when I was sent away with the boy Jones ; the train would not come through that door ; the wheeler would ; none came through while I was there ; I had a conversation with the manager and Rendal on the 13th April last ; I never mentioned Taft's case to the manager, nor black-damp.

*By Mr. Bruce Smith :* I have been to May's house three or four times since I gave evidence ; I stayed there from twenty to thirty minutes each time.

*By Mr. Curley :* I never saw the key produced (Marsaut) before yesterday ; I never saw that key in the cabin when I was using the safety-lamp ; I was never told that key was there ; I do not remember telling Inspector Atkinson definitely that Bullerwell had been dismissed for reporting black-damp ; I said it was my opinion that he had been dismissed for that reason.

*By Mr. Edmunds :* Mr. Atkinson took a note of what I said ; I saw him doing it ; he read it over to me afterwards ; and I said it was correct ; I think Mr. Atkinson gave me the book, and left it for me to read while he was out ; what is written in the book shown me is not what I read over then.

*By Commissioner :* I said it was my opinion that Bullerwell was dismissed for reporting black-damp.

*By Mr. Edmunds :* I remember starting to read that book at the page shown me, and I read on all that Mr. Atkinson had written ; the only fault I have to find with that report is that Mr. Atkinson did not put down that I gave it as my opinion why Bullerwell was dismissed.

Taken and sworn at Court-house, Newcastle, this }

14th day of July, 1899, before me,—

C. G. WADE, J.P.

J. W. BAILEY.

#### EXHIBIT F.

MEMORANDUM from Colliery Office, The Newcastle Coal-mining Company, Ltd., to Mr. J. Bailey, Merewether.

Dear Sir,

30 March, 1899.

I intended to see you personally this morning—but missed you coming out—to say that I have arranged with Mr. Jones, who is working with Mr. Rendal's gang, to take your place as deputy or examining deputy in Nos. 1 and 6 district, and you to take his place. There will be no alteration in your rate of wages. See Mr. Rendal about time he wants you to go down on Monday night.

Yours, &c.,

J. CROFT.

[Copy.]



[Copy.]

## ANNEX TO EXHIBIT M.

The Newcastle Coal-mining Company's Colliery—"A" Pit.

Deputy's Report.

28 March, 1899.

I HAVE this day examined, as required by General Rules, Coal-mines Regulation Act, 1896, all working places and roadways where workmen are to work or pass, in No. 1 and 6 District, and found all safe.

I found a small quantity of gas (carburetted hydrogen) in front dip heading, No. 6 District. Removed it, and left all safe.

(Signed) J. BAILEY.

I protest against this report; it not being a correct report.—J. CROFT.

## EXHIBIT N.

THIS deponent, *Arthur Johns*, on his oath, states:—I am a miner, a brother of Alfred Johns, the former witness; I am employed by the Newcastle Coal Company; I am working in the B pit now, but have worked in the A pit; that was in January last; I worked there from January to March last; I worked there till the beginning of March last; I was in No. 6 district; the place in which I worked was called the back dip heading; I have seen flashes there; I do not know whether I have seen fire-damp there; I have seen the flashes there with the lamp against the roof; that was at my own lamp; I first noticed that about the beginning of the quarter, January; the first flash I saw spread for about 2 feet or a yard; it was not far; Codwell was working with me at the time; it was about 9 or 10 a.m. that I saw this flash; I have seen such flashes twice in one shift; the second time I saw it it was similar to the first, it flashed at the roof; the flame spread about 2 or 3 feet on that occasion; during the quarter I saw those flashes several times; Gall was the deputy for that district at that time; Wilson's name was on the board as I went in in the morning; I have spoken of these flashes to Gall; I reported the first one to him as soon as he came in; I told him there had been a bit of a flash in there, and he said it was nothing; I never saw Wilson during the shift; I cannot say whether Wilson was the examining deputy at that time, but his name was on the board; I am sure it was his name on the board; I did not report any of the subsequent flashes to the deputy or any one else; I saw no variation in the flashes; they were all about the same; I have been in the employ of the Newcastle Company about six or seven years; I have worked in Nos. 1, 2, 7, and 8 districts in the A pit; the ventilation in No. 1 was right enough when I was there; it was right enough in Nos. 2 and 7, but in No. 8 it was bad; it was very close in No. 8; it is two years since I worked in No. 8; I complained to nobody about the air in No. 8; I did not go to the manager about the flashes I saw; I only spoke to Gall about them, and to no other official of the mine.

*By Mr. Edmunds*: I suppose I had fired a shot within an hour and a half of seeing the flashes I have spoken of; I could hear no hissing or other noise in the coal; only for the flash I would not have known there was any fire-damp there at all; Gall was in charge of the workings at the time; I did not know that Rule 73 required me to report every time I saw it; I have not read the Special Rules; I was mining in a bord when I noticed the air bad in No. 8; the air was carried into the bord by brattice, which was taken as near to the face as reasonable.

*By Mr. Bruce Smith*: I have not troubled to read the Rules, nor do I mind a bit of gas as long as it does not hurt me; I have seen the Rules posted up the mine; I believe there is a copy in my house; when I spoke to Gall about the first flash I just mentioned to him that there had been a bit of a flash; I did not say how much it was; he said it was nothing; I did not tell him it was 2 or 3 feet long; I cannot remember exactly what I did say to him; I did not mention the other cases to him, because I did not think it necessary; that was because no notice had been taken of the first one; no brattice had been put up in the bord as a consequence of my complaint; I had asked Gall several times to put the brattice further up; my mate was present when I asked him to do that; I was not nervous on account of the flash I had seen; I did not know that it was Wilson who had written his name on the board; his name was there, but somebody else may have put it there; I never took the trouble to complain to anybody else about the gas or the brattice; the brattice was within 2 or 3 yards of the face when I asked for it to be taken further up; I wanted it within 4 feet of the face; we had to "soldier" up the coal there; if it fell it fell out about a yard; the coal was about a yard above the holding; it was about a yard above the canch and about a foot below the canch; the coal does not fall more than 3 feet out when it falls; the seam is about 4 feet there; if the canvas were taken to within 4 feet of the face there it might not be injured when a shot was fired; I have asked Gall to take the canvas closer than 2 or 3 yards from the face; he said he would see to it; I never told him that I wanted it within 4 feet of the face; I have never spoken to Bailey about seeing this gas, nor to Mr. Curley; neither of them knew until to-day that I had met with this gas; I did not speak to Mr. May about it; I have spoken to several of my fellow-workmen about it; I had no fault with the ventilation anywhere I was, except in No. 8, where it was close; that was two years ago.

*By Mr. Curley*: I mean 4 feet was the full height of the coal seam where I was working, from floor to roof; the band is left up.

*By Commissioner*: The bord is high enough for me to work in without stooping.

*By Mr. Curley*: We have what are called "little tops" there; that is the first section from the floor; morgan follows; the little tops are a foot thick, and the morgan is 8 or 10 inches; then follows 4-inch coal, then 10-inch "first lift" they call it; then follows the big top, about 2 feet 6 inches thick; then comes the band, about 2 feet 4 inches or 2 feet 6 inches thick; the first portion of the band was worked, then it was altered to what is called "gingerbread"; we used timber there; the props were 6 feet 6 inches or 7 feet long; that was during the first part of the quarter, but it was altered after the first two months; when I asked Gall to put up more brattice he did not do it the same day; he did it afterwards; it was done the next morning; I did not see more than one deputy's board in No. 6; I saw nobody else's name there but Wilson's.

*By Commissioner*: The flashes occurred two or three times during the quarter—twice on one day, and once on another day a fortnight or three weeks after; I was standing on the canch at the time, and my light would be against the roof; I was pulling coal at the time; I did not see any flash any time after the brattice had been put up closer.

*By Mr. Curley*: My mate, Codwell, was present when these flashes took place.

Taken and sworn at Court-house, Newcastle, this }  
5th day of July, 1899, before me,—

C. G. WADE, J.P.

ARTHUR JOHNS.

## EXHIBIT O.

THIS deponent, *John Atkinson*, on his oath, states:—I am a miner at the Newcastle Company's mine; this quarter I am in No. 6 district, last quarter in the B pit, and the quarter before that in the No. 1 pillars; Price was our wheeler when in No. 1 pillars; I remember him making a statement when we were in No. 1 pillars; he had gone out for a train, and on returning, he said he had seen a canvas across No. 1 road, and a man with a prop on it to keep it down; that when he had got through the canvas, he said, "Hello, what game's this?" I suppose Dixon's in No. 2; the first time I see Dixon, I'll tell him about this, that the man had said, "For God's sake don't, or we'll be all gaoled"; the ventilation in No. 1 pillars was very hot; I was on the No. 1 pillar; I never measured the air; there was a current of air coming in, but it was very hot; it was vitiated air; I have found the air in other places in the A pit not so good as I would like to see it, but I have never made any complaints about it; a good few quarters ago in No. 1 district it was not good; the headings were very long, and there were a number of men in them; there must have been thirty or forty men working in them at that time; I am speaking of my own particular place, when I speak of the air as not being what I would like to see it; I cannot speak of any other place where the air was not good.

*By Commissioner*: I have never considered the air too bad to work in wherever I have been.

*By Mr. Edmunds*: I have always been able to keep my light burning; when I speak of vitiated air, I mean the life has gone out of it; I called it vitiated, because it was hot; Price told us it was Jarvis at the canvas; he did not say he was actually holding down the canvas, but that there was a prop on the foot of the canvas holding it down; the pillars we were taking out were only 14 yards long; the air must have circulated right up to where we were to a certain extent; there was no brattice there.

By

*By Commissioner* : I could not feel the air moving at the face, but when I went out to the end of the pillar, it moved the flame there, but would not at the face.

*By Mr. Bruce Smith* : I have been over twenty years in the Newcastle Company's mine ; I have had nothing to complain of in respect to the air during the whole of that time ; if I had, I certainly should have done so ; I have never known when a Government inspector was coming into the mine ; I have never known anyone else to know either ; I felt no difference in the air on the occasion of which Price told us when the canvas was put across the No. 1 road ; I did not see any canvas across the road, either going in or coming in ; Jarvis was a shiftman ; I never mentioned the matter to anybody.

*By Commissioner* : The pillars I was working were a long way off the fault.

*By Mr. Curley* : I was sitting at the end of the pillar when Price made this statement ; we were all having our tucker ; Johns was there at the time ; Watts was there also.  
Taken and sworn at Court-house, Newcastle, this }  
4th day of July, 1899, before me, — }  
C. G. WADE, J.P.

JOHN ATKINSON.

Adjourned till 9:30 a.m. to-morrow.  
Newcastle, 4th July, 1899.

#### EXHIBIT P.

THIS deponent, *George Watts*, on his oath, states :—I am a miner employed in the new pit of the Newcastle Coal Company ; that is the B pit ; I have worked in the A pit with Alfred Johns ; I worked with him the last three-quarters ; we worked in No. 6, then No. 1 pillars, then in the B pit ; Price was out-wheeler when we worked in the No. 1 pillars ; I recollect on one occasion when Price came into us, he asked us what we thought he had seen when he went out ; we said we did not know, and he said he had seen the brattice all across No. 1 ; that the shiftman was behind the brattice ; that he had asked the shiftman what it was for, and that the shiftman had replied, "There's too much air in No. 1" ; Price then said, "I know what it is for, the inspector is in No. 2" ; I left then, and heard no more ; the ventilation generally in the pillars was very bad ; I mean in No. 1 pillars ; I mentioned it once to the deputy, Gall ; he replied, "This place is grand ; there are worse places than this" ; I was working No. 2 pillar in No. 1 district at this time ; I worked the whole quarter there ; it was a little better at the commencement of the quarter than afterwards ; when we started the quarter, we could feel the air coming up to within 3 or 4 yards of where we started ; as we got further in the air got warmer ; as we finished the pillar, we felt the air getting warmer ; I could only put in about an hour and a half, when I would feel tired, and have to go back to where the air was better, leaving the skip half full ; on one occasion the two of us came back ; my mate said he was getting tired, and advising that we should go back and have a sit down ; all the way from the spot where we could feel the air coming to us, I found the air bad ; I could not say the air was good, even at the commencement, but we could feel a little of it ; there was an old cut-through just near that, and the air was drafting through the stone just there ; this bad air lasted for six or eight weeks ; I have worked in all the districts of the A pit ; about eight quarters ago in No. 8 the smoke was very slow going away ; I cannot say whether the ventilation was bad ; I was working with a man named John Roderick ; that lasted for a few weeks ; I worked in No. 6 the last quarter of last year ; I cannot say the air was bad there in the headings ; there was plenty of air there, but, in my opinion, a mistake was made when they cleared the gob to bring the road from the old bord ; the air was obstructed, and did not come up to us ; they heaped the dirt up the wrong way ; that lasted the whole quarter ; it was not like that when I commenced the quarter ; this defect lasted for eight or nine weeks of the quarter ; I can say nothing about any other district ; the bord in which I worked in No. 6 was No. 77 ; that was in the last quarter of last year ; Johns was working with me at this time.

*By Mr. Edmunds* : William Gall was the examining deputy for the No. 1 pillars ; I think Bailey was the officer to inspect the places before the men went to work ; I think Wilson was the officer to do that work in No. 8 when the smoke hung about in the manner spoken of ; in No. 6, the last quarter of 1898, Bailey was the officer to do that work ; I found no fault with the air in any of those places when I commenced work each day ; in No. 1 pillars we felt it very warm when we went into work in the morning, and very little air there ; the air was not brought up to our working place ; we were 3 or 4 yards from the air when we started, and about 20 yards when we finished ; there was no brattice put up there ; no provision was made to bring the air up to the working face where we worked, as far as I could see ; all the bords on the way in had fallen, and were closed through the falls ; I cannot say how many bords we were in ; I can say there was no air in there when we went in in the morning ; there was no way for the air to get out if it got in ; I complained to Gall about it, but only the one complaint ; I did not complain to anyone else ; I knew that the law required that my place should be properly examined, and steps taken to provide me with a proper amount of fresh air.

*By Commissioner* : There were no open bords on the road to where I worked in No. 1 ; they were all fallen bords on either hand of us as we went in ; I guessed there was a cut-through near where we worked, because I could feel the air drifting through the stone ; you could put your hand in the cracks in the stones ; that was near where we commenced work in that pillar.

*By Mr. Edmunds* : We worked right away from that cut-through as we went along ; in No. 8, where the smoke hung about eight quarters ago, the air was not good when we commenced our shift ; for about three weeks that lasted ; our lights were not affected, but we could hardly see each other in the bord on account of the smoke ; I heard that a hard heading was being worked at the time ; I did not complain about the air, but about the smoke not getting away ; I complained to the deputy about the smoke ; I have never complained to Bailey about the state of the ventilation in No. 6 ; I mentioned it to Gall ; the air was blocked from where we were working in No. 6 for eight or nine weeks ; we very seldom saw Bailey there ; he would examine before we went down to work, and Gall would be there while we were working ; I pointed out the heap of dirt that was obstructing the air to Gall ; he merely said, "Damn my rags," and there was no more about it ; I knew of the check-inspector's visits from time to time ; I never mentioned any of these defects to any of them ; I do not remember having seen the check-inspectors down while I was on No. 1 pillars ; I never complained to any of the check-inspectors about any of these defects, nor to any of the Government inspectors.

*By Commissioner* : I saw Mr. Dixon in the No. 6, while this gob was built up as I have described.

*By Mr. Edmunds* : I was working 15 yards from the current of air when Mr. Dixon was in there ; there was brattice there after we had driven our cut-through into the next bord ; it was there when Mr. Dixon was there—about 6 yards from the face ; he came right down to where the skip was ; the brattice was close on to the skip ; the smoke was slow in getting away at that time, and I guessed by that that the air was insufficient.

*By Commissioner* : The smoke hung about there, but not so badly as in No. 8.

*By Mr. Edmunds* : I did not see any ill-effect on the light, nor feel any ill-effect myself in that place, but judged the air was bad from the manner in which the smoke hung about.

*By Commissioner* : I remember Mr. Dixon was in No. 1, in the pillar, while I was working there, and the air was bad ; we were in about 10 or 15 yards at the time.

*By Mr. Edmunds* : We were 10 or 15 yards from the air then, and there was no brattice there ; Dixon came up close to the skip, and asked how we were getting on ; we replied, "Middling" ; I believe the under-ground manager was with him and the deputy, Gall ; I do not remember having seen a Government inspector in No. 8 while I was there.

*By Mr. Bruce Smith* : I think I have been in the Newcastle Company's mine for ten years ; the occasions I have spoken of are the only ones of which I have had to complain ; there was no smoke about No. 1 pillars, but the feeling of tiredness ; that did not happen every day, but occasionally ; I had never seen a brattice at the spot in No. 1 spoken of by Price ; I did not see it that day when we went out ; I never saw it at all ; I did not notice any difference in the air coming to me ; I would not have known the air had been interfered if Price had not told me of it ; I felt no ill effect from it ; I am not afraid to complain about anything I have cause to complain of, as a rule ; I was not afraid to tell Mr. Dixon of what I had seen when he came into our place ; he could see for himself what was there ; I never knew when any of the Government Inspectors were coming into the mine ; I never knew of anybody else knowing beforehand of their visits ; in No. 8, where the smoke hung about so much, there were men in the bord each side of us ; perhaps we would fire four shots a day, sometimes two, and sometimes one ; it was from the thickness of the smoke—the difficulty of seeing each other—that I judged the air to be bad there, not from any feeling I experienced ; I pay 1s. 6d. a fortnight towards the expenses of the check-inspectors ; they are supposed to see that the mine is supplied with the quantity of air prescribed by the law ;  
that



that would be in the interests of the men ; I have seen the reports of the check-inspectors, but do not think they are a fair report of the air supplied to the men as they took the air at the intake and not at the working faces ; I brought that up at a meeting one night, and the check-inspector said it was the custom to take the air at the intake and then divide it ; that was at the quarterly meeting before the last one, about three months ago ; I think Richardson was the check-inspector who said that ; it would be about fourteen weeks back ; I took particular notice of the report for No. 1, as I had been working there that quarter ; they gave it as over 500 cubic feet of air for each man, boy, and horse ; I knew that quantity of air was not coming to me at the pillars ; I do not know whether the thermometer reading was given on that occasion as 71° ; I know it was hot ; I have taken no steps to have the practice of making the check-inspection in this way altered. I proposed that an alteration in the method of inspection should be made, and it was discussed, but my proposal was not carried ; when working in the pillar I have noticed that the lamp would not burn so brightly in the face as further back, where we had the air ; my light has gone out, but I have lit it again.

*By Mr. Curley :* At one time the check-inspectors used to go round once a month, but lately have gone round once a quarter ; between the two pits it would take them three days to go round ; they are paid 9s. a shift, I believe ; including shiftmen, I should say there were 500 men in the mine ; when I spoke of the 1s. 6d. a fortnight I meant the total levy made for the lodge for everything, not for the check-inspectors alone ; when I challenged the check-inspector's report on the occasion referred to I said there were not 500 cubic feet of air for each man, boy, and horse, but that there was not enough air to bend the flame of the lamp.

Taken and sworn at Court-house, Newcastle, this }  
4th day of July, 1899, before me,—

GEORGE WATTS.

C. G. WADE, J.P.

### EXHIBIT Q.

THIS deponent, *Alfred Johns*, on his oath, states:—I am a miner employed by the Newcastle Coal Company ; at present I work in the B pit ; I have worked in A pit ; that was the quarter before last ; I was there the quarter before that also ; before that quarter again I was working shift work ; I have worked in the two pits for about seven years, but cannot say how long in either ; I have worked in all the districts in A pit getting coal ; I can hardly say who my wheelers were ; I have had different wheelers ; Price was my wheeler in No. 1 ; that was in the first quarter this year ; Price has made a statement to me [*this as an issue for the Commissioner*] ; Price went out one day, and when he came back I and two others were sitting down ; they were John Atkinson and George Watts ; we were waiting for skips ; he told us that he had been out to No. 1 turn ; that when he had got out there it was bratticed right across ; that he had got through the brattice and asked the shiftman who was putting it up what game did he call that ; that the shiftman replied, "There's too much air going into No. 1" ; that he (Price) replied, "I know what's the matter ; John Dixon's in-by ; I'll tell John Dixon the first time I see him" ; that the shiftman replied, "If you do you'll get us all into trouble, that's all" ; that Price replied, "What is it worth to say nothing about it?" and the shiftman replied, "You'll have to see Bert about that" ; Bert was the under-manager ; that was all that was said about the brattice ; I did not see Inspector Dixon in the colliery that day ; I saw Inspector Dixon in that district once during that quarter ; I worked on the night-shift ; I noticed the furnace once while on that shift ; I worked night-shift something under six months ; on one occasion I had occasion to pass the furnace, and saw that it was banked down.

*By Commissioner :* That would be during the third quarter of 1898.

*By Mr. Curley :* What I mean by the furnace being banked down is that too much coal had been put on at once, and it was not blazing brightly ; I cannot say what time I saw this ; sometimes there would be twenty-eight or twenty-nine men on shift work at that time, but sometimes three or four less ; on one occasion, about the second quarter in last year, I noticed the ventilation very bad where I was working at the coal ; that was in No. 7 district ; I was breaking away a bord, taking away the first facing on the main in-take ; the powder-smoke would hang about there all day.

*By Commissioner :* There were three bords breaking away, and there be two or three shots for each day ; they were not fired at the same time, but at different times during the day ; sometimes there would be more than two or three shots, sometimes less.

*By Mr. Curley :* I did not speak to the management about this bad ventilation ; I may have mentioned it to the deputy, but cannot be sure ; that was the worst case in regard to the ventilation that I know of.

*By Mr. Edmunds :* If the place Price referred to had been bratticed right across it would have interfered with the air coming to me at my place ; there were four pillars working in that part at that time ; that would be eight men and the wheelers ; when we were working the pillar the air was always hot ; I did not notice any change in the air about the time of Price's conversation ; if it was bratticed right across it would have stopped all the air coming to us ; that would have been noticeable to all the men in that district ; nobody went out to see what was the matter ; there was no commotion or disturbance about it among the men ; the eight men working there were the two Prouds, John Roderick and his mate, John Atkinson and his son, and my mate and myself ; in the latter part of the quarter Price did the wheeling for the lot of us ; I am not sure whether he did for the first part, because Atkinson came from another part ; he was wheeling for me all that quarter ; what I mean by the first quarter would be between the first cavil and the second ; the ventilation in No. 7 remained bad pretty well all the time I worked there ; I did not work all that quarter, as I was under medical treatment for pneumonia ; I worked there for several days, and it was bad all that time ; I cannot say how many days I worked there ; I have never heard of the intended visit of an inspector ; I never knew Mr. Dixon was coming till I saw him there ; when I went to work in No. 7, when the ventilation was bad, the air was not all right when I went back to work, but seemed misty ; I believe Wilson was the deputy for that district at that time.

*By Mr. Bruce Smith :* The shots in No. 7 were fired at different times during the shift ; the ventilation is much better there since ; it became better not long after the time I have spoken of it as being bad ; I may have complained about the bad ventilation, about the bad air, but not to the Manager ; I had no hesitation in complaining to the deputy ; it was remedied a good while after, but not at the time ; it was not in consequence of any complaint of mine that it was improved ; I forget the deputy's name ; he went as overman to Dudley ; it was my place to complain to the deputy ; I only noticed the furnace on the one occasion I have spoken of during the whole seven years I have been in the colliery ; there was too much coal on it ; it was neither at the beginning of the shift nor at the end of it that Price told us about the brattice being put up ; it was about the middle ; I did not notice it when I was going out if it had been there ; it was not there when we went in nor when we went out ; I noticed no difference in the air at the time Price spoke to us, nor at any time during that shift ; if it had been closely bratticed I would have observed a change in the air as well as the other men ; I do not think the brattice had been put up close ; I was first spoken to about giving evidence in this case about a couple of weeks ago ; Bailey spoke to me about it first ; he came over to me and spoke of it ; his brother was talking to me at the time ; I will not swear his brother did not speak to me about it before Bailey ; the instance of bad ventilation that I have given of the smoke hanging about was the worst case I knew during the whole seven years I have been there ; I do not remember any other occasion when I spoke to a deputy about the bad air ; I have never been afraid to speak to a deputy about the air ; notwithstanding that, I have only spoken to him once during the whole seven years of my employment.

*By Mr. Edmunds :* (Witness states the spot at which he understands Price to have said the canvas was hanging was on No. 1 in-take in by the turn) ; the heading would be about 12 feet wide, I think ; the whole bord was a narrow bord ; it was 6 feet high ; it was just timbered just near the turn and just past it.

*By Mr. Bruce Smith :* If the brattice were as I understood it to be it could have been seen from the main engine road.

*By Commissioner :* The effect of placing that brattice there would be to send the air straight down into No. 2 district.

*By Mr. Bruce Smith :* The last time I came out of there there was no brattice at the turn there ; there had been one there during the quarter ; it was just wide enough to let the skips pass.

*By Commissioner :* It was not brattice placed at the turn, but a wooden fixture ; it did not come right down to the floor ; there was room left for the skips to pass ; it was put up while we were working there.

*By Mr. Curley :* I was sitting just outside the pillar when Price spoke to us on the occasion referred to ; Price was away a bit longer than usual, because he had to go out to No. 1 turn to order his train.

*By Commissioner :* We had just begun a bord when I saw the smoky air of which I have spoken ; there was no cut-through while I was there ; we were only 3 or 4 yards in when I left off work there ; it was the third bord in the face of No. 7 front heading.

*By*



No. 2 left hand in-take, 10,000 cubic feet per minute	T H	74
No 99 pillar in-take, 5,760 " " "	T H.	75
Average for 60 men, 7 boys, and 5 horses, 138 cubic feet each		
No 1 straight in take, 11,340 cubic feet per minute	T H	74
No 1 left hand in take, 41 pillar, 7,325 " " "	T H	75
Average for 40 men, 3 boys, and 3 horses, 146 feet each		
No 1 right hand in take, 23 pillar, 4,000 feet per minute	T H.	77
No 22 pillar, 2,700 cubic feet per minute	T H	75
Average for 24 men, 2 boys, and 2 horses, 146 feet each —T H.		
No. 1 in take, 7,670 cubic feet per minute	T H.	75
Average for 30 men, 2 boys, and 2 horses, 222 feet each		
Returns —No 1 return, 7,500 cubic feet per minute	T H	77
No 1 straight, 9,360 " " "	T H	77
No 1 left hand, 7,300 " " "	T H	75
No. 1 right hand, 3,640 " " "	T H.	77
No 2 right hand, 8,900 " " "	T H	76
No 2 left hand, 9,960 " " "	T H.	76
No 3, 10,560 " " "	T H	74
The amount of air passing up furnace shaft, 158,760 cubic feet per minute	T H	80
<i>A. Pit</i> —February 16th, 1898		
No. 1 in take, 14,080 cubic feet per minute	T H	75
No. 16 pillar, 3,675 " " "	T H	79
No 20 pillar, 2,900 " " "	T H	79
Average for 22 men, 4 boys, and 3 horses, 347 feet each.		
No 2 main in take, 15,860 cubic feet per minute	T H	74
No 2 left hand in take, 8,520 " " "	T H.	75
Average for 38 men, 3 boys, and 3 horses, 193 feet each		
No 2 right hand in take, 7,340 cubic feet per minute	T H	76
Average for 36 men, 4 boys, and 4 horses, 166 feet each		
Nos 5, 6, 7, and 8 in takes, 17,920 cubic feet per minute	T H	75
Nos 5 and 6 in takes, 9,350 " " "	T H.	76
No 87 pillar, 4,320 " " "	T H.	76
No 95 pillar, 9,190 " " "	T H.	77
Average for 48 men, 6 boys, and 6 horses, 155 feet each		
No 7 and 8 in take, 6,350 cubic feet per minute	T H	75
No 126 pillar, 2,850 " " "	T H.	79
No 132 pillar, 2,700 " " "	T H	79
Average for 34 men, 3 boys, and 3 horses, 158 feet each		
No 9 in take, 1,428 cubic feet per minute	T H.	77
Average for 6 men, 1 boy, and 1 horse, 178 cubic feet each		
Returns —No 1, 11,760 cubic feet per minute	T H.	78°
No 2 left hand, 8,500 " " "	T H	78
No 2 right hand, 5,760 " " "	T H	75
Nos 5 and 6, 15,875 " " "	T H	78
Nos 7 and 8, 6,280 " " "	T H	79
No 9, 1,394 " " "	T H.	78
The amount of air passing up furnace shaft was 96,430 cubic feet per minute	T H	79
Remarks —We found the air ways and travelling roads in good condition, and a good supply of timber on the various flats.	(Signed)	{ THOMAS HARDY, GEO. CLAPTON, Check Inspectors.

## EXHIBIT T

*Check Inspectors' Report of the Newcastle Coal-mining Company's Collieries, taken March 9th, 10th, and 13th, 1899.*

<i>A Pit</i> .—No 1 in-take, 5,040 cubic feet per minute	T H.	71
Average, 8 men, 1 boy, 1 horse, 504 feet each.		
No 2 main in take, 18,000 cubic feet per minute	T H	73
No 2 right hand in take, 9,500 " " "	T H	76
No 7 pillar, 3,996 " " "	T H.	78
No. 39 pillar, 5,220 " " "	T H.	76
Average for 50 men, 5 boys, 5 horses, 158 feet each		
No. 2 left hand in take, 8,500 cubic feet per minute	T H	76
No. 63 pillar, 5,040 " " "	T H	78
No. 66 pillar, 6,588 " " "	T H	78
No. 73 pillar, 6,930 " " "	T H	78
Average for 48 men, 5 boys, 5 horses, 146 feet each.		
Nos 6, 7, and 8 main in takes, 22,960 cubic feet per minute	T H.	70
No. 6 in take, 10,152 " " "	T H	78
No 86 pillar, 5,280 " " "	T H	79
No 74 pillar, 8,330 " " "	T H	80
Average for 46 men, 4 boys, and 4 horses, 188 feet each.		
No. 7 in-take, 5,950 cubic feet per minute	T H	75
No. 113 pillar, 2,880 " " "	... T.H.	76
Average, 24 men, 3 boys, 3 horses, 198 feet each		
No 8 in take, 6,850 cubic feet per minute	T.H.	78
No 134 pillar, 4,500 " " "	... T.H.	79
Average for 32 men, 3 boys, 3 horses, 180 feet each		
No. 9 in take, 2,000 cubic feet per minute	T.H.	76
Average for 11 men, 2 boys, 2 horses, 133 feet each		
Returns ( <i>A Pit</i> )—No 1, 5,310 " " "	T H.	78
No 2 right-hand, 8,050 " " "	T H	76
No 2 left hand, 9,850 " " "	T H.	78
No. 6, 14,960 " " "	T H.	76
No 7, 9,310 " " "	T H.	78
No 8, 10,080 " " "	T H.	80
No. 9, 2,700 " " "	T H.	80
Air passing up furnace shaft, 101,440 cubic feet per minute.		

[Then follows *B Pit* takings]

We found the air ways and travelling roads in fair condition, and a good supply of timber on the various flats

J RICHARDSON,  
JOHN McNAMARA, } Check Inspectors

## EXHIBIT U.

THIS deponent, *Alfred Ashley Atkinson*, on his oath, states—*I am Chief Inspector of Collieries; I produce a plan showing the whole of the workings of the A pit of the Newcastle Coal Company; it is the record tracing which the Department keeps in accordance with the Act; as fresh surveys are made they are recorded on that plan; the plan shows the state of the mine up to a month ago; the mine is an extensive one, and presents various features with regard to the ventilation; it is being worked in two different directions; it is one of the oldest collieries in the Colony; it is one that presents varying difficulties in the matter of ventilation; the pillar districts would present the greatest difficulties in the matter of ventilation; that is common to all mines; the difficulty arises from the fact that it is more difficult to concentrate the air upon a given point in the pillar workings, because the strata have been disturbed in consequence of falls brought about by the removal of the pillars; the strata are always, more or less, in a state of disturbance when a pillar has been taken out, consequently it is more difficult to keep the stoppings tight; it is very common, also, to have more fire-damp in broken workings than in old workings, and it is much more common to have black damp in the broken workings than in the whole workings.*

*By Commissioner.* When I use the term "broken workings" I refer to the removal of the pillars

*By Mr. Edmunds.* The difficulty in concentrating the air in these broken workings is brought about by there not being any fast side in removing the pillar; in working a bord we would have the two fast sides, but in removing the pillar we would have two open sides and three times the area to concentrate the air upon; my first visit was made to the mine towards the end of 1897; it was more in the nature of an introductory visit, shortly after my arrival in the Colony, and for my information as new officer; we went down A pit, up the No 6 main engine road, through the pillar workings of No 6 and No 5, and the pillar workings of No 1, down No 1 main road, and out to the shaft again, on that occasion everything in the districts which I visited seemed to be satisfactory as regards the ventilation and working of the mine; my next visit was on the 28th February, 1899, with some Victorian friends; my first actual inspection of the mine was made on the 17th March last; there is generally some special cause for my inspections of the mines; on this occasion I was accompanied by Inspector Dixon; we went into No 9 district first and examined the whole of the working faces in that district; then we went up the return to the No 8 district, and visited the places in No 8, and came out by No 8 main heading; thence to the shaft; I directed particular attention to the condition of the ventilation on that visit; in the No 9 district the air was measured at a point marked A on the record plan; that point at that time was the face heading; the air there measured 2,640 cubic feet per minute; there were nine men, two boys, and two horses in that district, giving an average of 203 cubic feet for each; I also made inquiries of the miners whom I met as to the ventilation; they were satisfied with the ventilation in that district, and said they had been so for that quarter; that was the last week of the quarter, so that the men I saw had been there the whole quarter; from No. 9 we went to No 8; there were fifty four men, four boys, and four horses working in that district; we measured the air at a point marked B on the office plan; that would be at some distance after it had left the last man in No 8 district, there were 8,250 cubic feet per minute there, representing a supply of 133 cubic feet per minute for each man, boy, and horse; I examined all the working places in No 8, and, with one or two exceptions, the system of ventilation was satisfactory, in those cases the brattice was not near enough to the face; it was 8 yards from the faces; in such a mine I consider the brattice should be taken to within 5 or 6 yards of the face, two men also complained to me that they could not get brattice they had asked for; they said they had asked on three days before they could get any; I inquired into that complaint of the deputy who was responsible for the district—Ambrose; he denied the statement of the two men; the miners generally said that they got brattice whenever it was required; it was in reply to my inquiries that they told me this

*By Commissioner.* The effect of keeping the brattice too far from the face would be to cause smoke to hang about after a shot; I considered the ventilation was sufficient, but I found the air rather moist and hot in places where the brattice was short.

*By Mr. Edmunds.* Two of the miners said there was plenty ventilation, but that it was rather warm; I did not find the temperature anywhere unsafe for men to work in; I have seen the check-inspectors' reports, and have been through the mine myself, although I have not taken the temperature; I should say, however, it would vary between 75° and 80° in some places; I have never seen an instrument with which one could measure the air in the face unless there was a very strong current, or unless one took means to contract the current of air; there is not sufficient velocity in ordinary cases; an estimate can be made by the deflection of the flame of a lamp; continuous practice makes a man a very good judge of that, and he can go within a few feet of guessing exactly the amount of air passing; that amount can afterwards be checked by the anemometer by contracting the space in the face for the air to pass through

*By Commissioner.* The anemometer will not measure the air going into the bord just at the turn of the bord unless the area is very contracted.

*By Mr. Edmunds.* On the 17th March last I examined the workings of No. 8 and the No. 6 intake; on the 24th March last I again inspected the mine; prior to doing so I had received a certain communication and I went partly with a view to make a check on my former inspection; I visited the mine probably the day after receiving the communication; I would get to the mine about 9 20 a m; I visited the mine on that occasion entirely of my own motion, and unknown to any person up to the time I arrived in Newcastle; I went to the mine first thing in the morning; Mr. Dixon was with me; I wish to say that I may have been in Newcastle a day or two before I visited the mine on this second occasion; on the first occasion—the 17th March—I received a letter in Newcastle and immediately went to the mine on its receipt; on the 24th March we went down through the faces of Nos 6, 7, and 8, and down by No 8 return, and in the return to the upcast shaft; we measured the air in No 8 return at the point "B" and found 8,910 cubic feet per minute for the same number of men, boys, and horses as on the previous occasion; that visit was, as far as I know, entirely unknown to anybody but Mr. Dixon and myself up to the time we went there; that refers to the first visit also; I next visited the mine on the 16th June last; that was after Bailey's letters had been referred to me; I went down on that occasion more particularly to see whether I could find any inflammable gas; I took the Clowes hydrogen lamp with me; that will show  $\frac{1}{2}$  per cent of gas; I think 2 per cent is the lowest that can be seen on a safety lamp; Mr Dixon and I went up No 6, Mr. Croft, senior, Mr. Croft, junior, and some of the deputies were with us; we went into the face of the No 6 headings—both back and front headings; we also examined a place about 50 yards back from the face in the back dip heading; it was pointed out to me as being the place where Bailey had reported the finding of gas on the 28th March; about 10 inches of a bore hole had been left in the roof at this place; that corresponds with the point on the plan, Exhibit C, marked "gas referred to"; I tested for gas there with this Clowes lamp; I put the lamp right into the roof and arranged the ventilation of the lamp so as to draw the air from the roof; I could not detect any trace of gas there whatever; the roof was just a little broken there, but not to any great extent; by the experiment I made I got the air next to the roof; we then went into No 6 rise headings; they were only 25 yards in at the time; inasmuch as it was a new place and driven into the virgin coal, and to the rise, it was a place where it would be very likely to find any gas if there were any there; I made a thorough test of that place for gas but could not find any; we then went into No. 6 old rise headings, front and back; they are marked on Exhibit C—Ch4; I tested in both the headings there but could not detect any fire damp; we then went into the face of No 7 headings and tested in both the headings with the same result; that part is marked on Exhibit C; we then went to the face of No 8 headings and tested for gas there without finding any; we afterwards went along to the goaf edge, where the No 6 pillars had been worked, that is the part of the mine which has been completely worked out and the roof fallen; we had to creep over the fall to get to the edge; a goaf is the most likely part of the mine to find gas in; I tried three places in that part for gas, in one place I was 9 feet above the level of the seam; that place would be a natural reservoir for gas if there had been any there; I found no trace of gas there, nor in either of other two places which I tried, the pit was not at work that day, we measured the air at the furnace that day—close to the furnace in the return; measuring it all in one current we made 88,200 cubic feet per minute; measuring the two currents separately we got 61,250 feet and 32,760 cubic feet per minute, making a total of 94,010; the former was measured at a point about 8 yards from where the two returns join—further into the return; we took the separate measurements within a radius of 10 or 15 yards from where we took the combined current; the difference in the combined and separate measurements is not considered large, considering the circumstances under which the measurements are taken, I inspected the mine again on the 21st June last; we directed our attention more particularly that day to No 2 district; Mr Dixon was with me, Mr Croft, and, I think, Mr. Croft, junior; we saw Yardley in the course of our inspection; he went part of the way with us; as far as I know the mine people were totally unaware of my visit before I went there; I had not intimated my intention of visiting the mine to anybody; we tested all the most likely places in which to find gas, if there was any, we examined the faces of the No 2 special headings, and in several bords which are stopped at a fault, and in which there was no brattice, and in some of which there were falls off the face of the fault, there was no work going on in them; I could

could find no gas at all in any of those places; we then went round the working places on the left side of the main road—part of No. 2 district; we examined some of those places; we also went into the No. 10 return and examined the goaf-edge with the Clowes lamp; we could find no gas there; we then came out by the cross-cut and got into No. 2 return at the first air-crossing on the out-by side of the cross-cut; we travelled out to the furnace; there was water up to my knees in part of that return, and also falls over which we had to climb; the return was small, and required to be attended to in places on account of the falls; in testing for gas in this mine on these inspections I selected such places as I considered would be likely to have gas about them; I carried out what I considered a most complete examination for gas in every case with the best instruments, and found no trace of gas at all; Bailey's letters were referred to me; upon receiving them I endeavoured to investigate the whole of the circumstances; I saw certain persons and had conversations with them about the matter; I saw Bailey, Dobb, Wear, Fox, Abell, Bullerwell, and perhaps others whose names I have forgotten; I took statements from all of them; the matter was first mentioned to me, I think, in the second week of April last, and I then commenced to make investigations about the matter; I made my report to the Minister afterwards; I advised Bailey to see Mr. Keightley, and suggested that the whole matter might be inquired into by Mr. Keightley in the presence of Mr. Dixon, myself, and Bailey, and such others as were implicated in the matters; I told him I thought it was only fair to Mr. Keightley, as general manager, to investigate these matters, and that Mr. Keightley had promised to dismiss or disrate any official who he was satisfied had been to blame; I saw some notes in the possession of Bailey on the occasion of my first interview with him about this matter; that would be on the 12th April last; the first part of Exhibit G is a copy of the one note he showed me; I took a copy of that note; I saw a second one in his possession, but, as it had no reference to the administration of the Act as regards gas, I did not take a copy of it; I took it to mean an instruction to Bailey to take in some nails and brattice; as far as I can recollect, there was no reference to gas in that second note; if there had been any reference to gas in it I should certainly have taken a copy of it; there is something in that note which might refer to gas; I mean the words "a little there"; I do not remember those words in the note Bailey showed me; very considerable inquiry has been made by the Postal Department to discover those notes, but they have been unsuccessful.

*By Commissioner:* Bailey showed me only the two notes; I cannot remember whether they were in the same writing.

*By Mr. Edmunds:* With 1 per cent. of fire-damp Haldane says you get a blue cap on the flame of a safety-lamp; I do not think that less than 2 per cent. can be detected with an ordinary safety-lamp;  $5\frac{1}{2}$  per cent. will extinguish the lamp; with the one exception, I agree with the table given in Haldane now shown to me; Haldane also shows the effect of black-damp upon men and lights; I agree with those conclusions, except that he says a man working in  $16\frac{1}{2}$  per cent. of black-damp would feel no effect, but does not say as to whether he means that man works only a short time in the black-damp or a long time; I believe that a man working in such an atmosphere for a length of time would feel some ill-effects from it; generally speaking, the ventilation in shallow mines where it is kept up by means of a furnace is worse in the hot weather than in the cold.

(Mr. Edmunds puts in evidence the two tables from Haldane marked Exhibit U.)

*By Commissioner:* A well-constructed safety-lamp would show a blue cap with 2 per cent. of fire-damp in the air; a permanent blue cap means, in my opinion, that the gas was continuously found in a place.

*By Mr. Curley:* Before I inspected the Newcastle Colliery myself I relied upon Mr. Dixon's reports as to the state of the management there; having gone through the whole of the mine myself, I have no reason not to rely upon his reports up to the present time; I have relied upon his reports as to the efficiency of the management in that company's collieries; I do not know that I have discussed details as to the management of this particular colliery with him, but I have with regard to collieries in general; the question of ventilation has occupied my attention in respect to this colliery; I have discussed that with Mr. Dixon; I cannot say when that was; Inspector Dixon has not till the last week or two drawn my attention to any defect in the system of ventilation in this colliery with regard to the reports in the books; he said that he had found out that the Sunday-night examinations were not put into the report until some five or six months ago, and that he had had a discussion with the manager with reference to it, since which time those reports had been entered; I regard the inspection of mines by a competent person to be a matter of great importance.

*By Commissioner:* That is quite apart from the question of a mine giving off fire-damp; in that case it would be of still more importance.

*By Mr. Curley:* Generally speaking, I examine the report books when I go to the collieries; I first saw Bailey about this matter on the 12th April last; he made a statement to me, which I took down and read over to him; it was contained in my first report to the Minister [*Mr. Atkinson's two reports of the 14th and 24th April put in evidence, and marked Exhibit V*]; I would view the allegations contained in Bailey's statement seriously if they were proved to be true; I mean the finding of the gas and not reporting it, the obstructions to the ventilation by means of brattice, in fact any of them which involved a breach of the Act in any way; the non-reporting of the gas would tend to endanger the lives of the men in the colliery; I look upon it as a serious matter; if the ventilation has been obstructed with the brattice, as deposed to, I consider it as one of the most serious forms of deception that could be practised by the management; the opening of the door would have the same effect as far as the men are concerned, but in another way; I have seen the protest of the manager against one of the reports in the report book; the report was made by Bailey as to the finding of gas [*Witness looks at Exhibit B*]; that is the report I refer to; in my experience as an inspector I should say that was an uncommon thing for a manager to do; it would indicate to me that Mr. Croft did not believe in the correctness of the report; I have inquired into the matter of Weir's burning; knowing that Wear was burnt in that locality I would not consider it surprising to find gas there again shortly after; I did not take a copy of the second note shown to me by Bailey, because there was nothing in it which to my mind had anything to do with the administration of the Act; I remarked to Bailey that I would not take a copy of it, as there was nothing in it of importance; if Bailey told me that he had marked the date on one of the notes I have forgotten it; I read his statement over to him, and he said it was correct; when I suggested that Bailey should see Mr. Keightley I did not do so with the idea of stopping further inquiry into the matter; I was just as anxious as Bailey to get to the truth of the thing, and I still think it could have been done in that way; I was perfectly satisfied from Mr. Dixon's reports that there was no imminent danger to anyone in the mine; besides I did not know what course the matter might take, and I did not wish to do anything to prejudice anyone in the matter; those were my reasons for not going down the pit again; I was last in No. 6 district on the 16th June last; I saw Mr. Croft about half an hour after seeing Bailey; he did not practically have two months' notice of my coming; I did not go into No. 6 district till the 16th June last; I do not consider that that was practically giving the management two months' notice; I did not tell Croft that I was going there on the 16th June; I told Inspector Dixon of the allegations Bailey had made; I think that was on the 14th April last in Sydney; Mr. Dixon was with me when I saw Mr. Croft after seeing Bailey; Inspector Dixon had not made any special report to me about the No. 6 district up to the 14th April last; he had sent in his usual report; I asked Dixon if he had ever found any gas in this mine, and he said no; that was when this matter cropped up; I do not think I asked him if he had looked for any; when I suggested the interview with Mr. Keightley, I suppose I expressed my idea of what the inquiry into the matter should be; leaving Mr. Keightley out of the matter altogether, I looked upon it as a matter requiring a searching investigation; I received a communication regarding the A pit of this company; it had reference to the ventilation in that pit; when I went into No. 6, the mine was idle; in one respect I would not have the same opportunity of seeing whether fire-damp was being given off, inasmuch as the new faces were not being opened that day; that is if it were being given off intermittently; if it were being given off permanently I would have just as good a chance of seeing it while the pit was idle as when working; I did not notice particularly the spot where Weir was burnt; I travelled through that place; even if Weir had been burnt by gas there, it would have been difficult for me to have found gas there on the occasion of my visit; there was a full current of air passing through there when I was there; one of the deputies stepped the distance between the face and the point where Bailey says he discovered gas; it was 50 yards; I have not paid particular attention to the roof in the leading places in No. 6; not more so than in any other district; I noticed in one place there was a bore-hole in the roof itself; I examined with the safety-lamp right in the faces of the places, and did not observe anything unusual about them; I know that gas will sometimes burst the coal out in the face; it might affect a coal roof in the same way; I do not think I would have arrived at any different result if I had inspected it on a working day; I would have been able to question the men certainly; the inquiry had been decided upon when I made my inspection in June; my inspection was made for the purposes of this inquiry more or less; I did not make any request for Bailey to go with me; I think it would have been useless to have taken him; the advisability of taking Bailey with me never suggested itself to me.

*By Mr. Bruce Smith:* I never requested the manager or under-manager to go with me; Bailey informed me, as set out in my first report, that Bullerwell had been dismissed for having reported black-damp; I afterwards saw Bullerwell who

who told me that he had left the Newcastle Coal Company, because his wages had been reduced, and entirely of his own accord; he gave me no information in support of Bailey's story; I also reported having examined Dobb, of Merewether; Dobb told me that he had been employed as a shift-man, and had left as the work was finished, and the company was reducing its hands; before I made my examinations of the 16th and 21st June, I had seen all the men referred to by Bailey in his allegations, and had questioned them all; that enabled me to direct my attention particularly to those parts of the mine of which these men had spoken; the notes Bailey showed me were two distinct notes; even if the words "A little there," had been at the end of the second note they would only have referred to the preceding two lines; Bailey never offered me any information as to what any other notes contained; it would take a very great velocity of air, or something very unusual to have much effect on the flame of a safety-lamp; if kerosene were mixed with tallow it might cause the flame of a safety-lamp to elongate more than if ordinary Colza oil were used; if there were a large crack in the glass of the lamp, and a considerable current of air, the flame might flicker, but I hardly think so; gas might cause a flame in a safety-lamp to flicker if the flame were not drawn down while inspecting; it would elongate the flame, but not cause it to flicker in a lateral direction; the flame would be drawn up.

*By Mr. Curley:* I did not notice the return at No. 1 on my inspection; I did not go in there at all, because the district is not working at all; I went into just the in-end of No. 10 return, but did not travel it; that is on the left side of the mine; I cannot speak about the state of it; I did not try to travel it; I had no reason whatever for not going there; there was good ventilation round that district, and I take it that there must be a good return otherwise there would not be the quantity of air in the face that there is; I did not take particular notice of the floor where Bailey is reported to have found the gas; I did not inspect for gas on the floor there.

*By Commissioner:* There are several collieries in the Newcastle district which give off fire-damp; the system of ventilation in the Newcastle Company's mine was sufficient to carry off all gas given off if the bratticing is carried well up; it is also sufficient to carry off all black-damp given off if it is properly directed; a man would not feel the effect of black-damp until some time after his light has gone out; I have had experience of the effects of black-damp; it produced a headache sometimes, and in large quantities effects the breathing; if worked for a considerable time it produces a general inertness; a man would not become unconscious unless there was about 60 per cent. of black-damp in the air; I do not think that hot and cold sweatings are a symptom of the effect of black-damp; the ventilation in pillars can be carried out to some extent by means of bratticing, but it is a much more difficult matter than ventilating whole workings on account of the leakage through the stoppings, and the great lateral area to be ventilated; I was present when Rendal was giving his evidence; I think it would be necessary, as a matter of safety, where a man is put to bale water at the foot of the canch, which is 4 yards from the face, for that face to be examined; I remember inspecting bord 117 spoken of by the witness Williams, but have no particular recollection of the circumstance of seeing him; I know that a certain quantity of air was going round the face, through the cut-through marked B on exhibit J; I did not notice the cut-through marked A on that sketch; if it was going through that cut-through there was at all events sufficient left to go towards the face to supply the men there.

*By Mr. Curley:* No. 1 district was closed up when I was making my inspection; that might have the effect of sending more air into No. 6 district; it would not make a great difference; the amount that was taken off No. 1 would distribute itself over the various splits, not wholly into No. 6; the proportion in which it distributed itself would depend upon a variety of circumstances.

*By Mr. Bruce Smith:* I remember the door which was said to have been kept open while the boy Jones was taken away; the effect of leaving it open would be to send more air into No. 8 and take some from No. 6; the men in No. 6 might or might not feel the difference; the decrease in the air and those in No. 8 might or might not notice the increased air in their district; an inspector in either district might or might not notice the difference in the air; it would make some difference in an inspector's calculations in taking the air, but I cannot say to what extent.

*By Mr. Edmunds:* I did not know whether the mine would be working or not when I went there to make my inspection; on the second occasion when I inspected for gas it was working.

*By Mr. Curley:* If a man works continuously or for a long time in an atmosphere of black-damp he would feel the effect of it before his light went out.

Taken and sworn at Court-house, Newcastle, this }  
6th day of July, 1899, before me,— }  
C. G. WADE, J.P. } A. A. ATKINSON.

Adjourned till 9:30 a.m. to-morrow.  
Newcastle, 6th July, 1899.

This deponent, *Alfred Ashley Atkinson*, recalled on his former oath, states (to *Mr. Curley*):—Bailey did tell me that Bullerwell had been dismissed from the company's employment; I think every colliery manager in the Colony has been supplied with a copy of Mr. Commissioner Wade's report on the Dudley Colliery disaster; I cannot swear that Mr. Croft was supplied with a copy, but should think so; two or three of the collieries that are working with a permit have not been supplied with a copy; it is several months since they were sent out; I have also issued a circular letter with regard to coal-dust; that would be within the first month after the termination of the Dudley inquiry, as far as I can recollect. that letter was issued to all the colliery managers; copies of it can be procured from the Department; as far as I know, black-damp will not induce paralysis in a man; 28 per cent. of black-damp will induce heavier breathing in a short time. 50 per cent. produced severe panting in breathing; 66 per cent. will quickly endanger life; a man would first be affected in the head by black-damp; he would get a headache before his breathing was affected; after being in an atmosphere impregnated with black-damp a man would be overcome by a feeling of lassitude; it would vary according to the quantity of gas in the atmosphere; I do not know that the later text-books lay it down that less than 16 per cent. will extinguish a light; the older books used to lay it down that 10 per cent. would put out a light; that was when black-damp was understood to be CO<sub>2</sub> pure and simple; I should be surprised to hear that Fairley states that 2½ per cent. will extinguish a light; if he says so I say it is incorrect; Dr. Haldane says that a light will burn in 75 per cent. of CO<sub>2</sub> if there be 25 per cent. of oxygen in the atmosphere.

*By Commissioner:* I would not say that a human being would not feel the presence of the black-damp of 16½ per cent.; a man would feel some slight effect from such an atmosphere before the light was put out; in the composition of the atmosphere with black-damp in it there is a deficiency of oxygen rather than an excess of carbonic acid gas.

*By Mr. Edmunds:* Fairley when he speaks of the 2½ per cent. affecting the light speaks of it as being carbonic acid gas itself; it is generally recognised now that black-damp is not CO<sub>2</sub> simply but a mixture of CO<sub>2</sub> and nitrogen.

*By Mr. Bruce Smith:* The book of Fairley's shown me was published in 1888; at that time black-damp was supposed to consist of CO<sub>2</sub> only; then 2 per cent. was sufficient to put out the light and produce the effects spoken of in the book; I do not admit that under the old idea as to the gas 2½ per cent. was sufficient to put the light out.

*By Mr. Curley:* I have read the quotation in Fairley's book, now read to me, as to a light burning in 12 per cent. of the gas.

*By Mr. Bruce Smith:* Speaking of the lights going out and being relit without any trouble, it would depend a good deal upon the position of the light; if it were on the floor or near it it would be more difficult to relight it than if it were nearer the roof; some disturbance in the atmosphere might extinguish the light; I would think that it would not be possible to relight the lamp in the same atmosphere; I have never heard of paralysis of the legs with retention of consciousness as a result of breathing black-damp; the passage in Fairley read to me shows me that the author understood black-damp to be wholly CO<sub>2</sub>.

*By Mr. Curley:* The discovery of black-damp in a mine might indicate the presence of sulphuretted hydrogen if decomposition were going on; that would be brought about by a chemical action between iron pyrites in water in the old workings; I have come across a little sulphuretted hydrogen in connection with black-damp in my experience.

*By Commissioner:* That has been in old workings where the pyrites has come in contact with water and a chemical action been set up.

*By Mr. Curley:* Neither Wear's nor Taft's incident was reported to me.

Taken and sworn at Court-house, Newcastle, this }  
7th day of July, 1899, before me,— }  
C. G. WADE, J.P. } A. A. ATKINSON.



This deponent, *Alfred Ashley Atkinson*, recalled, on his former oath, states:—With an ordinary safety-lamp it is generally accepted that 2 per cent. of fire-damp can be detected; in order to see that it is necessary to reduce the flame of the lamp to reduce its luminosity; with the naked light, as its luminosity cannot be reduced, it is not possible to detect less than 3 per cent. of fire-damp; it could not be seen on account of the greater luminosity of the naked light, although the naked light might be affected by the fire-damp; a jet of fire-damp in the air will burn at a naked light in the same way as ordinary gas; it is then pure fire-damp; if fire-damp were issuing from the coal, and a lighted match were put to it it would light; I think the safety-lamp would show that gas; I do not think that fire-damp will show at a naked light if it will not on the safety-lamp.

*By Commissioner*: A safety-lamp will detect a lower percentage of fire-damp than the naked light when mixed with the ordinary current of air; there are cases in which the fire-damp will ignite at a naked light at the moment of issue; that gas will show on the safety-lamp if you could get the lamp to its point; there may be a case of a hole in the roof where the safety-lamp could not be put; it would be a breach of the rules to test for gas in such a place with the naked light.

*By Mr. Edmunds*: There are instances on record where gas has not been seen in a pit for several years, and has then been seen in some cases with explosions and loss of life.

*By Mr. Curley*: The pressure of the atmosphere has something to do with the likelihood of the appearance of gas in a mine; it is possible that it might be discovered in a locality at one time and not at another.

*By Commissioner*: The fact of a man feeling headaches and tiredness might be due to powder-smoke, or to the presence of black-damp, or to remaining in an unchanged atmosphere for some time; that is apart from the question of fire-damp; if the brattice were properly taken to the face any black-damp would be carried away; an ordinary still atmosphere would contain a certain amount of carbonic acid gas if a man were working in it for some time with a light, and the light would be affected to a certain extent; that should not happen when the man first goes into the place.

*By Mr. Curley*: The fault in No. 2 return will have very little effect on the ventilation; it is not an abrupt rise, but a slope.

Taken and sworn at Court-house, Newcastle, this }  
14th day of July, 1899, before me,— }  
C. G. WADE, J.P.

A. A. ATKINSON.

#### EXHIBIT V.

THIS deponent, *John Dixon*, on his oath, states to *Mr. Edmunds*:—I am an inspector of collieries, and have held that position for seventeen years; during that time I have made about 3,400 colliery inspections; I send reports of those inspections to the Department, keeping copies myself; I have in my office now copies of all the reports of my inspections of the Newcastle Company's A pit; up to 1887 I inspected that pit continuously; from that time Mr. Inspector Bates has made eleven inspections; I have also made inspections since 1887, but have not been the continuous inspector; Mr. Bates has made inspections when I have been unable to go there; with those exceptions I have continuously inspected the pit for seventeen years; so far as I know, nobody but myself knew when I was going to make my inspections; I told nobody of my intention to visit the mine; I never know what pit I am going to till about 8:20 a.m., when I get my mail; if the mail brings notice of an accident—especially to a miner—I make it my first care to go to that pit no matter where it is; under the present Act all working places have to be kept, if a man gets hurt, till the inspector sees them; I go principally to see the place as quickly as possible, so that the man's mate will not be kept idle longer than necessary; if the mail brings no such news, I may get instructions from Sydney which would take me off my track in the matter of inspections; it is only in the absence of this special work that I am unable to make my ordinary inspections; under the old Act inspections had to be made in not more than eight weeks between each other; I had to see every mine in my district at least once in two months; it took me all my time to do it; if I did not visit a mine for seven weeks, the mine people would naturally expect me during the eighth; under this present Act I am at liberty to go when I like; until recently I was not aware that any allegation had been made as to interference with the ventilation in the A pit during my inspections; I never heard of that till the 14th April last, when Mr. Atkinson brought it under my notice; I had no reason to believe such a thing had been done; Mr. Atkinson told me the information he had got from certain people and from certain letters; I have tabulated from my books all the reports I have made of my inspections of the mine since December, 1894; those are the only inspections made during that period, and they will show the dates on which inspections were made of this pit; I did make an inspection on the 18th July, 1895; I inspected only the A pit on that date; on the 25th February, 1898, I inspected the A pit; I was not in the pit at all on either the 3rd or 10th March last; I was at my wife's funeral on the 3rd March last; all the dates and the only dates I was in are contained in that tabulated statement I have made; I have set out in that the places inspected, the persons at work in those places, the total quantity of air passing each of those districts, and the average quantity for the people working there.

*By Commissioner*: The statement I have prepared shows the districts inspected by me, the quantity of air, the number of men, boys, and horses working there, and the average quantity of air for each man, boy, and horse working there. [*Mr. Edmunds puts in evidence a summary of witness's reports between 28th May, 1895, and 30th May and 1st June, 1899. Inspector Bates' reports are included in the document subject to their proof afterwards by Mr. Bates. Document marked Exhibit W.*]

*By Mr. Edmunds*: I look at the summary of my report of the inspection of the 17th and 18th July, 1895; the ventilation was good on that occasion; I visited all the working-places on that occasion; it is my custom to visit all the working-places in the pit on my inspections; I have been over every foot of all the returns in this pit; I have travelled every portion of the whole pit without exception; the inspection made by me of the 17th and 18th July, 1895, showed me that the ventilation in the pit was satisfactory, and in accordance with the Act; on the previous inspection—30th May, 1895—the ventilation was satisfactory, and also on the following inspection; at times I have noticed that the brattice in some places has not been close enough to the face in my opinion; I have seen it perhaps 10 yards back; that has been since 1896; I have required it to be close enough at once, and sometimes have waited till it was done; I have never found the quantity of air deficient; the most important place to take the air is where it is going on to the men who are working; not in the returns; the returns at the furnace would not only show the air that has been already read at various points, but also what air had leaked through various channels on the way to the returns; I look at my report of 25th February, 1898; there was a sufficient quantity of air going on that date for each man, boy, and horse in all the districts; there was an excess of the minimum quantity required by the Act; I first heard the allegation that there was inflammable gas in this mine on the 12th April last; I had at no time detected the presence of inflammable gas in the mine, nor been present when anyone else detected it; I have searched for it; I made search for gas in that mine years ago with Living's gas indicator, and never found any; when the indicator was sent up I searched all over the mine in every likely place for inflammable gas, but could find none at all; it would show  $\frac{1}{2}$  per cent. of gas; I had inspected portion of A pit on the 12th April last, and during the afternoon I saw Bailey's report in the colliery office; the next time I went into the pit—I think seven days after—I tested for gas with a safety-lamp; Mr. Croft was with me, the under-manager, and a boy; I tested with a Clanny lamp; I consider a man who can work his light properly can detect a little over 2 per cent. of fire-damp; I went down the main road of No. 6; I tested in the faces of both headings of No. 6 and in the last cut-through, which was partly driven through, and where the men were working; I also tested where the bore hole was in the roof, and back where Bailey said the gas had been found; I then went to the rise headings in No. 6 where Bailey reported he had found gas; I made the same examination there as in the main heading; there was no one working there then; I did not find a trace of gas anywhere in all those places; I did not examine any locality but No. 6 for gas on that occasion; when I was inspecting the mine on ordinary occasions I looked at the deputies' report-books; sometimes I read the check inspectors' reports; in all the deputies' reports I never saw the mention of fire-damp or choke-damp till I saw Bailey's report of the 12th April last; I was with Mr. Atkinson when he made his examination for gas; I know the place where Taft and Turner were said to have been working in No. 5; I never on any of my inspections heard that there were men at work in that part of the mine; I did not know they were working there at night; had I known they were working there I should have inspected that part of the mine; I find out where the men are working by going to them in the daytime; when they are working at night I can only find out by being told; I know No. 7 district, but know no place there where the smoke was heavy and hanging about all day; when I was in No. 7 the bords were all well bratticed, and I never saw any smoke hanging about; since the brattice has been kept up to the face in collieries I have never noticed any smoke hanging about the bords; it should not hang



hang about when the brattice is well up to the face; I remember being in the workings of No. 1 pillars in the first quarter of this year; pillar work in No. 1 was very warm in the face, but I do not know that there was any impurity in the air; I remember speaking to Atkinson in one of the No. 1 pillars; I asked how much longer they would continue working the pillars in No. 1, and was told they would not last more than a few days; the pillars were being worked from both ends; they are 35 yards long; the air came from No. 1 through some split pillars, and was forced up to where Atkinson was working; I considered the ventilation was satisfactory considering the way the ground was broken; it is a very difficult matter to ventilate pillars, especially when the ground is broken in that way; I never saw any dirt thrown from the goaf into an air passage in No. 6 blocking up the air passage; if I had noticed any blocking of an air passage I should have wanted to know all about it at once; I cannot understand Watts' evidence as to the blocking of the air passage; no complaint was ever made to me about the blocking of an air passage; if cut-through B on Williams' sketch [*Exhibit J*] were through the other cut-through A should have been blocked up, otherwise the air would have leaked through it; such a state of things as described by Williams did not exist when I was in that locality of the mine; I should have had a stopping put up if that had been the state of affairs there; during the whole of my inspections of this mine, I have always found it well conducted and properly equipped; during the whole of Mr. Croft's management I have never had cause to complain of anything in the mine; I have never served Mr. Croft with any notice of complaint; it is not a fact that I always travelled the same route in inspecting the mine; I did not keep to any fixed order of travelling at all; if a canvas was held by Bailey and Newburn in No. 2, as described by Bailey, it would spread the No. 2 air all over the mine; they would have to hold that canvas from four to five hours to affect the air as far as my inspection was concerned; it takes me from four and a half to five hours to go the round, and it is heavy travelling to do it in that time; a complaint came to me about the end of March last, in consequence of which I went to every place in the pit; I looked at the state of the air all through the pit; I examined every working place in the pit, particularly directing my attention to the state of the air; I found the pit all right; that would be the inspection of the 12th April last.

*By Mr. Curley*: I examined the deputies' report-books in connection with the mine; I inquire the number of men in the mine when I go to make an inspection; I have inquired the number of men working in the A pit during the day, but not during the night; I understand there are only a few shiftmen working at night; as an inspector I would have as much to do with the men working at night as those working in the day; I did not for a long time see a report-book for the night men; I presume that was because there was not a book for the night men; I have asked for such a book; that was about the latter end of last year or beginning of this; that was the only occasion on which I asked for one; it was in consequence of a conversation I had with Mr. Atkinson; up to that time I considered there was no necessity for the night overman to make any report seeing his shift was a continuous one; Mr. Atkinson said after the pit had been idle during the day the night overman should write a report; that was referring to the Sunday night work; it was never reported to me that a man had been burnt in the mine; Taft's incident was never reported to me; both these were matters that should have been reported to me; I believe I asked the manager why they had not been reported, and I think he replied that they had not been reported to him; he did not say whom he held responsible for not reporting them; I did not need to inquire who that was; I examined the report-book to see whether Wear's accident had been reported; there was no entry of it; I left the whole conduct of this matter with Mr. Atkinson, who had charge of it; I did not inquire of Mr. Croft why this matter had not been reported because Mr. Atkinson had charge of the whole matter.

*By Commissioner*: I did not inquire of Rendal about the burning of Wear; the person to report to me was the manager, and the person to report to the manager was either the person in charge or the man affected.

*By Mr. Curley*: I did not inspect No. 5 district when the men were working there at night; I cannot say whether I made an inspection of the mine while the men were working there; I do not know when they were there; I was round the face workings of No. 5 about June last year; that would be on the 28th June; that would be during the daytime; I found the ventilation there good; I have travelled every one of the returns in this colliery; I would not travel No. 1 return last year when they got back to the pillars; the roof fell about the pillars, but not to block up the return; where the roof had fallen I would call it a return through the goaf; the main roads in No. 6 are going towards Burwood colliery; I was surprised to hear about Wear being hurt; I did not hear it given in evidence that another man had seen gas there before Wear was hurt; if a man were burnt in No. 6 by fire-damp it would be a likely place to find gas again; I know of dykes in No. 6 district—intrusive dykes; they are running in all directions in No. 6; like all dykes, they twist about in every direction till you lose them.

*By Commissioner*: A proper fault runs in the one direction all through.

*By Mr. Curley*: The dykes are confined to No. 6 district; those are likely places to give off gas; I regard the inspection of places before the men go to work as a very important matter; I have seen the report-book in which Bailey made his report of the gas; I have seen Mr. Croft's protest in the same book; I have read all these report-books, and have written my name or initials on them on every inspection; I have read the examining deputies' reports since before March last; in no instance have I found a report of gas except that of Bailey; I never had the slightest suspicion that I was being tricked while making my inspections; I did not notice any great difference between the readings I made on my inspections; I have been through them since I made them, and can find no appreciable difference between them; I look upon the hanging of brattice and the opening of doors in the airways as a very serious matter; if they took air off the men it would be bound to affect the men in-by; it would depend upon how much was taken off as to whether the men were injured by it; if they took the air from the men in a split it would affect them for the time; I used to go in by the furnace when going in to make my inspections; the coal used in the furnace is mixed—large and small; I have taken the readings at the furnace from the various returns; they converge finally into the one return; I have taken the reading at that point; it has ranged between 94,000 and 100,000 cubic feet per minute; I got the former reading about a fortnight ago; my report of the 13th and 14th February last gives the whole of the ventilating districts in the A pit; No. 2 right gives 7,000 cubic feet; in No. 2 left there are 11,000 feet; all the ventilating districts are outlined in the record plan; in No. 6 there are 10,270 feet; in Nos. 7 and 8, 8,250 feet; in No. 9, 3,000 feet; the number of feet in No. 5 is not given, because No. 5 was not working; Nos. 5 and 6 are one ventilating district; I did not measure the air going into Nos. 5 and 6; the return air from No. 6 would be coming through No. 5; that would be 10,270 feet; I might get a different reading every time I went into the pit; the figures given make a total of 49,520 cubic feet per minute; the furnace return is over 90,000; the difference is simply accounted for by a leakage; it is a large leakage, I admit; for No. 2 right I took my reading just about the last bord [*marked with a C on the record plan*]; for No. 2 left I took my reading in the innermost heading next to a return—just about the last bord in the last pillar [*marked with a D on the record plan*]; for No. 6 I took my reading somewhere about the point marked E on the record plan; for Nos. 7 and 8 I took my reading at the point marked B on the record plan, and for No. 9 at the point marked A on that plan; I daresay I have talked to the manager about this large leakage; all of the bords in the districts are bratticed—that is, in the whole workings; there are no doors on the headings to turn the air into the bords; the brattice comes partly out of the bords into the headings to catch the wind; I have never seen any smoke hanging about any working-place; I would be annoyed to see any smoke hanging about any of the working-places now the present Act is in operation; I did not usually go the same round on my inspections; the fact that my reports of the 2nd June and February show the districts in the same order does not indicate that I always followed the same route in inspecting; I account for the order of the route in the reports for the reason that a large book is kept in the Department, in which the districts are put in the order in which I have placed them in my reports; to facilitate the entry of my reports I put them in as nearly the same order as they appear in that book; my reports are no index whatever of the route I travelled in my inspections; I did not usually finish up in No. 2 nor begin there; there would be perhaps fifty-four men, boys, and horses in Nos. 5 and 6 districts; I never found the air bad in Nos. 6 and 5; No. 6 was generally a very nice district; I consider that nothing can be called a return air that has not passed over seventy men with horses and boys; it would depend a great deal on what the air had to travel over; if I found air travelling over stagnant water I would very soon see to it; Taft and Turner got their air from No. 5, according to the evidence, before the stopping was broken; I say the same from my own knowledge of the mine; it came from No. 5, but not over any falls; the air did not come from the goaf, and that was the only place in No. 5 where there were falls; [*Witness Dobb is here put in the box to produce the plan showing where he and Turner were working; D is the place where the air scaled through after they had broken the stopping; and S is the stopping which they broke up. Plan put in and marked Exhibit X.*] I cannot fix the course of the ventilation to these men because I never saw them at work; when the four men were working in the pillars in No. 5—that is some time this year—there was a stopping in the return which turned the air up to the pillar the men were working; after going round the pillars it coursed back through the old workings to the return again; I cannot speak of the ventilation where Taft and Turner were working; I have referred to a certain communication received by me; it was a complaint of the general bad ventilation all through the A pit; it was an anonymous letter; I have never, to my recollection, sent any written communication to Mr. Croft about the

the ventilation in the mine ; in fact I am certain of it ; that is during the ten years he has been manager of the mine ; I have never found fire-damp on the northern boundary of the Burwood colliery ; that is opposite the narrow bords of No. 6 in the A pit ; it has never been found in the Burwood colliery near the boundary of this mine ; I have been two days in Burwood colliery this week ; I have not been on the northern boundary for some months ; I have been in the very bords on the northern boundary ; if I measure the air at the intake and then go to the last bord in that district and get it the same there I know it is going past the men ; I do not measure the air in the returns because such a measurement would be misleading ; I only look for the air to go to the men ; the return measurement might include a scaling from another source, which would show a larger quantity of air than was going into the men ; there is no one spot in the mine where I could measure the total quantity of air going into the pit.

*By Mr. Edmunds :* As long as there is enough air for the men in the pit any leakage in a district would only improve it ; it would keep the old workings sweet.

*By Mr. Curley :* I was commissioned to see Bailey and ask him to see Mr. Keightley ; I only saw him once about it ; I thought that if there had been an "office trial" before Mr. Keightley, the manager, the whole matter could have been cleared up and a lot of expense to the country obviated ; I wanted the thing seen to the bottom ; I wanted an investigation myself ; I think it was a matter requiring a searching investigation.

*By Mr. Bruce Smith :* I have said in my evidence that on several occasions I had to request that something should be done in the mine ; whenever I made such a request it was complied with ; none of my directions or requests were disregarded ; when I asked for a book to be kept to show the night examinations it was kept, and has been kept ever since ; as far as Mr. Keightley was concerned he was perfectly willing to hold the investigation that was proposed ; it was not proceeded with because Bailey refused to appear ; he had promised me in the first place to appear.

*By Commissioner :* About once a quarter I took the return near the furnace ; I knew the place so well that I knew what it was ; it was practicable to do so ; it was not practicable to take the intake at the furnace ; the only way to make any check as to the total intake and return is to take the air in the different splits and then in the main return, and put one against the other ; the tendency of the air is to leak ; leakage decreases the intake and increases the return ; the gross returns at the furnace show more than was in the different splits ; if any manipulation of the ventilation took place there would be more air in one district and less than another, but all the air would get back to the furnace ; if the air in the splits is counted twice over it would show more in the different splits than in the gross returns, therefore a measurement at the main return would be a check upon tampering with the air ; when I go to inspect a mine I sometimes take a cage and go down at once ; at other times I have a look round the surface, at the engines, &c. ; it takes me two days as a rule to do the whole of the pit ; I have measured the air in No. 2 intake at times ; I very seldom bothered with No. 1 intake on the main road ; between the time I examined the mine with Living's indicator and the inspection of April last with the safety-lamp I used a naked light on my inspections ; there was nothing to tell me that a safety-lamp was necessary between those dates ; in some cases the brattice can be brought up to the face in the pillars, but it is very awkward to do so ; I have seen one safety-lamp in the cabin I think ; it was always there for some months back now ; the dates of my inspections are not made public after the inspections ; the reports are not published ; it would be desirable for the inspector to know where the men have been working at night—such as in Taff's case ; I am not bound to look at the deputies' report-books for my own information.

*By Mr. Bruce Smith :* I have known men to complain of the brattice being too close to the face when it was within 6 feet of it ; if it were put within 4 feet of the face the firing of a shot would bring the face down on the brattice ; if the brattice is up to the catch it is close enough generally speaking.

*By Commissioner :* I keep no record of the returns at the furnace that I take about once a quarter ; when I spoke on page 176 that it took me four and a half to five hours I was referring to the whole of the pit, except No. 2.

*By Mr. Curley :* Bailey did not tell me that he would consider the matter of the investigation by Mr. Keightley ; I left him under the impression that he would appear before Mr. Keightley ; I afterwards received a written answer from him refusing to appear.

Taken and sworn at Court-house, Newcastle, this }  
7th day of July, 1899, before me,—

C. G. WADE, J.P.

JOHN DIXON.

EXHIBIT W.

[Mr. Dixon's Evidence.]

NEWCASTLE Coal Mining Co.'s A Pit.—Air currents, number of men in the several districts, and average quantity of air per minute for each man, boy, and horse, in cubic feet :—

1895.				October 29th and 30th.—By Mr. Inspector Bates.			
February 4th and 5th.—Mr. Inspector Bates.				District.	No. of Men, &c.	Quantity of Air.	Average.
District.	No. of Men, &c.	Quantity of Air.	Average.	No. 9 ... ..	22	7,140	324
No. 9 ... ..	9	2,300	255	No. 7 ... ..	36	4,320	120
No. 7 ... ..	42	6,160	146	Nos. 5 and 6 ... ..	63	13,500	214
Nos. 5 and 6 ... ..	66	10,080	152	No. 1 ... ..	68	9,000	132
No. 1 ... ..	70	10,200	145	No. 2 left ... ..	58	12,000	206
No. 2 ... ..	74	11,400	154	No. 2 right ... ..	36	6,000	166
No. 10 ... ..	36	5,600	155	December 23rd and 27th.			
I inspected this colliery on 1st and 11th April, 1895 ; pit idle both days owing to a labour dispute.				No. 9 ... ..	14	3,000	214
May 28th and 30th.				No. 7 ... ..	36	4,500	125
No. 9 ... ..	8	3,000	333	Nos. 5 and 6 ... ..	48	8,600	179
No. 7 ... ..	42	5,200	123	No. 1 ... ..	66	8,500	128
Nos. 5 and 6 ... ..	70	9,500	135	No. 2 right ... ..	46	5,520	120
No. 1 ... ..	72	7,500	104	No. 2 left ... ..	54	6,480	120
No. 2 ... ..	70	10,200	148	1896.			
No. 10 ... ..	22	4,000	181	February 21st and 25th.			
July 17th and 18th.				No. 9 ... ..	9	2,400	266
No. 9 ... ..	12	3,000	250	No. 7 ... ..	40	4,680	117
No. 7 ... ..	44	5,400	122	Nos. 5 and 6 ... ..	62	8,000	129
Nos. 5 and 6 ... ..	62	13,500	217	No. 1 ... ..	72	8,400	102
No. 1 ... ..	64	8,000	125	No. 2 right ... ..	40	4,500	112
No. 2 ... ..	64	12,600	196	No. 2 left ... ..	74	14,100	190
No. 10 ... ..	16	6,000	375	1896.			
September 3rd and 4th.				April 8th and 9th.			
No. 9 ... ..	17	2,500	147	No. 7 ... ..	31	5,880	189
No. 7 ... ..	40	5,540	138	Nos. 5 and 6 ... ..	53	8,880	167
Nos. 5 and 6 ... ..	64	11,500	179	No. 1 ... ..	68	8,820	129
No. 1 ... ..	70	9,500	135	No. 2 right ... ..	14	3,000	213
No. 2 ... ..	73	12,000	165	No. 2 left ... ..	66	12,600	190
No. 10 ... ..	24	5,000	208	May 21st and 22nd, mine idle, with the exception of 3 deputies and 3 water-balers. (Labour dispute.) July 15th, mine idle, owing to a labour dispute. No. 7.			

August 26th and 27th.			
District.	No. of Men, &c.	Quantity of Air.	Average.
No. 7 ...	20	6,000	300
Nos. 5 and 6 ...	36	10,500	291
No. 1 ...	64	10,780	168
No. 2 ...	70	13,200	188

November 16th, 17th, and 18th.—Mr. Inspector Bates.

No. 7 ...	42	5,760	137
Nos. 5 and 6 ...	52	7,900	151
No. 1 ...	62	9,280	149
No. 2 right ...	28	3,360	120
No. 2 left ...	68	9,650	141

1897.

February 8th and 10th.—Mr. Inspector Bates.

Nos. 7 and 8 ...	50	7,200	144
Nos. 5 and 6 ...	74	9,700	131
No. 1 ...	50	8,640	172
No. 2 right ...	42	5,280	125
No. 2 left ...	60	9,460	157

March 1st and 2nd.—Mr. Inspector Bates.

Nos. 7 and 8 ...	50	6,300	126
Nos. 5 and 6 ...	74	8,540	115
No. 1 ...	54	5,760	106
No. 2 right ...	42	6,240	148
No. 2 left ...	60	6,545	109

June 1st and 3rd.

Nos. 7 and 8 ...	58	8,100	139
Nos. 5 and 6 ...	54	9,200	170
No. 1 ...	50	8,500	170
No. 2 right ...	28	4,000	142
No. 2 left ...	62	8,000	129

July 27th and 29th.

No. 7 ...	56	7,200	128
Nos. 5 and 6 ...	76	9,000	118
No. 1 ...	56	8,500	151

At the time of inspection of the No. 2 section the pit was idle.

September 22nd and 23rd.

Nos. 7 and 8 ...	58	7,020	121
Nos. 5 and 6 ...	54	8,000	148
No. 1 ...	42	7,400	176
No. 2 right ...	28	4,000	142
No. 2 left ...	70	9,800	138

November 10th and 12th.

No. 9 ...	10	2,500	250
Nos. 7 and 8 ...	58	7,800	134
Nos. 5 and 6 ...	58	8,500	146
No. 1 ...	44	8,500	193
No. 2 right ...	43	5,800	134
No. 2 left ...	60	8,000	133
Pillars in Nos. 5 and 6	24	3,000	125

1898.

January 4th and 5th.

No. 9 ...	8	2,000	250
Nos. 7 and 8 ...	46	9,000	195
Nos. 5 and 6 ...	86	11,700	152
No. 1 ...	32	4,500	140
No. 2 right ...	52	5,800	111
No. 2 left ...	44	5,200	114
No. 5 pillars ...	10	2,200	220
No. 6 pillars ...	12	2,500	208

February 25th and 28th.

No. 9 ...	8	2,000	250
Nos. 7 and 8 ...	46	6,000	130
Nos. 5 and 6 ...	59	6,500	110
No. 1 ...	29	5,500	187
No. 2 right ...	48	6,000	125
No. 2 left ...	44	7,800	177

There were 10 men, &c., in pillar work in the No. 6 district, and supplied with a separate and distinct current of about 2,500 cubic feet of air per minute. In the No. 5 district there were 8 men in pillars, but they are included in the 59 men as given above for Nos. 5 and 6 district.

April 26th and 28th.

District.	No. of Men, &c.	Quantity of A'r.	Average.
No. 9 ...	15	2,500	166
Nos. 7 and 8 ...	36	8,000	222
Nos. 5 and 6 ...	58	8,820	152
No. 1 ...	28	7,000	250
No. 2 right ...	34	5,600	164
No. 2 left ...	68	11,240	165

No. 6 pillars—12 men, &c.; separate current of air; 3,000 cubic feet per minute.

There were two pillar working places in No. 5; 4 men, who are included in the above, number 58 for Nos. 5 and 6.

June 28th and 29th.

No. 1 ...	28	6,000	214
No. 2 right ...	49	7,000	142
No. 2 left ...	56	9,200	164
No. 9 ...	18	3,000	166
No. 7 ...	52	7,500	144
Nos. 5 and 6 ...	58	8,500	146

There were 4 men in No. 5 pillars, and 12 men, &c., in No. 6 pillars. The No. 6 pillars were ventilated by a separate current of about 3,000 cubic feet of air per minute. No. 1 was all pillar work.

August 26th and September 6th.

No. 9 ...	17	3,200	188
Nos. 7 and 8 ...	56	8,050	143
No. 1—Only one pair of men in this district cutting through a pillar.			
No. 2 right ...	54	6,500	120
No. 2 left ...	64	7,900	125
Nos. 5 and 6 ...	58	7,000	122

Nos. 5 and 6 pillars—18 men, &c.; about 3,000 cubic feet of air per minute.

October 18th and 19th.

No. 9 ...	14	2,500	164
Nos. 7 and 8 ...	66	7,500	113
Nos. 5 and 6 ...	58	7,200	124
No. 2 right ...	62	7,000	112
No. 2 left ...	64	11,000	171
No. 1 ...	12 men in pillars.	3,000	250

December 12th and 15th.

No. 9 ...	18	3,000	166
Nos. 7 and 8 ...	63	9,000	142
Nos. 5 and 6 ...	56	8,500	151
No. 1—There were 6 men, &c., engaged in pillar extraction, and about 5,000 cubic feet of air per minute was circulating in the district.			
No. 2 right ...	62	7,000	112
No. 2 left ...	66	11,000	166

1899.

February 13th and 14th.

No. 9 ...	18	3,000	166
Nos. 1 and 5—10 men, &c., engaged in pillar extraction; ventilation good.			
No. 6 ...	54	10,270	190
Nos. 7 and 8 ...	68	8,250	121
No. 2 right ...	61	7,000	114
No. 2 left ...	57	11,000	192

April 12th and 18th.

No. 9 ...	14	3,000	214
Nos. 7 and 8 ...	66	9,200	139
No. 6 ...	46	6,175	134
No. 2 right ...	61	7,000	114
No. 2 left ...	60	10,000	166
No. 1 ...	8 men in pillars; ventilation good.		

May 30th and June 1st.

No. 9 ...	13	3,000	230
Nos. 7 and 8 ...	66	10,000	151
No. 6 ...	50	7,350	147
No. 2 right ...	61	8,750	143
No. 2 left ...	60	10,000	166

No. 1 district finished, and canvas stopping put in main road.

## EXHIBIT Z.

[Mr. Dixon's Evidence.]

REPORT ON NEWCASTLE CO.'S A PIT COLLIERY.

Newcastle Co.'s A Pit Inspection.

Sir,

I have the honor to report inspection of this colliery on 17th and 18th instant.

No. 1.—In this district the current of air was about 8,000 cubic feet per minute for 64 men, &c., giving to each 125 cubic feet.

No. 2.—The current of air in this district was about 12,600 cubic feet per minute for 64 men, &c., giving to each 196 cubic feet.

Nos. 5 and 6.—In this district the current of air was about 13,500 cubic feet per minute for 62 men, &c., giving to each 217 cubic feet.

No. 7.

Merewether, 19 July, 1895.

No. 7.—In this district the current of air was about 5,400 cubic feet per minute for 44 men, &c., giving to each 122 cubic feet.

No. 9.—The current of air in this district was about 3,000 cubic feet per minute for 12 men, &c., giving to each 250 cubic feet.

No. 10.—The current of air in this district was about 6,000 cubic feet per minute for 16 men, &c., giving to each 375 cubic feet.

In this district there are six working pillar places, with two men in each. I visited each pillar, and found them all well timbered, and the roof quiet.

The working bords and wheeling headings throughout the whole of the workings were well timbered, and there was a plentiful supply of timber on the various flats, ready for use.

The engine planes and travelling roads were in good order.

I have, &c.,  
JOHN DIXON,  
Inspector of Collieries.

John Mackenzie, Esq., Examiner of Coal-fields.

Seen.—J.M., 20/7/95. Records.

#### REPORT ON THE NEWCASTLE CO.'S A PIT COLLIERY.

Newcastle Co.'s A Pit Colliery.

Sir,

Merewether, 1 March, 1898.

I have the honor to report inspection of this colliery on 25th and 28th ultimo.

No. 1.—The current of air in this district was about 5,500 cubic feet per minute for 29 men, &c., giving an average of 187 cubic feet.

No. 2 Right.—In this district the current of air was about 6,000 cubic feet per minute for 48 men, &c., giving an average of 125 cubic feet.

No. 2 Left.—The current of air in this district was about 7,800 cubic feet per minute for 44 men, &c., giving an average of 177 cubic feet.

Nos. 5 and 6.—In this district the current of air was about 6,500 cubic feet per minute for 59 men, &c., giving an average of 110 cubic feet.

There were 8 men, 1 boy, and 1 horse in the No. 6 district in pillar work. They were supplied with a separate and distinct current of about 2,500 cubic feet of air per minute, giving an average of 250 cubic feet.

In the No. 5 district there were 8 men engaged in pillar extraction, but they are included in the 59 men as given above for Nos. 5 and 6 district.

Nos. 7 and 8.—The current of air in this district was about 6,000 cubic feet per minute for 46 men, &c., giving an average of 130 cubic feet.

No. 9.—In this district the current of air was about 2,000 cubic feet per minute for 8 men, &c., giving an average of 250 cubic feet.

An adequate quantity of air was reaching the working faces in each district.

The working places and wheeling roads were well timbered and in good order. There was also a plentiful supply of timber on hand, ready for use.

The whole of the main roads were also in good order and condition. The ventilating furnace was also in good working order.

I have, &c.,  
JOHN DIXON,  
Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines, Sydney.

Noted.—A.A.A., 4/3/98. Records. For the information of the Minister.—H.B.S. (for U.S.), 4/3/98. Seen.—S. SMITH.

#### REPORT ON THE NEWCASTLE CO.'S A PIT COLLIERY.

Newcastle Co.'s A Pit.

Sir,

Merewether, 9 March, 1899.

I have the honor to report inspection of this colliery on 13th and 14th ultimo.

No. 2 Right.—The current of air in this district was about 7,000 cubic feet per minute for 61 men, &c., giving an average of 114 cubic feet.

No. 2 Left.—In this district the current of air was about 11,000 cubic feet per minute for 57 men, &c., giving an average of 192 cubic feet.

Nos. 1 and 5.—In this district there were 10 men, &c., engaged in pillar coal extraction. The ventilation was good.

No. 6.—The current of air in this district was about 10,270 cubic feet per minute for 54 men, &c., giving an average of 190 cubic feet.

Nos. 7 and 8.—In this district the current of air was about 8,250 cubic feet per minute for 68 men, &c., giving an average of 121 cubic feet.

No. 9.—The current of air in this district was about 3,000 cubic feet per minute for 18 men, &c., giving an average of 166 cubic feet.

An adequate quantity of air was being forced to the face of each working place.

The working places and wheeling roads were well timbered and in good order. There was also a plentiful supply of timber on hand ready for use.

The main and travelling roads, return airways, and ventilating furnace were also in good order and condition.

In the matter of weighing all the coal, I may here state that no additional weighbridges have been erected. At the same time I have it on good authority that all the necessary weighing plant is on the way from England, and will be placed in position at both collieries owned by the Newcastle Company immediately on arrival.

I have, &c.,  
JOHN DIXON,  
Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines.

Noted.—A.A.A., 13/3/99. Under Secretary for Mines and Agriculture. For the information of the Minister.—H.B.S. (for U.S.), 13/3/99.

#### EXHIBIT W.

THIS deponent, *Thomas Lionel Bates*, on his oath, states:—I am a colliery inspector; I have on several occasions inspected the A pit of the Newcastle Coal Company's mine; I have gone through the figures of my reports, as shown in the summary produced by Mr. Dixon [*Exhibit W*]; there is only one correction to be made—the alteration of the 28th October, 1895, to the 29th and 30th October, 1895; on each of those occasions I made a careful inspection of the mine and found it in a satisfactory state.

By *Mr. Curley*: I have inspected the A pit eleven times since I have been an inspector; I have made four reports on the mine since July, 1895.

Taken and sworn at Court-house, Newcastle, this }  
7th day of July, 1899, before me,—

THOS. L. BATES.

C. G. WADE, J.P.

Adjourned till 9.30 a.m. on Monday next.  
Court-house, Newcastle, 7th July, 1899.

This deponent, *Thomas Lionel Bates*, re-called, on his former oath, states:—I produce my original reports of those referred to in the summary marked W. [*Put in and marked Y.*]

By *Mr. Curley*: I made eleven inspections of the colliery in twelve years; I look at my last four reports—the first 13th November, 1895; 21st November, 1896; 16th February, 1897; 3rd March, 1897; I measured the air in each district; I began somewhere near the first working places in each district; the measurements in the reports represent in-take readings

readings in each district ; I sometimes took a return reading, but cannot say whether I did so on any of those occasions ; if I had taken a return reading, I do not think I would have included it in my report ; I do not remember now whether I took a reading anywhere else than at the first working-places in each district ; I could tell the air was going to the men in the other parts, as I went round, by the flame of my lamp ; I took a reading at the furnace once, but cannot say when it was, or what the reading was ; I am not aware that I made inquiries as to the men on the night shift ; I have examined the report-books for the night-men since they have been used ; I can tell the velocity of the air as I travel along by the flame of the lamp ; I think night-men have as much right to be looked after as day-men ; I referred to the shortness of brattice in some of the places in my report of the 21st November, 1896 ; at that time I found the air pretty good in the mine as I went round ; I could not say that I went to every man in the pit at his place, but to most of them ; I have never met black-damp in this particular pit ; it will first put out a man's light, and if the man stays long enough in it, he will be affected ; I do not think he would feel it before the light was put out ; Pameley's work is one of the standard authorities on mining ; I cannot dispute what he says on the matter of the black-damp affecting a man before putting out his light ; I make myself familiar with the special rules of the collieries, which I visit myself ; I daresay if I inquired about the night-men, I would be supplied with particulars about them ; I regard the first inspection before the men go to work as a matter of great importance ; the hanging of canvas in the airways, while the inspection is being carried out, I regard as a very serious matter ; also the opening of doors in the airway ; the tampering with the return I also regard as a very serious matter ; such interferences with the ventilation of the pit would affect the health and lives of the men if carried far enough ; on 1st and 2nd March, 1897, I made a special inspection of the mine by direction of Mr. Dixon ; we meet sometimes in the office and chat about the mines and reports ; a special inspection would indicate something out of the ordinary in connection with the mine ; I cannot say why this special inspection was made ; I noticed nothing in that special inspection that called for notice in any way ; I carried out that inspection in the usual way ; I went into every working-place ; I discovered no cause for complaint in the mine. [Mr. Edmund's tenders reports of Mr. Dixon of 17th and 18th July, 1895, and 25th and 28th February, 1898. Put in and marked Exhibit Z ; also 13th and 14th February, 1899.]

Taken and sworn at Court-house, Newcastle, this }  
10th day of July, 1899, before me,—

THOS. L. BATES.

C. G. WADE, J.P.

### EXHIBIT Y.

[Mr. Bates' evidence.]

#### REPORT ON NEWCASTLE COMPANY'S A PIT.

Newcastle Company's A Pit Inspection, Merewether.

Sir,

Newcastle, 13 November, 1895.

I have the honor to report having inspected the above colliery on 29th and 30th October.

No. 1 Split.—There are 58 men, 5 boys, and 2 horses employed, total 68, and supplied with 9,000 cubic feet of air per minute, giving each an average of 132 cubic feet.

No. 2 Split (crosscut).—There are 50 men, 4 boys, and 4 horses employed, total 58, and supplied with 12,000 cubic feet of air per minute, giving each an average of 206 cubic feet.

No. 2 Split (right).—There are 30 men, 3 boys, and 3 horses employed, total 36, and supplied with 6,000 cubic feet of air per minute, giving each an average of 166 cubic feet.

Nos. 5 and 6 Splits.—There are 53 men, 5 boys, and 5 horses employed, total 63, and supplied with 13,500 cubic feet of air per minute, giving each an average of 214 cubic feet.

No. 7 Split.—There are 30 men, 3 boys, and 3 horses employed, total 36, and supplied with 4,320 cubic feet of air per minute, giving each an average of 120 cubic feet.

No. 9 Split.—There are 18 men, 2 boys, and 2 horses employed, total 22, and supplied with 7,140 cubic feet per minute, giving each an average of 324 cubic feet.

The wheeling and travelling roads were in good condition, and there was a plentiful supply of timber on the various flats.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

John Mackenzie, Esq., Examiner of Coal-fields, Sydney.

Seen.—J.D. The Examiner of Coal-fields, 16/11/95. Seen.—J.M., 16/11/95. Records.

#### REPORT ON NEWCASTLE COMPANY'S A PIT.

Newcastle Company's A Pit Inspection, Merewether.

Sir,

Newcastle, 21 November, 1896.

I have the honor to report having inspected the above colliery on November 16th, 17th, and 18th.

No. 1 District.—There are 52 men, 5 boys, and 5 horses employed, total 62, and supplied with 9,280 cubic feet of air per minute, giving each an average of 149 cubic feet.

No. 2 District, right-hand side.—There are 22 men, 3 boys, and 3 horses employed, total 28, and supplied with 3,360 cubic feet of air per minute, giving each an average of 120 cubic feet.

Left-hand side.—There are 60 men, 4 boys, and 4 horses employed, total 68, and supplied with 9,650 cubic feet of air per minute, giving each an average of 141 cubic feet.

Nos. 5 and 6 Districts.—There are 44 men, 4 boys, and 4 horses employed, total 52, and supplied with 7,900 cubic feet of air per minute, giving each an average of 151 cubic feet.

No. 7 District.—There are 36 men, 3 boys, and 3 horses employed, total 42, and supplied with 5,760 cubic feet of air per minute, giving each an average of 137 cubic feet.

The refuge places have been completed in Nos. 1 and 6 ; a few still require to be made in No. 2, but the work is being proceeded with in the night time, and will be finished in a week or ten days.

The air is carried to the face by means of brattice in almost the whole of the working-places ; a few places in No. 2 District require attention. The manager, Mr. Croft, informs me that all the available brattice cloth has been used up ; he has ordered a further supply which is daily expected.

A barometer and thermometer are placed in a conspicuous position on the pit top, and the necessary report-books are in use. The wheeling roads were in good condition and there was a good supply of timber on the various flats.

In my opinion the manager is progressing satisfactorily with the necessary alterations required by the Coal Mines Regulation Act, 1896.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

John Dixon, Esq., Inspector of Collieries, Newcastle.

From this report it appears that nearly all the necessary work has been done in order to bring this mine into compliance with the provisions of the new Coal Mines Regulation Act, 1896, and that the whole of the work will be completed in the course of a few days.—J. DIXON, 23/11/96. The Under Secretary for Mines and Agriculture.

Records, 24/11/96. For the information of the Minister.—H.B.S. for (U.S.), 25/11/96. Seen.—S. SMITH.

#### REPORT ON NEWCASTLE COMPANY'S A PIT.

Newcastle Company's A Pit Inspection, Merewether.

Sir,

Newcastle, 16 February, 1897.

I have the honor to report having inspected the above colliery on February 8th and 10th.

No. 1 District.—There are 42 men, 4 boys, and 4 horses employed, total 50, and supplied with 8,640 cubic feet of air per minute, giving each an average of 172 cubic feet.

No. 2 District, right-hand side.—There are 34 men, 4 boys, and 4 horses employed, total 42, and supplied with 5,280 cubic feet of air per minute, giving each an average of 125 cubic feet.

Left-hand side.—There are 48 men, 6 boys, and 6 horses employed, total 60, and supplied with 9,460 cubic feet of air per minute, giving each an average of 157 cubic feet.

Nos. 5 and 6 Districts.—There are 62 men, 6 boys, and 6 horses employed, total 74, and supplied with 9,700 cubic feet of air per minute, giving each an average of 131 cubic feet.

Nos.

Nos. 7 and 8 Districts.—There are 42 men, 4 boys, and 4 horses employed, total 50, and supplied with 7,200 cubic feet of air per minute, giving each an average of 144 cubic feet.

The working-places were well ventilated, the wheeling roads in good condition, and there was a plentiful supply of timber on the various flats.

John Dixon, Esq., Inspector of Collieries.

I have, &c.,

THOS. L. BATES,  
Inspector of Collieries.

Seen.—J. DIXON, 16/2/97. The Under Secretary for Mines and Agriculture. Records, 17/2/97. For the information of the Minister.—H. B. SULLIVAN (for U.S.), 17/2/97. Seen.—S. SMITH, 18/2/97. Mr. Dixon for special report as to whether the provisions of the Act are being complied with by this company, especially as regards the bratticing.—D. McL., 25/2/97. Mr. Inspector Bates for further report.—J. DIXON, 27/2/97. Further report herewith.—T. L. BATES, 3/3/97. Mr. Inspector Dixon.

#### SPECIAL REPORT ON NEWCASTLE COMPANY'S A PIT.

Special Report on Newcastle Co.'s A Pit, Merewether.

Sir,

Newcastle, 3 March, 1897.

In accordance with your minute I have made a further inspection of the above Colliery, on March 1 and 2, and have the honor to report as follows:—

No. 1 District.—There are 46 men, 4 boys, and 4 horses employed, total 54, and supplied with 5,760 cubic feet of air per minute, giving each an average of 106 cubic feet.

No. 2 District, right-hand side.—There are 34 men, 4 boys, and 4 horses employed, total 42, and supplied with 6,240 cubic feet of air per minute, giving each an average of 148 cubic feet.

Left-hand side.—There are 48 men, 6 boys, and 6 horses employed, total 60, and supplied with 6,545 cubic feet of air per minute, giving each an average of 109 cubic feet.

Nos. 5 and 6 Districts.—There are 62 men, 6 boys, and 6 horses employed, total 74, and supplied with 8,540 cubic feet of air per minute, giving each an average of 115 cubic feet.

Nos. 7 and 8 Districts.—There are 42 men, 4 boys, and 4 horses employed, total 50, and supplied with 6,300 cubic feet of air per minute, giving each an average of 126 cubic feet.

Since my last inspection, on February 8 and 10, two headings have been commenced between the faults in the No. 6 District; when these are connected the return airway will be considerably shortened and the ventilation improved. The places are being worked every day and will be completed in about a month.

I found all the working-places to be adequately ventilated. No complaints have been made by any of the men to the manager or under-manager with regard to ventilation, nor have I received any, although the men have had ample opportunity of doing so, either by letter or whilst I have been in the working-places, and I am of opinion there is no reasonable cause for any complaint to be made.

John Dixon, Esq., Inspector of Collieries, Newcastle.

I have, &c.,

THOS. L. BATES,  
Inspector of Collieries.

Seen.—J. DIXON, 3/3/97. The Under Secretary for Mines and Agriculture. Records, 5/3/97. For the information of the Minister.—H.B.S. (for U.S.), 5/3/97. Seen.—S. SMITH.

#### EXHIBIT X.

Coal Fields Office, Department of Mines, Newcastle, 20 May, 1899.

I, THE undersigned, Anthony Wear, coal-miner, of Broadmeadow, do hereby make the following statement, and I do hereby solemnly and sincerely declare that in or about the month of September last, I was engaged as a shiftman, working on the night shift in the Newcastle Company's A pit; on a Sunday night I and my mate, Thomas Abel, came to work at 10 o'clock, and were sent by the master shifter, William Rendal, to timber the two horse roads in No. 6 district; we took a trolley of timber into the front horse road; I went round to see what the back horse road required as regards slabs; when I went round the water haler, Joseph Fox, was in; I stepped up on to the bottom coal, my lamp being on my head alight; there was gas in the place; she lighted; I was burned about the shoulders down the right arm, the moustache burned, and eyebrows; Fox was in the place whilst this occurred; I came round, and went to my mate to warn him; he saw what had happened to me, and said he had heard the report of it; it dinned in his ears; Mr. Rendal came in shortly afterwards, and I reported it to him; he saw me, and said, "I see you are burned"; he went away, and came back again about half-past 3 a.m.; I went home, and got my wife to put some oil and whitening on the burned parts; I did not call in a doctor; I did not go to work on the Monday night, but resumed work on the Tuesday night, having lost one shift; Mr. Rendal admitted, in the presence of Mr. Abel and myself, that he was never further than the water, and was not at the face; and I make this solemn declaration as to the matter aforesaid, according to law in this behalf, made and subject to the punishments by law, provided for any willfully false statements in any such declaration.

Taken and declared at Newcastle, in the Colony of New South

Wales, on this 20th day of May, A.D. 1899, before me,—

ANTHONY WEAR.

W. J. ROBERTSON, J.P.

#### [Defendant's Exhibits.]

#### EXHIBIT 1.

[Extract from *Newcastle Morning Herald and Miners' Advocate*, Wednesday, 9 August, 1899.]

#### THE BAILEY CASE.

Sir,

Merewether, 7 August, 1899.

The Court of Investigation having concluded, and the Commissioner given his decision, advances this protracted subject one step forward. When asking for the investigation, I was especially careful to respectfully request that the Court should be composed of men representative of the interests involved, and thoroughly competent by knowledge and experience to deal with and understand all the details of mining operations, and the duties, responsibilities, and practices of colliery officials and workmen. Appointing a lawyer to conduct the inquiry placed me at an enormous disadvantage, especially compared with those who could afford and those who had a barrister and solicitor provided for them. However, a lawyer was appointed, and has given his award. My charges were four, including my reporting fire-damp and being disrated, and eventually dismissed. 1st. The burning of a man with fire-damp. 2nd. Another being overcome with black-damp. 3rd. The opening of doors and other methods of turning air into districts when the Mines Inspector happened to be in. Commissioner Wade has found each of those four points proved.

While gratified that my charges were proved, it is certainly somewhat surprising that the Commissioner should question my credibility. Commissioner Wade's limited knowledge of mining practices is the only excuse for such remarks, as "He (Bailey) was practically an accomplice in committing breaches of the Coal Mines Regulation Act." There is a great difference between an accomplice and a paid servant, obeying orders under force majeure. Commissioner Wade cannot get past this, for he says, "I am fully of the opinion that in pursuance of the plan to suppress Weir's incident, the under-manager and manager instructed Bailey not to report the finding of fire-damp in the ordinary report-book." The Commissioner's finding is quite in keeping with the facts, but when having found about 16 cubic feet of gas, I, in the face of a certain contingency, complied with the Mines Act, enter it in my report-book, and within two days after find myself disrated, and eventually dismissed. The Commissioner has no word to say, except "That Bailey was dismissed because he made known the existence of fire-damp I am unable to say." Again, the Commissioner says, "There are things which he may feel are morally indefensible, but no man with a vestige of self-respect will lend himself under any condition to the perpetration of a fraud which may entail injury to his own friends and fellow-workmen." The Commissioner forgets that it was those very breaches of the Mines Act which Messrs. Atkinson and Dixon thought Mr. Keightley was the proper person to deal with, instead of a police court. Surely my refusal to become an accomplice in hushing up such gross breaches of the Mines Act deserved some slight recognition at the Commissioner's hands. Whatever

Whatever course the local members and the delegate board may take in the interests of the miners, I feel myself in duty bound to sue the company for damages for wrongful dismissal, to which end I am writing to the various lodges, and the local members individually, to assist me in engaging a lawyer of standing, such as Mr. Wise, if possible, who, in addition to my own legal claims, would be able to define a degree of responsibility incurred by a manager, under-manager, and fireman, when the latter commits a breach of the Mines Act, intimidated by the belief that if he refused he must tramp the roads for work, and his wife and children starve. One matter I wish in particular to draw your attention to. From April 3rd to June 26th—twelve weeks—I was doing my utmost to obtain the investigation. For this twelve weeks' delay no blame attaches to myself. I therefore consider it very hard that my wages for that period have been refused. Twelve weeks, at 46s. per week, although a large sum to me, is trivial to the Mines Department, especially in comparison to the amount paid to Messrs. Edmunds and the solicitor instructing him. Trusting I shall be assisted in this matter, and thanking Mr. Curley for his aid.

I am, &c.,

J. W. BAILEY.

## EXHIBIT 2.

THIS deponent, *William Gall*, on his oath, states:—I am a deputy at the Newcastle Company's mine; I have been employed for fifteen years, eleven of which I have acted as deputy; before that I was a miner; I first heard of gas in the mine on the 28th March last; in all my previous experience of the mine, I never came across gas in the mine nor black-damp; I never heard of either gas or black-damp in the mine prior to that date; I never heard anything of gas or anything else in the mine in connection with anybody; I never knew beforehand when an inspector was coming into the mine; I never knew or heard of a case where the ventilation was interfered with while an inspector was in the mine; the first I heard of the gas as reported by Bailey on the 28th March last, was when I went down the pit about 6.35 a. m. on that day with Mr. H. Croft and Yardley; that was at the cabin at the pit bottom, Deputy Jones, Bailey, Ambrose, Yardley, young Croft, and myself were present at the time; the under manager came into the cabin and said, "Good morning, are you all right?"; that is the usual thing to be said every morning; Jones replied, "Yes," but Bailey pointed to the book lying on the desk, and said nothing; Croft then looked at the book, and said, "Bailey has reported a little gas"; he then asked Bailey where he had got it, and he replied in the back headings—in the back dip heading; I looked at the book which stated it had been found in the front heading; Croft asked him how much was there, and he said he did not know; Croft asked, "Have you no idea?" and Bailey replied, "No"; Croft asked, "Where did you get it?" and Bailey replied, "I got it in a hole in the roof"; Croft said, "Did you get it in the lamp?" and Bailey replied, "Yes, it was there all right"; Croft then turned to me, and said, "Take your lamp and go and see what is wrong down there; I will follow you when I got the pit started"; I went straight in then to where Bailey had stated he had found the gas—in the back heading; I locked my lamp and went straight to the place; there was a man working there, and I took him out; I took my lamp and went in and searched for gas, but was unable to find any, I searched in every hole and corner of the heading where I thought gas was likely to be, I could not get the slightest trace of gas; I told the man to go to his work, then turned and went to the narrow bord where I met the under manager coming in; we went back and searched both headings—back and front—up and down, but could not detect the slightest trace of gas; that would be about 8 a. m.; I found a hole in the roof of the back dip heading; I tried there, but could get no gas; it would have been a likely place if there had been any gas there; the under manager used my lamp; the under-manager then went out to report the affair to the manager; Bailey had then gone to lay some rails in No. 7; there was no one working in the front heading that morning when I went in; Bailey was examining deputy until Ambrose and I came in; it was his business to have stopped the man from working in that heading when he found gas; between 2 and 3 p. m. same day the manager and the under manager met me at No. 6 station; in consequence of what the manager said I went with him to the dip headings, and made another examination of the front and back headings; we found nothing there; I was then instructed by the manager to accompany Bailey round the pit on his examinations in the morning; that would bring me into the pit at 3.30 a. m.; next morning I went down at 3.30 a. m. and got my lamp; there were three lamps altogether; they were a small Marsaut, a large Marsaut, and a small Clanny; I had key for the lamp; it was in the lamp box, and had been there since the lamp had been there; Bailey took the small Marsaut lamp; there was a key to it which was hanging alongside the lamp; Bailey did not lock his lamp nor take the key with him; I followed Bailey round; he went to No. 1, examined the places there, then No. 5 and then No. 6; when he got into No. 6 he took the bonnet of his lamp off and lit it; he did not light it till he got into the headings—the back rise heading of No. 6; he lit it by his naked light; I had lit my safety-lamp in the cabin at the pit bottom; Bailey put his naked light down on the out by side of the cut though then went to the face; he examined the back rise heading first; he came away and said as far as he could see it was all right; he then went to the front rise heading on to the canch; I went with him; he shoved his lamp right into the corner and said, "There, a small trace there"; he did it very quickly; I tried the spot, and could not detect the slightest trace of anything; I told him I could not get anything, and he said, "Oh! no, my light has exhumed it all; he went on to the other side of the heading, and shoved his arm up quickly there, and said, "There is a slight trace there"; I tried the place, but failed to find any gas; I saw nothing when he said he had got a trace; he had an extra large flare on his light at the time; he then went to the dip headings, and tried there getting nothing; he then went to the cabin and made his report; when he shot out his arm with the light in the way I have described he said his flame had puckered; I asked him what that meant, and he said it had moved; I told him he could not see a small quantity of gas in that way, and he said he could; I looked at his report after he had signed the book; he reported everything safe in the mine; I said nothing to him about it; about 9.30 a. m. the manager and under manager came in, and we all met at No. 6 station; there were Bailey, Ambrose, the manager, the under manager, and myself; we went up the No. 8 engine road, and the manager said, "I expect you have seen I protest against your report" Bailey replied, "Yes," and the manager said, "In my mind it's not a correct one"; Bailey made no reply; the manager then read the special rule bearing on Bailey's duties; he then asked Bailey where he had got the gas, and Bailey said, "In the back heading"; the manager asked how much, and he said he did not know; manager asked him where he had got it, and he said, "In a hole in the roof"; The manager said, "Did you get it in your lamp?" Bailey replied, "Yes"; the manager then asked if he had got a blue cap, and Bailey replied, "Yes"; the manager then said, "Does it not strike you, Bailey, that when you get a permanent blue flame on your lamp there is more than a little gas there?" Bailey made no reply to that; the manager then said, "Well, Bailey, I am of opinion that there is something behind the scenes that has caused you to make this report"; Bailey replied, "Yes, there is"; some time ago a man got a bit of a singe; the manager asked who, and Bailey replied, "Anthony Weir; him and his friends have been talking; they say that I should report a little gas"; the manager then said, "whether you get it or not"; and Bailey replied, "Yes, I have done so"; the manager said, "Well, Bailey, I am convinced there is collusion going on, and I have now lost confidence in you"; Bailey said nothing, but walked away to his work; he first asked the manager if he might go to his work, and the manager said, "Yes"; the next morning I followed Bailey round on his examination; he took his lamp, lighting it in the cabin; he did not take the key with him; I took a separate lamp; he went his usual round, through No. 1, then 5 and 6; nothing unusual took place there; there was no talk about gas, either back or front; I continued to follow Bailey round in that way till another man (Jones) was put on; that would be on the 4th April last; on the 14th April last, in the office, there were the manager, the under-manager, Ambrose, Newburn, Bailey, and myself; the manager questioned Bailey as to the charges he made against the deputies; the manager asked Bailey about some canvas, concerning which he had complained to the Minister for Mines; Bailey replied that he and Ambrose had done it; first of all, Bailey said he had been to Sydney; the manager asked him if he had made a statement to the Minister, and he said, "Yes"; the manager asked Bailey if he had told the Minister about some canvas being put across No. 2 in-take; Bailey replied, "Yes"; the manager asked, "Who did it?" and Bailey replied, "Me and Newburn did it"; the manager said, "Bailey, you never mentioned Newburn's name last night"; Bailey said nothing in reply to that; Newburn said, "Bailey, it's a lie", Bailey said, "Now, Newburn, I'll have you"; Newburn said, "How can you have me!" and Bailey said, "Can't I get a friend to swear he came on to the canvas while we held it up?" Newburn replied, "No, you can't get a friend, but you might get a lying scoundrel like yourself"; Bailey said nothing to that; Bailey accused me, in the office, that night of not having the canvas up in the heading; I said it was an untruth that the canvas had always been up; Bailey said "the canvas never was up, and that he had prayed to God for me to put it up"; I told him it was an untruth; the manager said to Bailey, "Well, Bailey, I consider you've gone to the Minister from nothing else but spite, to injure me and my officers"; Bailey replied, "I did not go with any antagonistic feelings towards you or your officers either";



either"; he then asked if he could go; the manager stopped Bailey and said to him, "Well, Bailey, I have made up my mind that you shall not go down that pit again under my management"; Bailey replied, "I have my notices wrote out in my pocket to give you, but the Minister for Mines and Chief Inspector Atkinson told me not to give it to him till he dismissed me"; Bailey then went away; Bailey never informed me that he had found black-damp in the place where Taft worked in No. 5 pillars; Taft's affair first came to my knowledge on the 14th April last, when it was mentioned by Bailey; I first heard of Weir's accident on the 29th March last, the day after Bailey reported gas; I heard it from Bailey; he told the manager; I never heard the under-manager instruct Bailey not to report in the book; I never saw Bailey hand the under-manager a note of any kind; I never saw the under-manager tear up a note in Bailey's presence, or out of it; I never saw the under-manager burn a note handed to him by Bailey; I never heard Bailey report to the under-manager the presence of gas or black-damp in the mine; I know the witness Arthur Johns; it is not true that he asked me several times to put up brattice beyond him, and that I refused him; I have found fault with Johns several times for pulling down the canvas after I had put it up; that was in the front dip heading of No. 6; the heading was worked in two sections, with about 2 feet 4 inches of bottoms; I used to put the brattice up on the canch, within about 6 feet of the face; he used to take the canvas down when he wanted his bottoms up, and throw it down any fashion, and cover it up with the muck; the face was then without canvas; I have gone there and found the canvas pulled down and lying under the dirt; I told him that if it occurred again he would have to go and see the manager; Johns never told me that he had found gas in the heading where he was working, nor did I tell him it was nothing; I never heard from him or anyone else that Johns had found gas in his heading; I know Williams and Taylor; I remember them sitting out on the heading for two days; that was at the commencement of the cavil; the men very seldom do much work for the first day of the cavil; I saw those two men sitting out on the heading, and asked them what they were doing there; they said they were not going to start, and I asked them what was wrong with it; they replied that they did not think they would work the cavil; I told them they could please themselves about it; I went and looked at the place where they had to work; it is not true that there was a scarcity of air where they were to work; there was any amount of air there for them; that particular bord was standing on a jump, which makes the work rather harder for the miner, but he is paid extra for the jump; Williams and Taylor asked me what was to be paid for it, and I said I had nothing to do with the pay; there was no accumulation of muck there to prevent them from working; I could walk up behind the canvas, which was up the first night; Taylor and Williams went in on the third day and worked on; Williams stopped work after a while, and was away for a fortnight; Taylor went to work with his younger brother; the younger brother had been working with another brother who had gone to Hillgrove; the Taylor who was Williams mate then went to work with the younger brother; when Williams came back he worked by himself for a while; I asked him what had been the matter with him, and he said, "The old complaint"; I asked, "What was that?" and he replied, "Asthma"; there was no alteration between the ventilation in that place when he came back and when he went away; there is an overcast there, but it has never been used to this day; it could not have altered the condition of things with regard to the ventilation of Williams' place; there was no door put up to alter the condition of the ventilation there; Williams was in bord No. 117; Selby and Tunncliffe were working in the back heading, and could not get their air from any other source than that which supplied Williams and his mate; I have never put coal on the furnace in the mine; it is not true that on one occasion, when the inspector was in the pit, I put large coal on the furnace in an unusual manner; we used what is called "shandygaff" for the furnace—mixed coal; I have never seen any unusual firing at the furnace when the inspector has been in the mine; I cannot remember any occasion when special coal was used; I have never spoken to Bailey about the anticipated visit of an inspector; I know the door in No. 8; the boy has been sent away from that door scores of times; I cannot remember any instance when the boy has been sent away without anyone left in his place; he would be sent away on various messages—getting harness, and hurrying up the drivers, &c; I can remember one morning sending him away with Bailey; Bailey told me that there were some bords wanted canvas in; I told him to go and put it up; he said time was getting on, and asked for the boy to go with him; I told him he might, but not to be too long; he was away with the boy about three-quarters of an hour, and I remained at the door and kept it closed all that time; I know Watts; it is not true that the gob was heaped up in No. 77 in No. 6 to such a height that the air was blocked; there was the ordinary gob from his own bord there—about 4 feet high and 8 feet wide; that remained there till the bord was finished; there was sufficient air going over the top of it to them; Watts once said that he wanted a little more air in; I told him I thought he had sufficient; I went to the face and tried it with my light, and showed him the deflection of my light, and asked him if there was not enough air there for him; he said "There's no bloody air"; he worked in No. 1 pillars during another quarter; that place did not require bratticing; we made a cut-through in pillar 13 to take the air through No. 1 pillars; Atkinson was working in the 14th pillar marked AA; Watts was working in 13th pillar marked W; the air was brought from the No. 1 in-take through the cut-through in pillar marked 13, brought up to the pillars where Watts and Atkinson were working; a cut-through was made in the pillar next to Atkinson, and the air there split, part going to Atkinson and part to Watts; I went in more than once and tried the air; in my judgment it was good air, and there was sufficient of it; I never saw the lamps burning badly in the pillars; I never had lights that were burning badly pointed out to me; at any of the interviews after Bailey's report of the gas, there was nothing said by the manager to the effect that he wanted something kept out of the reports; the manager never said put in "A little gas not dangerous"; Bailey never said to him, "What about the black-damp in No. 5 pillars?" nor did the manager reply, "Oh, in that case put in black-damp".

*By Mr. Edmunds:* I was deputy for No. 1 pillar workings; there were six men working there at first, but two were taken out; the work there ceased four months ago; the air was then cut off No. 1 by a check being put on at the in-take; there were no men at work in No. 1 after that; that check has been up for about eight months; it was not put right across till the work ceased; there was a space of about 18 inches or 2 feet left open to admit sufficient air for the men working there; there was too much air going in there before the check was put up; there were only four men working there; during the last twelve months never more than eight men at the most have worked in No. 1 pillars; before the check was put on there was enough air going into No. 1 for thirty men; the check was put up before the workings were stopped, because the number of men was reduced; there was a split in the front heading on the exhibit J at the cut-through marked A; the whole of the air supply did not go through cut-through A, because a big check was put on there—a canvas door; the cut-through at A was never left fully open.

*By Commissioner:* There were sixteen men on the faces off the back heading; on the out-by side of cut-through A at the back heading there was a stopping, and the air would come through cut-through A, and join the air that had gone to Selby at cut-through B, and would then go to the sixteen men at the face.

*By Mr. Edmunds:* I had some experience of gas in England; I have tested for gas in a mine there on several occasions; I have been taken in by a manager there to see gas and its effect upon the safety-lamp; for the last fifteen years I have not seen any gas at all.

*By Mr. Curley:* I am quite familiar with all the deputies in the A pit of this Colony; I first knew of an examining deputy using a lamp in the mine about twelve months ago; I heard the deputy say he was using the lamp; that was Bailey; it was in No. 6 district; that lamp was used for more abundant caution in approaching faults while inspecting; I did not hear of Weir's accident till the 29th March last; I had never heard the under-manager refer to it; I do not hold any certificate; I have never had anything to report in the mine on my examinations; I have examined the places off and on for the last eleven years; I have done the examining deputy's work when he has been off; that was all the examining I did before this; I have examined the pit when it has been idle; I know nothing about the night-overman going to No. 6 with a naked light while the examining deputy was using a safety-lamp; on two occasions before this I had to complain about Bailey; on those occasions he took the bonnet off his Marsaut lamp to look for gas; I told him he ought not to do it, and he said that was the way they did where he came from; and that he could find it better that way; I told him I thought so; on another occasion he had too big a flare on his lamp, and was poking about the corners when the large flare broke his lamp; that was on the Sunday night following the taking off the bonnet; this happened about eight months ago; the glass of that lamp was not injured before that; I had not been using it, but had been looking at it; I saw the book in which Bailey reported gas the morning he reported it; I was surprised to hear of any gas being in the mine, although I knew they had been using safety-lamps; the lamps were used as a matter of precaution in approaching the faults.

*By Commissioner:* The gas would more likely be given off in the daytime, when the faces are being worked; the lamps were not used in the daytime.

*By Mr. Curley:* If I had found gas in any of the places I should have blocked the place up, and prevented anyone going in, and also reported the gas; I would not try to remove the gas in any way; I did not see any gas on the 21st March; it was a check that was put up on No. 1 road; it was put up in different sizes; as the men were withdrawn from No. 1 it was put further across the road; when Atkinson and Johns and those other men were working there it would be within about 2 feet of the road; it would go partly over the roadway.

This

*By Commissioner* : The first portion was wooden, which was canvassed over afterwards.

*By Mr. Curley* : It was first of all constructed of canvas, but we found that would not do so we put up the boards ; the boards reached to within about a foot of the roadway ; when Bailey pointed to the book in the cabin the under-manager opened it and looked at it ; he did not then hold out the book and say to us "see what he has done?" he was standing at the time ; he sent me away to see if there was anything wrong after looking at the report ; he then went into the stables to turn the wheelers out to work ; he asked Bailey how much he had got ; Bailey could not tell him but said "it was there right enough ;" I call the in-by heading the front heading ; the back heading gets the air first ; that was not the first time I had had a lamp in my hand to look for gas in the colliery ; I had several times when examining the places used a lamp to look for gas ; I have used it for No. 6 ; I have used it in all places that were approaching a fault ; I examined No. 1 on September 24th, 1898, but not with a safety-lamp ; I examined No. 6 on several occasions with a safety-lamp when we were going towards any faults ; that was done as a precaution ; Arthur Johns never mentioned to me that he had seen a flash in his place nor did his mate Caldwell ; I cannot say how often I examined with a safety-lamp before that morning I went round after Bailey ; I only examined as examining deputy when the fireman deputy was off and some times when the pit was idle ; I saw Bailey at the furnace on the 29th March last ; I was waiting for him and had been there about half a minute when he came ; it was about 3.35 a.m. when I saw him there ; I went down about 3.30 a.m. that day, and Bailey came down in the cage following me ; there was a furnaceman there at the time—Redpath ; he had gone down at 3 a.m. ; the under-manager did not appear to be at all excited about this report ; Croft first spoke to me about following Bailey round about 3 p.m. on the 28th March last ; he told me to accompany Bailey till further orders ; he said then he had seen Bailey's report ; he did not appear to be the least excited about it ; before he told me to go round we had had an examination of the place ; we had a talk about it I suppose ; he has never ordered me to follow any other examining deputy round in the same way ; I was at the door about three times when the boy Jones was away with the deputy, but on many occasions I have sent him away myself on messages ; Ambrose and I used to take our meals near that door every day ; the boy has gone away twice with Ambrose when I have been at the door ; he was away half an hour or three quarters of an hour ; Williams never complained to me about bad air ; the air was good in No. 1 pillars ; Williams worked in No. 8, the air was good there ; the night overman was the man to see Taft and Turner were working at shift work ; Randle never complained to me about the ventilation in No. 5 ; the ventilation that got to Taft and Turner came from No. 6 ; it came in off the back narrow bord of No. 1 up the heading—the face of the heading ; then it turned round into the next heading below then out on to the back narrow bord again ; there was a sconce projecting about 7 feet into the back narrow bord of No. 1 ; that turned the air into the headings as far as where the men were working in the face ; then it went round the bord into the next heading below and then back into the narrow bord again ; the sconce did not go right across the back narrow bord ; it left an opening of only 2 feet for the air to go down ; what did not get past the sconce and escape would go up the heading to Taft and Turner ; Randle never told me that the air was very bad there nor that it was light ; I never heard of Taft having to be carried out of there till I heard it from Bailey recently ; Randle never told me of it ; before this affair with Bailey the deputies and officials of the mine worked together in a friendly manner ; I never heard the manager complain of Bailey before that time ; I never heard the under-manager complain about him ; I am certain Ambrose was present when Mr. Croft spoke to Bailey about the matter on the engine road ; I was there during the whole interview ; Bailey was the first man to leave of all ; I have never been instructed by either the manager or under-manager to put up canvas in the mine when the check inspectors have been down ; I would not have done it if I had ; I believe Bailey did act as under-manager one day ; I never knew when the check inspectors were in the mine, except when I saw them there.

*By Commissioner* : A road had not to be cleared to put up the brattice in bord 117, where Williams was working ; the road had been cleared and the brattice put up before he went there ; all these bords had been cleared and brattice put up in them when the men went to work there ; I do not know what happened to induce them to work on the third day after idling the first two days ; there was nothing unfavourable about those bords as compared with the others ; I would be in No. 1 pillars several times during a shift when they were being worked ; the air has been a bit warm there, but nothing to speak of—nothing more than could be expected in pillar-workings ; I was there when Atkinson was working there ; the air was a bit warm there, but not too hot ; in the bord between the cut-through where Atkinson was working and the pillar the roof had fallen, which would direct the air towards where he was working ; Watts did not point out any dirt to me in No. 1 which had been heaped up in the wrong place, nor did I use any such expression to him as "Damn my rags" ; I had no naked light when I went round with Bailey on the 29th March last ; Bailey carried a naked light as well as a safety-lamp ; I did not speak to him about it ; I thought his own sense should have taught him better ; if he had gone into the face with his naked light I should have checked him for it ; he was 15 yards from the face with the naked light ; I reported him to the manager for carrying the naked light on that occasion ; it was not my place to check Bailey for carrying the naked light on that examination ; I reckoned it was my place to speak to him on the other occasions when he went into the face with the safety-lamp, and did what he did there with his safety-lamp ; I knew he was going to look for gas when he took the naked light with his safety ; he did not look for gas in the place he said he had found it ; he went to the rise headings.

*By Mr. Curley* : Weir has asked me if his place had been examined ; I told him it had ; I said nothing else to him ; Abel was close by at the time.

*By Mr. Bruce Smith* : The lamp shown me is one used in the pit ; it is the small Marsaut, and the same one as Bailey used to examine the faces ; when the bonnet is off, a strong current of air might cause the flame to burn through the gauze ; I heard the lamp crack when Bailey had the large flare on it, and was holding it at an angle ; I spoke to him about it, and he replied, "That's nothing—I'll get another one."

*By Mr. Edmunds* : It is cracked now as it was then ; it has not been used since Bailey left.

Taken and sworn at Court-house, Newcastle, this }  
10th day of July, 1899, before me,— }

C. G. WADE, J.P.

WILLIAM GALL.

This deponent, *William Gall*, recalled on his former oath, states as follows (*to Mr. Bruce Smith*) :—During the interview in the office, on the 14th April last, Bailey said nothing about considering Mr. Croft's poor wife and family ; nothing was said about Mr. Croft's wife and family.

*By Mr. Curley* : Nothing was said to Bailey asking him to consider the matter ; Newburn did not say to Bailey, "Think about poor Mr. Croft's wife and family" ; Bailey left the office first ; the rest of us left together ; I cannot say whether Newburn or I left the office first.

Taken and sworn at Court-house, Newcastle, this }  
11th day of July, 1899, before me,— }

C. G. WADE, J.P.

WILLIAM GALL.

### EXHIBIT 3.

THIS deponent, *William Ambrose*, on his oath, states :—I am a deputy at the Newcastle Coal Company's mine ; I have been in the employ of the company seven years, and as a deputy about two years ; before that I was a shiftman and a miner ; I was a shiftman for close on two years ; I have followed mining all my life ; I was mining at Waratah before coming to the Newcastle Company ; I have been employed in mines in different capacities for fifteen years altogether ; I have been in both the A and B pits of the Newcastle Mine ; until March last I never knew of the presence of gas in the mine, nor had I heard anyone else say he knew of it ; I never saw any black-damp ; I never heard of anyone being affected by it ; I never knew when the inspectors were coming into the mine ; on three different occasions Mr. Dixon has been round Nos. 7 and 8 before I knew he was in the mine ; I have never made any alteration in the ventilation when an inspector has been in the mine ; I have never known anybody to tamper with the ventilation in any manner when the inspector has been down ; I have never altered the ventilation when the check inspectors have been down, nor have I known of anybody else doing such a thing ; I go down the mine at 6.30 a.m., the same shift as Gall ; I have charge of Nos. 7 and 8 districts, and Gall of No. 6 ; Gall, being the senior deputy, sometimes goes round my district ; sometimes I go to his district to assist him ; I remember Bailey reporting the finding of gas in the mine ; I was down about 6.30 a.m. on the 28th March last, before the under-manager and Gall came down ; when the under-manager came down of a morning it was his custom to ask, "Is all right?" ; he did so on this occasion, and Jones, the examining deputy, replied, "Yes" ; Bailey

Bailey, Jones, Gall, Yardley, the under-manager, and myself were present; Bailey then pointed to the book on the desk closed; Bailey said nothing; the under-manager opened the book and said, "Bailey has reported finding gas"; the under-manager asked him where he had found it, and he said in the back heading; the under-manager asked him how much he had found; Bailey became confused and excited, and said he did not know; the under-manager then told Gall to go down to the place with the safety-lamp and examine it, telling him that he would be down as soon as he got the pit started; Bailey and I then went away together to work, starting the wheelers and looking after the roads; Bailey said nothing to me about the gas that day; the next day I received orders to meet the manager at No. 6 station about 9:30 a.m.; the manager, the under-manager, Gall, Bailey, and myself met together there; the manager said, "You being a little deaf, Bailey, and there being so much noise, we'll go to a quieter place"; we went up No. 8 heading; the manager said to Bailey: "Bailey, you've noticed that I've protested against your report; I do not think it is a correct report; it is strangely worded; where did you get the gas?" Bailey replied, "In a hole in the roof"; he asked him if he had got it in the lamp, and Bailey replied, "Yes"; the manager asked, "Did you get a permanent blue cap?" and Bailey replied, "Yes"; the manager said, "Did it not strike you when you got a permanent blue cap that there would be a large quantity of gas present?" Bailey replied, "I don't know"; the manager then said, "I think there is something behind the scenes to cause you to make this report"; Bailey replied, "Yes, there is"; he seemed to be in a state of confusion and excitement; he was sitting down at times and standing up at times; Bailey continued: "Some time ago there was a man got a bit of a singe"; the manager said, "Who was that?" and Bailey replied, "Anthony Wear; him and his friends have been talking about it, and say that I should report finding a little gas"; the manager said, "What, Bailey! whether you find it or not?" and Bailey replied, "Yes"; the manager then said, "Well, Bailey, I've lost confidence in you! I am satisfied there is collusion going on"; we then all separated and went on with our work as usual; on the 14th April last in the colliery office on the surface about 4:15 p.m. we all met again—the manager, the under-manager, Gall, Newburn, Bailey, and myself; Yardley was not there; we all sat round the table, and the manager said to Bailey, "Have you written to the Chief Inspector or Minister for Mines regarding some of my officers putting canvas across the air-courses, and regarding black-damp and gas?" Bailey had been off work about that time; when this question was put to Bailey, he replied, "I did not write"; the manager asked, "Did you see the Chief Inspector?" and Bailey replied, "I went further than that; I saw the Minister personally"; he said that he had told the Minister that brattice had been put across to turn the air, and about the black-damp and the gas; the manager asked who the men were that had put canvas across the air-courses, and Bailey replied, "Newburn put canvas across No. 2 in-take"; Newburn told Bailey he was telling an untruth; Bailey said, "Now Newburn, I'll have you; can't I get a friend to swear that he came on to the canvas while we were holding it up?" Newburn replied, "Yes; you may get a lying scoundrel like yourself, but not a man"; Bailey said nothing in reply to that, but seemed annoyed; the manager then asked Bailey, "Who else?" and Bailey replied, "Ambrose"; he put a canvas in No. 7 to deceive the Government inspectors; I told him he was telling a lie, and that I would not be connected with such dirty work; Bailey said nothing in reply to me; Gall then said that he doubted whether he—Bailey—had ever seen gas, and Bailey said to Gall, "Yes; you are the cause of all this trouble"; Gall said nothing in reply; Bailey did not say how Gall had been the cause of the trouble; the manager then said, "Bailey, you'll never go down this mine again while I am manager"; Bailey put his hand towards his trousers pocket, and said, "Oh, well, I have my notices written, but the Minister for Mines and the Chief Inspector told me not to hand them in, but to get the manager to dismiss him; they told me to write, and I'll do so—the world's wide and I'm done with you; the manager said to him, "Don't forget to tell the Minister and the Chief Inspector when you do write to them what you are discharged for—for incompetency and telling untruthful statements to the Minister and the Chief Inspector; I know Williams, the witness who has given evidence; I remember when he and Taylor got work in No. 8 during the first quarter; I remember them sitting down and doing no work for the first two days; they did very little at all for the first three days; I asked them what they were doing sitting about in that way, and they said they were taking a smoke; neither Williams nor Taylor made any complaint to me about the air there; there was nothing about the work in that bord which would make it compare unfavourably with the other bords; there was just a little jump in the floor; that would make their work a little harder; they would be paid something extra for the jump; I never told Williams that he had no business to replace a canvas that had been knocked down; I remember no canvas that had been knocked down in Williams' place; it is my place to put up any canvas that has been knocked down; there is no objection to a man putting up a sheet of canvas in his place if it has been knocked down; when those two men were sitting at the mouth of their bord there were two men—Selby and Tunnicliffe—further in than they were; Williams and his mate would get the air before Selby and Tunnicliffe; I have never heard the under-manager instruct Bailey not to report gas in the book; I have never heard him restrict Bailey in any way as to his reports; I have never seen Bailey hand the under-manager a note, nor the under-manager tear up or burn a note handed to him by Bailey; I have never heard Bailey tell the under-manager of the presence of black-damp or gas in the mine; I know the door the boy Jones had charge of; I have sent him away from that door dozens of times; when I have done so I have attended to the door myself; I can clearly remember sending him away three times with Bailey; that was on three different days; on the first occasion I sent them to No. 8 to bring down some rails and canvas; they would be away about half-an-hour; that would be between five and six months ago; on another occasion I sent the boy away with Bailey to canvas three bords in No. 7; Bailey had told me that there were some bords wanted canvassing; I was at the box by the door at the time; I sent the boy with him because Bailey's time was nearly out; I stayed at the door while they were away; it was closed all the time they were away; there was no inspector in the mine at the time; Bailey went away with the boy; he came back, and I asked him if he had canvassed all the bords; he said, "No"; I asked him if he had canvassed the gannin bord, and he said, "No"; I then sent him back to do it; he went away; the next morning on going round I found that he had not canvassed the gannin bord; I asked Bailey why he had not done it and he said he had been laying some roads instead.

*By Commissioner:* I saw Bailey come back the second time on that occasion, but did not speak to him; I was sitting on the box at the time.

*By Mr. Bruce Smith:* It is not true that I sent the boy away from the door that time in order that I might leave the door open and thus deceive the Government inspectors; on another occasion I had found Bailey lying asleep when I had sent him to do some work; I did not report him on that occasion; when he failed to put up the canvas, as I have described, I told him that if he failed in his duty again I would have to report him to the manager; sometimes when I have sworn in Bailey's presence he has thrown himself on his knees, shaken his head, and emitted groans; he has called that praying for me; I have never seen the lamps burning badly in No. 1 pillars; such a thing has never been brought under my notice; it is not true that Mr. Croft said in my presence, on the 29th March last, that he wanted to keep carburetted hydrogen out of the reports; that he stopped at the word "carburetted" and his son finished it for him; Mr. Croft never in my presence told Bailey, when he asked him how he should report black-damp, that he should just say black-damp; it is not true that he asked Mr. Croft how he should report—carburetted hydrogen gas or black-damp; I never heard of Weir's accident till I heard Bailey mention it, nor of the collapse of Taft; there is not a word of truth in the allegation that I ordered Bailey to put up special brattice when the inspectors were in the mine.

Taken and sworn at Court-house, Newcastle, this }  
10th day of July, 1899, before me,—

C. G. WADE, J.P.

W. AMBROSE.

Adjourned till 9:30 a.m. to-morrow.  
Court-house, Newcastle, 10th July, 1899.

This deponent, *William Ambrose*, recalled on his former oath, states:—I have known four lamps to be kept in the mine—Mueseler and Clanny—two of each; they were kept in the cupboard of the desk; there were keys to all of them; the keys were kept near the lamps; I never used any of the lamps until this inquiry began.

*By Mr. Edmunds:* There are faults in Nos. 7 and 8; I did not examine there with the safety-lamp before the 28th March last; I was the examining deputy for No. 6 about eighteen months ago; I have had no experience of gas in a mine.

*By Mr. Curley:* I look at the deputy's report for 24th September, 1898; it is signed by me; I made that report; I visited Nos. 6, 7, 8, and 9 when I made it; that was not eighteen months ago, but it may have been a Saturday; I did not examine with a safety-lamp on that occasion; I went round to all the working-places; the mine was idle; I never thought of looking for gas; we had never heard of gas in the mine; I never saw a safety-lamp used in the mine before the 28th March last; I had not paid much attention to safety-lamps before that; I had only read of them; Bailey had no conversation with me about keeping the canvas well up to the face in No. 6; he never told me to cut short props to put on the canch, so as to keep the brattice well up to the face; he never told me that unless I kept the brattice well up to the face

he

he would have to report gas ; he never mentioned gas to me in his life ; he and I went into No. 6 together nearly every day ; he was assisting me there ; I am positive that he never mentioned gas to me before the 28th March last ; as far as I know, safety-lamps were not used for the purpose of inspection till the 28th March last ; Bailey was inspecting-deputy on the 21st March last ; he would leave the cabin at the pit bottom about 6.30 a.m. that day with me ; he did not hand me a safety-lamp that morning at the pit bottom, nor did I see him give Gall one ; I never heard of Weir's accident till the 29th March last ; I heard of it from Bailey in No. 8 heading ; the manager, under-manager, Gall, Bailey, and myself were there together ; I am certain I was there ; as far as I know, no man was injured in my district without my knowledge ; a man may have been injured in another district without my knowledge ; I cannot explain how it was that I did not hear of Weir's accident or Taft's collapse ; it is very seldom that I go down No. 5 district ; Williams never complained to me about the ventilation in No. 8 ; it is not a usual thing to see men sitting about the bord ends smoking in working hours ; I know Williams was off work for some time ; he never complained to me of ventilation, but told me that he had had an attack of asthma ; I have always worked in fairly good air wherever I have worked ; I have never noticed bad air in a mine wherever I have been ; I dare say bad air would affect a man ; I hold no certificate, nor am I a mining student ; I am a practical miner ; the boy Jones was the keeper of the door, of which he had charge ; I did not go to assist Bailey instead of the boy, because it takes one deputy to keep the wheelers going on the flat ; the in-by points are about 15 yards in by the door ; to come to the one station there were two deputies on that flat, but Gall was away at the time the boy went away with Bailey ; he was down in No. 6 ; as a rule, there is one of us on the flat all the time to keep the wheelers moving and things in general right ; I could have kept the door open or shut during the time the boy was away ; when the boy came back with Bailey the first time, I saw him ; Bailey took a drink off the box 5 or 6 yards from the door, and the boy was standing behind him near the cut-through, about 3 or 4 yards behind Bailey ; Bailey stayed there while he got a drink—three or four minutes ; I did not tell Bailey to go back, and take the boy out of the road ; I asked him if he had bratticed the bords, and he said, " No ; " I then told him to go back and finish them ; if the boy is sent away from the door, the person left in charge of it could not do as he liked with the door, because the driver is going through every fifteen or twenty minutes ; the door could be kept open without his knowledge while he was away ; I did not get orders from anyone to send the boy away from the door on messages ; I had authority under Special Rule 30 to send him away as long as I stayed there myself ; it was an every-day occurrence for me to send him away to hurry up the drivers when the train was short ; I have never appointed anyone in his place while he was away ; I have always stayed at the door myself when I have sent him away ; I did not on any occasion order Bailey to go into No. 7 to put up canvas to divert the air ; it is not a fact that I was engaged in putting it up when Bailey came in and assisted me ; Bailey and I have always been very good friends, and, as far as I am personally concerned, are yet ; I had cause for complaint against Bailey only twice, and those I never reported ; once I sent him up No. 8 to do some work, and I afterwards found him lying asleep with his lamp out ; on the other occasion I sent him with the boy to put up canvas in the bords, and he neglected to do it in one of them ; I did not consider it serious enough to report ; if the officials of the mine were in the habit of falling asleep at their work, it would be a serious thing for the mine and men ; it would be a serious omission on the part of the deputy if he neglected to put up brattice where it was required, and where he had been told to put it up ; I do not think it was my duty to report Bailey for failing to put up brattice in the bord where he had been ordered to put it up ; I do not examine with the lamp now ; I am day deputy ; if I were acting as examining deputy to-morrow, and found gas, I would consider it my bounden duty to report it at once ; I have never been followed by anybody while making my examinations that I know of ; I know that the Government Inspector does not follow the same round every time, because he comes to my district first, sometimes to No. 6 ; he has been round part of the mine on three occasions before I knew he was in the mine ; I have never known when any inspector has been coming to the mine—never ; I have never known he was in the mine before he came into my district ; I believe once a complaint was made by a miner that I had refused to put up canvas in his bord ; I saw Mr. Atkinson, who told me that two miners had complained to him about not getting canvas ; I denied that I had ever done so, and I deny it now ; I cannot say whether one or both the men had complained to Mr. Atkinson ; there was nobody excited but Bailey at the interview in the manager's office, when Bailey spoke of having his notice written out ; the manager told me of these matters on the 12th April last, in the presence of Mr. Atkinson ; I exhibited no temper at the interview in the office.

*By Mr. Bruce Smith :* Bailey was under me in the mine.

*By Mr. Curley :* I put up the canvas in Williams' bord myself just after the cavil ; I put three sheets of 4 yards each up ; Bailey did not put up any canvas there at that time ; it was the day after the men had cavilled that I put up the canvas in Williams' place ; I put the three sheets up the day before they started work there, and a fourth sheet two days after they started work.

*By Commissioner :* There was not room for the fourth sheet when I put up the three ; the night shiftmen took down some splint before I put up the fourth sheet ; it was on the second day that I put up the fourth sheet ; if a bord is not to be worked for some time the brattice is taken out of it, and put up somewhere else.

*By Mr. Edmunds :* That bord had been standing before Williams and Taylor cavilled for it ; perhaps it was idle for a month before ; I think it had been worked during the previous quarter ; if I want brattice for a bord I would take it out of idle bord that was close by ; if I found no men working in a bord, and it had brattice in it, I might take the brattice down to be used in another bord that was working.

*By Mr. Bruce Smith :* If I knew that bord was to be worked a day or two I would not take the brattice out of it ; I would use my judgment in a matter of that sort.

*By Mr. Edmunds :* I know that bord is near the winning heading ; it was broken off the winning heading ; it would be a bord in which work would be likely to be carried out ; I have taken down brattice in bords in that way perhaps a month before the men went to work, perhaps more ; the brattice rots away if it is left standing in an idle bord.

*By Mr. Bruce Smith :* It takes from ten to fifteen minutes to put up the brattice in a bord ; I did not know that that particular bord was to be worked that quarter until the cavil had taken place ; I had the jump of 8 inches taken away before I put up the fourth sheet of canvas ; that had nothing to do with the face ; the jump was a kind of block ; whenever I sent the boy away from the door I stayed there myself ; I did not mean that if Gall sent him away I would be at the door ; when I was brought before Mr. Atkinson the men who complained were not there ; I made my explanation to Mr. Atkinson, and I heard nothing more about the matter.

*By Commissioner :* The fourth sheet of canvas brought it to within about 3 or 4 yards of the face ; the fourth sheet was necessary to comply with the general instructions to keep the canvas within 6 or 7 yards of the face ; I cannot give any reason why the fourth sheet was not put up before the men went to work ; the men there did not complain to me about the air in that bord ; they did not complain to me about the brattice ; to the best of my recollection that particular place had been stopped during the previous quarter ; I have never gone away from that door myself with the boy ; I am certain that I never took the boy away from the door ; I have no recollection of going away from the door with the boy, leaving Gall in charge of the door ; I do not remember ever taking Jones away from the door, but believe I have taken the other trapper away to help me put up canvas ; I am not sure whether it was Jones or Davis ; I took up No. 7 with me to assist in putting up canvas ; whichever it was, Gall was left in charge of the door while I was away ; the canvas will last in a bord about two months ; it then drops from the tacks to the floor.

Taken and sworn at Court-house, Newcastle, this }  
11th day of July, 1899, before me,— }  
C. G. WADE, J.P.

W. AMBROSE.

This deponent, *William Ambrose*, recalled, on his former oath, states (*to Mr. Bruce Smith*) :—I remember the interview in Mr. Croft's office when Newburn was present ; Newburn said nothing to Bailey to the effect that he should consider Mr. Croft's poor wife and family ; nothing of the kind was mentioned.

*By Mr. Curley :* No attempt was made to reason with Bailey about these matters ; Bailey did not say to Newburn, " Think about poor Mr. Croft's wife and family " ; nothing of the kind was mentioned ; Bailey left the office first, and the rest of us left together.

Taken and sworn at Court-house, Newcastle, this }  
11th day of July, 1899, before me,— }  
C. G. WADE, J.P.

W. AMBROSE.

EXHIBIT

## EXHIBIT No. 4.

THIS deponent, *Samuel Jones*, on his oath, states :—I am a deputy in the Newcastle Coal-mine, and have held that position over ten years ; I have been in the service of the company about twenty-one years ; I was a miner before I was a deputy ; I am on the morning shift, going in at 3-30 a.m. and coming out at noon ; I have never come across gas in the mine, or black-damp ; I never heard of gas or black-damp until I heard of Bailey's report ; I remember the occasion of Bailey's report ; I inspect Nos. 2 and 10 of the mine ; the first I heard of Bailey's report was when he came into the cabin ; he had signed his report before I went into the cabin ; when I went in he went out ; I signed my report ; he was away about a quarter of an hour, then returned ; he said, as he came in through the door, "I am not satisfied with my report" ; I said nothing in reply ; he went to the cupboard and got out the report-book, and wrote another report in it ; he added the words from his signature down in the report shown me—[*Exhibit B*] ; he said nothing when he put the book in the cupboard ; I went the next morning to see what he had added to his report ; the next morning the overman came down and asked was everything right ; that report was written about 6-20 a.m. ; I am not certain whether it was that morning or the next that the overman came down and asked was everything all right ; Ambrose, Gall, Yardley, Bailey, young Mr. Croft, and myself were present at the time in the cabin ; the overman said, "Good morning, is everything right?" Bailey showed the book to him ; he put his hand on the book and said, "Here, I found gas this morning" ; the under-manager asked him where, and he said, "In the back heading" ; Croft asked, "What quantity?" and Bailey said he could not tell ; Croft then told Gall to go into the place and examine it, and he would follow him as soon as he had started the pit ; I saw the book before the others came down that morning ; I did not know what he had added till I looked at the book ; the signature is always at the foot of the page, and not immediately under the words "all safe" ; I have never known when the inspector was coming into the mine ; I have never been informed beforehand when the inspector was coming ; I have never heard the under-manager instruct Bailey not to report gas in the book ; I have never heard him instruct Bailey as to any restrictions upon any report he might make about gas ; I have never seen the under-manager tear up a note in Bailey's presence ; I never told Bailey that I had seen black-damp or gas in the mine ; I heard that Wear was burnt a month or six weeks before the 28th March last, but understood it was by powder ; I heard nothing about gas ; the miners told me of it—I cannot remember which ; I did not report it to anybody ; I heard that Taft had a fit on the night when it happened ; I heard the miners talking of it ; I did nothing in consequence of that ; nothing was said at the time about black-damp ; I was told that he had had a fit and been taken out ; I do not go near the pillars when they are working. I never told Bailey that I dared not report gas nor anything like that ; I never at any time spoke to Bailey about gas.

*By Mr. Edmunds* : I am on good terms with Rendal ; I never had a chat with him about the Wear affair ; I very seldom see Rendal ; I see the under-manager as much as is necessary and no more ; I never had a talk with him about the Wear affair ; I may have spoken to my fellow-deputies about it when we heard Bailey's report ; we heard Wear had been burnt, and thought it was with powder ; I did not speak to anybody about it ; I spoke with the miners about it ; it was not Fox or Abell to whom I spoke ; I did not ask where it had happened ; I knew it was in No. 6, because I knew that Wear and Abell were working there ; I did not go and see Wear ; I do not know the man ; by "we" I mean the men I spoke to as I went round the bords ; they did not say they thought Wear had been burnt with powder, but I guessed that was what they thought ; I thought so ; the shiftmen use powder to cut the rock in driving through the faults ; I knew that Wear and Abell were driving the faults ; I was told that by different people ; I do not have a chat with the men in the mine on my rounds ; I have no time to chat ; I heard in the pit that Wear had been burnt ; I believe it was my own mate, Jones, that told me about Taft's affair ; I did not mention it to any of the other deputies nor to any one in the mine.

*By Mr. Curley* : I do not enter into any bond of secrecy as a deputy ; I am certain that I never saw Bailey give the under-manager a note of any description ; I have never told anybody outside the pit that I had seen Bailey hand the under-manager a note ; I know John Allison's place at the Glebe ; I might go in there once or twice a week ; I do not have a chat with Allison occasionally ; I never sat down in the house in my life ; I have spoken to Allison in his house ; I was there last night ; it is a hotel ; I did not tell John Allison that I had seen Bailey hand a note to the under-manager ; I did not tell him that two months ago, a month ago, or a week ago ; I have seen Bailey sometimes carrying a safety-lamp under his coat, and put it in the cupboard in the cabin and lock the cupboard ; I have seen Bailey write his report many times ; I have never seen him write notes after he had written his report ; I have never seen any but the one lamp in the cabin ; I have seen a book of rules in this cabin ; it was there this morning, and has been there a long time ; I cannot say whether I saw it in the cabin before Bailey made that report ; I have never seen a key for the lamp in the cabin ; I never saw a lamp-key in the cabin till the report came out ; I had nothing to do with Taft's affair ; it was not in my district ; I was examining Nos. 2 and 10 at that time ; I am not examining deputy for No. 6 now ; it was John Jones that took up Bailey's work as deputy ; I was not in No. 6 about that time ; I have been in No. 6 ; I have not been there for ten years, except when I have been fixing flats occasionally.

*By Mr. Bruce Smith* : There might be more lamps than the one in the box of which Bailey had the key ; I could not see into that box ; there were books and things belonging to the under-manager in that box ; it was a kind of case ; I have never looked into it.

*By Mr. Curley* : I might have got nails out of that box ; things might be in the back of the box without my seeing them ; it was about 4 or 5 feet long and about 2 feet wide and about 4 feet high ; the light we had to look into that box was the electric light in the cabin ; it is a good light ; I am sure it was not about the time Bailey began to use the lamp that I heard about Wear's affair ; Wear had gone home before I heard of it ; I did not as a deputy make any inquiry as to why the lamp was being used ; I never had any chat with Bailey concerning his reports of his district ; I met him in the cabin almost every morning.

*By Commissioner* : It was a month or two before he left the mine that I first saw Bailey using the safety-lamp ; I had never seen a safety-lamp used in the mine before that by any of the workmen or officers ; I was surprised to see it being used, but did not ask any questions about it ; I know the general rules under the Act, and that referring to examinations with a locked safety-lamp where inflammable gas has been found in a mine ; I cannot say now whether I heard of Wear's affair from more than one miner or not ; I knew what using a safety-lamp probably meant.

Taken and sworn at Court-house, Newcastle, this }  
12th day of July, 1899, before me,—  
C. G. WADE, J.P.

SAMUEL JONES.

Adjourned till 9-30 a.m. to-morrow.  
Court-house, Newcastle, 12th July, 1899.

## EXHIBIT No. 5.

THIS deponent, *William Newburn*, on his oath, states :—I am assistant overman in the Newcastle Company's mine ; I have been in the employ of the company about twenty years ; I have had about thirty years' experience as a coal and iron-stone miner ; I have occupied my present position about nine years ; the first time I heard about gas in the mine was about the third pay-day in the quarter before the last ; we are paid fortnightly ; Dobb was the first to mention it to me ; I have never seen the slightest trace of gas in the mine during my twenty years' knowledge of it ; I have never found any black-damp in the mine ; I know the mine pretty well over ; I have worked principally in A pit ; it would be about the 14th April last that I heard that Bailey had reported finding gas in the mine ; I got a note from the manager to go to the office ; I went to the office, and there saw the manager, the under-manager, Ambrose, Gall, and Bailey ; the manager said to Bailey, "Who instructed you to place a canvas across the intake in No. 2?" Bailey replied, "Newburn assisted me" ; I said, "Bailey, you're a malicious liar ; how can you sit there and make such a statement?" he said, "Newburn, I can have you" ; I said, "How can you have me?" he said, "Can't I get a friend to say that he came on to the canvas while you and I were holding it up?" I replied, "You might get a lying scoundrel like yourself, but you cannot get a man" ; Bailey then said that Ambrose had held a door open in No. 6 while the inspectors were in No. 9 ; Ambrose said, "It is a lie ; I did nothing of the kind ; I would not do anything so mean" ; then Bailey said to Gall, "You're the cause of all this trouble" ; I could not make out the charges he made out against Gall, but he was so agitated and excited that I could not make out what they were ; the manager then said to Bailey, "You've told a parcel of lies to the Minister for Mines and Chief Inspector ; you've made a number of false charges against my officers, and I can't allow you to go down the mine any more while I am manager" ; Bailey then said, "I have my notice written out, but have been advised not to give it in by the Minister for Mines and the Chief Inspector till I was dismissed. I will do so now" ; I understood him to say that he expected dismissal ; he further said, "Now I will write to them," and then walked away ;



about the third pay in the quarter before last Dobb was passing my house and I asked him how he was getting on; he replied, "I've got the run; have you heard about Wear being burnt in the pit?" I replied, "No; Wear also has left"; he shook his head and said, "I'll make it warm for young Croft yet"; that was all the conversation; I first heard of gas being found in the mine from Dobb when he was telling me about Wear being burnt; he said he had been burnt with fire-damp; I never heard of Taft being overcome in the mine till I read it in the papers after this inquiry had started; I go into the mine between 6:30 a.m. and 6:45 a.m. each day; at present I am in the B pit; it is about eighteen months since I left the A pit; when I was there I had districts 2, 10, and 11 in my charge; I never knew when the inspectors were coming into the mine—decidedly not; I never knew of any alteration being made in the ventilation while any inspector was in the mine; I decidedly did not hear the under-manager instruct Bailey not to report gas in the book; I never saw Bailey hand him a note, nor the under-manager tear up or burn a note which Bailey had given him; I never heard Bailey tell him that he had found gas or black-damp; I know No. 2 return in A pit; I never told Dobb that it was so blocked up that I could not travel along it; I could have ridden a pony along it; it was never blocked up; I never helped Bailey to put up a canvas in the air-course to divert the air; on one occasion we restricted No. 10 intake with the object of sending over air into the new district that was opening out—No. 2; that reduced the air in No. 10 district; the men had been reduced from thirty-six or thirty-eight to fourteen in that district; it was putting the air into No. 2 district; the men in No. 2 were increased from twenty-seven to about forty-eight; as the change took place I made the alteration in the ventilation; Bailey was shifting dirt and making places ready; I ordered him to do the work of altering the ventilation and I assisted him; it took us from an hour to an hour and a half; Bailey did not ask me why I was doing it, nor did I explain to him why I was doing it; there was no inspector to my knowledge at that time in the mine; that canvas was never taken down, but remained there while the men were in No. 2; it stood for twelve or fifteen months; it was put up for no other object than to regulate the ventilation properly and give an increased supply of air to the increased number of men; I never had Bailey to assist me in putting up any other canvas; that happened about four years ago.

*By Commissioner:* It was done in the daytime.

*By Mr. Edmunds:* The men in No. 10 were gradually reduced from the fourteen till they were so few that it was not worth keeping a horse going there; they were not suddenly reduced from the thirty-six to fourteen, but gradually; they were never increased after being reduced to fourteen; we never had more than fourteen in No. 10 after being brought down to fourteen; I think forty-eight was the largest number we had in No. 2 at one time; I mean forty-eight miners; they would require eight horses and six or eight boys; I refer to No. 2 as a whole district; No. 11 was placed upon the same air as No. 2 right; there may have been as many as seventy-four men, boys, and horses in the whole air district in February, 1895; it is a fair estimate of the number of men, boys, and horses I have given; I cannot recollect the exact number of men, boys, and horses at work in the district at any given time; it is about eighteen months since I have worked in the A pit; it would be about the same time since I was in No. 2 return; I generally travelled the No. 2 return once a week, and the district return daily, when I was in charge of the district; No. 2 return is not the only return I have travelled in A pit; I have travelled No. 10 return; at the time I was asked to go to the manager's office I had nothing to do with A pit, but I suppose I was sent for in consequence of the charge made against me; if I had wished to deceive the Government inspector I could have gone into No. 2 return, where I had less area to block off; where Bailey said I put up the canvas there was an area of 48 or 49 feet, and the engine train was going by every quarter of an hour with forty-five skips; Dobb never told me that he had heard me behind the canvas; the first I knew of it was when I read it in the papers; I have worked in gassy mines in England—in the Felling pit, one of the most gassy in the county of Durham; I was working as a miner there.

*By Mr. Curley:* I hold the position of assistant under-manager; I hold a certificate for service, but none for examination; I obtained it just after the Act was passed; I applied for it to the proper authorities; I believe it was the Minister for Mines to whom I applied for it; there is a connection between the A and B pits; there is a narrow bord driven off No. 2 which connects the two pits; the engine road runs right through the two pits; I know of no connection between the two pits near No. 6 in A pit; if one goes out of No. 6 on to the engine plane, he can go straight along the engine road to B pit; there is no obstruction between the two pits there; there are about 220 miners engaged in the B pit; I do not recollect saying anything more than what I have stated in the interview in the office; I did not say, "Think about Mr. Croft's poor wife and family"; I left about 3 feet by 3 feet to ventilate No. 10 when we put up the brattice.

*By Commissioner:* The area may have been 12 feet by 6 feet before we put up the brattice.

*By Mr. Curley:* I never took any readings of the ventilation; I know No. 2 engine road in the A pit—between 1 and 10; I did not hang up a canvas where Bailey says I did; Bailey and I did not put it up between us; Bailey put it up in his imagination; I would scorn to do such a mean thing; I have never done anything of the sort; I cannot say whether Dobb would be familiar with my voice; I have conversed with him, but I cannot say how many times; he was working there when I was working there; when I have business with the manager I go to the colliery office; if he desires any of the officials to meet there we go there; we have not during the last eighteen months mingled more freely with the mine officials than during the previous months; we do not meet at stated times; when the deputies are sent for they go to the office; I have met the other officials of the mine at the colliery office during the last eighteen months; I did not hear of Wear being burnt by fire-damp there, nor about Taft; none of the officials told me of either of those occurrences; I have nothing to do with A pit now.

*By Commissioner:* I do not recollect whether anything was said about black-damp in the office on the 14th April last; the first I recollect of knowing or hearing of the black-damp was when I read the report of this inquiry in the papers; at a point about 100 yards in-by the spot where the No. 1 return joins the main return is another overcast, which takes the air into No. 10; we nailed the canvas on the joists of that last-mentioned overcast; we put canvas from the rib towards the centre, leaving an opening in the centre, and from the beams down to the floor; in the middle space there was a flap nailed on to the joist; there were not twenty men in No. 10 when that was done; to the best of my recollection, there were only seven places left, which would mean fourteen men, with the necessary boy and horse; any derangement or injury to that canvas would make a difference in amount of air; the canvas is often torn down by the skips; I cannot account for the increased average of air per man after that canvas put up; we did our best to reduce the air; I could tell by the office books how long the men worked in No. 10 after the alteration.

*By Mr. Curley:* The B pit is to the rise of the A pit in the colliery.

*By Commissioner:* I did not say I could ride a pony along No. 2 return; I said along a portion of it—most of it; I said the engine road ran from No. 6 to No. 2, and then along the narrow bord to the B pit; there is a door between the two pits, which is kept closed; when the canvas was put up in No. 10 the men in No. 2 were gradually increased, not suddenly.

Taken and sworn at Court-house, Newcastle, this }  
11th day of July, 1899, before me,—

C. G. WADE, J.P.

W. NEWBURN.

#### EXHIBIT No. 6.

THIS deponent, *Herbert Claude Croft*, on his oath, states:—I am under-manager of the Newcastle Coal Company's A pit; I have been in the employ of the company about nine years; I began as a trapper boy; I was from three to six months cutting coal; since then I have done general work in the mine till I reached my present position; I have worked partly in B pit; I have been exclusively occupied as under-manager of the A pit for about two years; I have never heard of gas in the mine till Bailey reported it; I had never come across black-damp, nor heard of it, till after Bailey had left the mine; I first heard of the Wear affair on the 29th March last, and of the Taft affair when it came out in the paper; I remember the 28th March last; when I went down the pit that morning, about 6:40 o'clock, I went to my cabin and bade the deputies and fireman good morning; Yardley and Gall went down with me and Jones; Ambrose and Bailey were in the cabin when I got there; it was usual for me to bid them good morning; I opened the report-book that was lying on the desk, and went through the reports; I found that Bailey had reported a little gas; when I addressed the men, I said, "What are you like?" and Jones replied, "All right"; Bailey pointed to the book on the desk; I then picked it up, and saw his report of the gas; I asked Bailey how much gas he had seen, and he did not answer; he was so agitated that I had to ask him a second time, "Bailey, I see you've reported a little gas"; he made no reply; he was confused and agitated; I said, "Did you get it in the lamp?" and he replied, "Yes"; I then turned round to the deputies, and Gall in particular; I said to Gall, "Bailey has reported a little gas in the front dip heading; take the lamp and go down, and examine

examine those headings ; I will be down as soon as I get the pit started ;" Gall went away ; it was before I questioned Bailey as to where he had got the gas that I told Gall Bailey had reported the gas ; I asked Bailey what quantity of gas he had got, and he could not say ; I did not ask him if he had got it on the flame ; Gall went away after Bailey ; I followed down as soon as I had done some work ; Gall had the safety-lamp ; there were two lamps in the pit at that time—a Marsaut and a Clanny ; when the bonnet is off the Marsaut lamp there is nothing on the top of the gauze to prevent the flame coming out when it is elongated ; I had a lamp of my own besides those two ; it was down the pit at different times, but not on that 28th March ; there were two keys for the lamps, and mine locked with a leaden plug ; those keys were kept in the cabin, and were accessible to the firemen ; Bailey used the small Marsaut ; the key of that was hanging alongside the lamp in my box ; neither of those two lamps was ever without a key ; when I went down to Gall that morning I asked him if he had found anything, and he said not the slightest trace ; he and I then made another examination of the back and front headings, but found no trace of gas ; Bailey had reported in the book that the gas was in the front dip heading ; he afterwards told us it was in the back dip heading that he had found it ; he told us also in the cabin that he had found it in the front dip heading ; Bailey went about his work when I went to meet Gall ; I had no further conversation with him that day ; next day I went down the pit about 3-30 a.m. ; the manager had ordered me to do that ; Bailey arrived about five minutes after I had gone down ; I asked him to look at the report-book, directing his attention to the protest of the manager ; Bailey turned to me and said, "I did not think that the company had lost faith in me ;" Bailey got his lamp, and we went together by the furnace ; he had the small Marsaut lamp ; he did not take the key with him, nor did he lock the lamp ; Bailey did not light at his lamp in the cabin, but afterwards ; I lit mine in the cabin, and locked it ; we went together as far as the furnace, where we met Gall ; I then told Bailey to go ahead, and Gall and I followed him at an interval of two or three paces ; we went by No. 1, and then to No. 5 ; Bailey had not lit his lamp, but was carrying a flame-lamp ; we went to No. 6 back heading, where Bailey lit his lamp and walked into the back heading ; he put his flare-lamp down by the stentin ; he lit his lamp by unscrewing it and lighting it at the flare-light ; he did not lock it ; we then went to the face of the back heading, Bailey leading ; he had about three-quarters of an inch flare on his lamp, and shoved it right up into the corners of the heading ; I asked him why he wanted to examine with a  $\frac{3}{4}$ -inch flare on his lamp, and he made no reply ; we then went through the stentin into the front rise heading ; Bailey went up into the face, where he poked his lamp up into the left-hand side, then turned and poked it up into the right-hand side ; he then said, "There's a small trace here ;" Gall said, "Where is it ? I could not get it ;" Gall had put his lamp up into the same place ; Bailey made no reply to this ; I asked him again to show us ; I said, "Show us it ; we can't get it with our lamp ; show us it ;" Bailey made no reply ; we then went round the works to the dip heading, Bailey testing as we went along ; we then went round to the shaft, where Bailey signed the book, "All safe ;" when we said to Bailey, "Show us it ; we can't get it," Bailey said, "Oh, my lamp has exhumed it all ;" the same day, from instructions, I told the deputies to meet the manager on No. 8 road, about 9-30 a.m. ; we met there—the manager, Ambrose, Gall, Bailey, and myself ; we went up No. 8 heading, where some of us sat down ; the manager said to Bailey, "You'll have noticed that I have protested against your report, it not being a correct report ;" Bailey said nothing ; the manager said, "The report is not in accordance with the Act, it being too vague for the first time of reporting the gas ; you have not said anything about the roof or sides, ventilation, brattice, &c. ;" Bailey made no reply to that ; the manager then read the special rules aloud to Bailey—those portions bearing on his examinations ; Bailey said nothing when that was finished ; the manager then asked him where he had found the gas, and he said, "In a hole in the roof ;" the manager asked him if he had got a permanent blue cap on the flame, and Bailey said, "Yes ;" the manager said, "You only found a small quantity," and Bailey replied, "Yes ;" then the manager said, "Did it not strike you, Bailey, that if you got a permanent blue cap on the flame there would be more than a small quantity given off ;" Bailey made no answer to that ; the manager then said, "Bailey, in my opinion there is something behind the scenes that has caused you to make this report ;" Bailey was very white and haggard, and his hands were trembling at this time ; Bailey replied, "Yes, there is ; some time ago there was some one got a bit of a singe, and he and his friends have been talking ;" the manager asked who it was, and Bailey replied, "Anthony Wear ; and they say I should report a little gas ;" the manager : "Whether you get it or no ?" and Bailey replied, "Yes ;" the manager then said, "Well, Bailey, I have lost confidence in you, and am now satisfied that there is collusion going on ;" Bailey then went to his work.

*By Commissioner :* The last words said were "Collusion going on."

*By Mr. Bruce Smith :* I stayed with the manager, and Bailey went to his work ; on the 14th April last I saw Bailey in the office at the colliery ; the manager told me to tell the officers to meet there after work ; we all met in the afternoon—the manager, Gall, Newburn, Ambrose, Bailey, and myself ; Bailey had been away from work at Easter-time, but had come back ; the manager said to us all, "Bailey has made charges to the Minister and the Chief Inspector, and I have brought you together to go through them and make an investigation ;" he then asked Ambrose if he had put up canvas in No. 8 to deceive the inspector ; Ambrose replied, "It's a lie," looking at Bailey ; Bailey said nothing in reply to that, but went on to say that he and Newburn and he had put canvas in the mine to deceive the inspector ; Newburn said it was a malicious lie ; Bailey turned to Newburn and said, "Could I not get a friend to come and swear that he passed under it as we were tacking it up ?" Newburn replied, "No, you could not get a man but a lying scoundrel like yourself to do so ;" Bailey then told Gall that he was the cause of all this trouble ; then the manager said to Bailey, "I have proved all your statements false, and I consider you went to the Minister and Chief Inspector out of pure spleen to injure me and my officers ; you will not go down this pit again while I have the management of it ;" Bailey put his hand to his pocket and said, "Oh, I have my notice written out to give to you, but the Minister and Chief Inspector told me not to do so, but wait till you discharged me, then write to them at once ; I have done with it now ; they told me to write, and I'll do so ;" the manager then said, "And don't forget to tell them why you are discharged—for incompetency and taking untruthful statements to the Minister and Chief Inspector ;" Bailey then left the office, and did not go back to work again ; I have never known of any brattice being put up or any obstruction to interfere with the ventilation of the mine while the inspector was in or shortly before he came ; I never knew when the Government inspector was coming into the mine ; on one occasion word was sent to me by the check inspectors, about half an hour before they came in, to meet them ; that was about two months ago—the last time the check inspectors were in the mine ; I went and met them ; no complaints have ever been made to me that the air was bad ; I know Williams and Johns, Watts, Taylor ; not one of those men ever complained to me about the want of brattice or insufficiency of air ; I never told Bailey not to report gas in the book ; I never told him how to report gas in the book ; I never had a conversation with him about gas in my life ; I never had a note of any description from Bailey in my life ; I never tore up or burnt a note he had given me ; he never reported to me verbally that he had found black-damp or gas in the mine ; I remember the deputy reporting to me at the beginning of the cavit before the last that Williams and Taylor were sitting about and not working ; that was the second working day ; I went down, but they had gone home ; it was in the afternoon ; I saw them the next day or the day after that at their work ; I did not say anything to them about not working ; they made no complaint about the brattice or air then, but about the jump ; Williams asked me did I think it was a fair place for a man to make a fair wage in ; I told them they would be paid for their jump ; that was all that took place ; they made no complaint about anything else.

*By Commissioner :* They were working at that time.

*By Mr. Bruce Smith :* I know where Selby and Tunncliffe were working at that time ; the air had to pass Williams and Taylor to Selby and Tunncliffe ; they had the one supply ; there is no confusion at all in my mind as to the back and front headings ; the furthest in heading I call the front heading ; the deputies I have under me are Gall, Ambrose, and Yardley, and deputy-firemen S. Jones, J. Jones, and Wilson ; one of the Joneses has taken Bailey's place since he left ; I never heard of any part of the mine being known as the gassy portion ; when Bailey put up his lamp, as I have described, I saw nothing whatever to indicate the slightest trace of gas ; I know No. 2 return ; it is not true that at any time one could not travel along that return ; it is not true that I ever promised Williams that I would get him something extra for working in the bad air ; I promised him something extra for working the jump, and he got that ; I never instructed Dobb to do anything to divert the ventilation while the inspector was in the mine ; I never did anything to divert the air while the inspector was in the mine ; I never heard of anything being done like that ; I never got on to Dobb for complaining to the manager ; I have had cause to speak to Dobb about the small amount of work he had done ; he called me a tyrant and a bully ; that was in the early part of the year 1898 ; we used mixed coal for the furnace ; I have never known any change to be made in the size or quality of coal for a special occasion ; best coal is always used in a certain proportion with the small ; I have never known any special firing-up to be done when the inspector was in the mine ; the fire is kept up during Sunday ; the water-baler looks after the fire on Sundays ; the ventilation is not slacked off at the end of the week ; I have never known anybody to be dismissed from the mine for complaining.

*By*



*By Mr. Edmunds* : I first saw Bailey's report of the 28th March on the 28th March ; I went down at 6:40 a.m. that day ; Bailey should have gone down at 3:30 a.m. ; when I went to the heading I went there to see if Bailey's report was correct ; if any quantity was giving off I should have found some there ; it was part of my duty to go and examine the place which had been reported as giving off gas ; I took particular notice of this report on account of Bailey's state of excitement and the peculiar wording of the report ; the words " All safe " are repeated ; the report is not according to the rule ; I inspected the place because it was my duty ; I reported it for the same reason ; I knew that Rendal never made a report till five months ago ; I did not know that he was doing wrong in neglecting to report ; it had never been done to my knowledge ; I knew that Taft and Turner were working clearing the road in No. 5 ; that place was inspected by the day deputy.

*By Commissioner* : I believe Rendal used to inspect that place within four hours of the men going to work there ; but he would not report it in the book until five months ago ; on other nights the day deputy would inspect that place going his rounds ; he was the only one that inspected that place ; the day deputy might have inspected that place within four hours of the night shiftmen going to work ; they went down at 4 p.m. ; I brought Bailey's report under the notice of the manager, and told him I doubted it ; that was on account of the way it was worded, and the agitated state of Bailey ; the repetition of the words " All safe " raised a doubt in my mind as to the correctness of the report ; the deputies have no restrictions placed upon them in making their reports.

*By Mr. Edmunds* : The manager suggested that Gall or myself should follow Bailey round the next morning ; I did not suggest that a protest should be written in the report-book ; I did not know that was to be done ; I know of no case where a protest has been made against a deputy's report in that way ; I was not present when that protest was written on the report ; I did not point out to the manager that it was not a right thing to do ; I believe I mentioned to the manager that the report said nothing about roof or sides, ventilation, &c. ; I consider it should have been a more detailed report ; there is no other report in the book with any more details, but this was the first time anything wrong had been reported in the mine ; it was because the gas mentioned that I found fault with the omission of the details as to the roof and sides ; I heard about Wear's affair on the 29th March last from Bailey ; I remember seeing Mr. Atkinson on the 12th April last ; I do not remember if he asked me if I was aware that a miner had been burnt with gas at any time ; he asked me if I knew of gas in the mine ; I said, " No " ; I had heard of Wear's affair at that time ; I have no recollection of Mr. Atkinson asking me if Wear had been burnt with gas, or if I knew of it ; I was present some of the time during the interview between Mr. Atkinson, Mr. Dixon, and my father in the office ; the manager told Mr. Atkinson that a deputy had reported finding gas ; I do not remember Mr. Atkinson asking me if gas had been reported to me some months ago when Wear was burnt ; I gave Mr. Atkinson no information about Wear's case ; the question Mr. Atkinson asked was had I seen any gas in the mine ; I told him no ; I told him nothing about what I had heard of the gas in Weir's case ; he never asked me about that ; it is more common for the in-take air to be brought in through the front heading and then through the back ; in the case of our mine it is the contrary in No. 6 ; I travelled through the No. 1 return about a week before the pillars stopped.

Taken and sworn at Court-house, Newcastle, this }  
11th day of July, 1899, before me,— }

H. C. CROFT.

Adjourned till 9:30 a.m. to-morrow.  
Court-house, Newcastle, 11th July, 1899.

This deponent, *Herbert Claude Croft*, recalled on his former oath, states (*to Mr. Edmunds*) :—Up to the time of writing that report there had been no cause of complaint against Bailey, nor had he made any against the mine ; the manager did not inform me of his intention to put Bailey on the night-shift before it was done ; I know there was a letter written to him about it, but I was not consulted about it ; the manager would know of Bailey from Rendal and myself ; I made no complaint about him ; I cannot give any reason for his removal to the night-shift.

*By Commissioner* : I wish to explain that I made a mistake yesterday when I said that Mr. Atkinson had not asked me if I knew that a man had been burnt in the mine ; he asked me if I knew that a man had been severely burnt ; I told him I did not.

*By Mr. Edmunds* : I made inquiries from Rendal about Wear's matter, and he told me that his moustache had been singed ; that was after the conversation of the 29th March last ; that was all the inquiry I made about the matter ; I did not ask who had seen it ; Rendal told me that Abell and Wear had been sent to the narrow bord ; he said nothing about Fox ; I made no inquiry of Abell ; Rendal told me that the matter had slipped his memory ; that he thought it was of such slight importance ; I told him that he should have reported it ; I know that any explosion of gas by which a man was personally injured should be reported to the inspector ; the question is : Was the man personally injured ? if such a case happened to-morrow I should report it to the inspector now ; if I had known of that matter of Wear's at the time I certainly should have reported it to the manager ; I did not censure Rendal for his neglect to report ; I simply told him he should have reported it ; I have had no experience of gassy mines at all ; I have a knowledge of the danger of gas explosions in a mine ; if a man inspected a place before the water-baler went in he should have inspected the face as well as where the baler was to work ; I have myself looked to the ventilation in No. 1 pillar workings ; they were ventilated up the front narrow bord, through the cut-through, up the gannin-bord, up again to a bearing-up stopping ; then we sided down ; about halfway down the pillar there was a cut-through put through, then the pillar went straight on ; the air was carried to the face in the pillars ; it was not bratticed ; there was no occasion for that ; I know the bord in which Williams was working ; he was working at the face on the third day of the caving ; I was in the bord on the second day ; there was some brattice in the bord then ; it was within 8 or 9 yards of the face ; I believe it was put up at the beginning of the quarter, after the fencing had been taken down ; a bord like that would be fenced off if work ceased in it for a few weeks ; I know the overcast in No. 1 return ; there was never anything put in it to my knowledge ; I know from the paper that Dobb swore I had ordered him to put a stopping in it and take it out again ; nothing like that happened with reference to the overcast to my knowledge ; there is no foundation, in fact, for such a statement as Dobb's ; I was the under-manager in the absence of Mr. Monter ; I was under-manager from July to September, 1895, and in February, 1898 ; I remember two check inspectors named Hardy and Clapton ; I did not tell Dobb that those two men were making a check inspection ; the check inspectors' book shows that those men made an inspection on the 14th, 15th, and 16th February, 1898 ; it appears from the book that that was the only inspection those men made ; some men prefer the night-shift, some the day-shift ; Dobb was put on the night-shift about that time because we had some work going on which we wished to push forward, and therefore wanted all the men we could get on the night-shift ; Dobb was never a deputy ; he was put off the shift-work because the work was finished, and we were reducing the shift-hands.

*By Commissioner* : We put extra men on the night-shift because the work could not very well be done in the daytime.

*By Mr. Edmunds* : I did not speak to Bailey about leaving the cabin with lamp unlocked because I did not deem it my duty to do so ; I thought he should know himself what he should do ; I knew he was breaking one of the rules by going out with his lamp unlocked ; I wished to take notice in what way he made his examination ; that is my reason for not speaking to him about his unlocked lamp ; when Bailey was put on the night-shift the manager told me that he wanted the places near the dyke inspected with a safety-lamp ; I never inquired whether Bailey was competent to make an inspection for gas with the safety-lamp ; when Bailey said he could get a man to say that he had seen Newburn and him holding up the canvas I never asked who the man was ; I made no inquiry into that allegation, because it was false ; I did not know of my own knowledge whether it was false ; I did not know of my own knowledge that the allegation about Ambrose taking away the boy from the door was false ; I knew the allegation with regard to Newburn was false, because he denied it in the office, and questioned Bailey about it ; the manager investigated that matter ; he made further investigation than that of the 14th April ; he made inquiries round the pit.

*By Commissioner* : That would be after the investigation in the office.

*By Mr. Edmunds* : The bords have a distinctive number only at the beginning of the quarter, and do not retain those numbers after that ; I remember a cut-through further in than where Williams was working ; I observed the current going to the men in No. 117 ; it was good ; it would not have been a better arrangement, in my opinion, to have closed the first cut-through, and brought the air round through the second and then on.

*By Mr. Bruce Smith* : I never heard of a chain being thrown at Dobb, and that he had lost his pipe ; he never complained to me of either of those matters ; I never at any time told Dobb that Mr. Dixon was coming into the mine ; I never knew when he was coming ; I never told Dobb to keep his mouth shut with regard to anything ; I have no recollection of any disturbance between Dobb and our men.

*By*

*By Mr. Edmunds:* I first heard of Taft's affair when I read it in the newspaper—when Bailey made charges against the management of the mine; I believe that was about the 23rd May last; I was in the office when the manager asked Rendal if a man had been overcome in the pit at all; Rendal said no; that a man had taken a shivering fit in the pit, and had told him that he had taken them on previous occasions in other places; that was shortly after Bailey's charges had appeared in the paper; Rendal said he had helped the man on to the heading; I believe the manager said to Rendal, "Why didn't you acquaint me with it?" he was told that anything like that that occurred again should be reported.

*By Commissioner:* I saw Taft in the office after that; I do not know when Wear left the mine.

*By Mr. Curley:* I have fifty-seven pairs of men in No. 2, eighteen pairs in No. 6—about 250 altogether, I should think; that is within the last three or four years; I consider that a middling-sized colliery; a safety-lamp was first introduced into No. 6 district about twelve months ago; I cannot tell the exact date; I made no note of it; the manager told me that the winnings approaching the dyke were to be examined with a safety-lamp; the safety-lamp was not introduced because a man was burnt in his place in No. 6 on the 25th September, 1898; Rendal did not tell me on the morning of the 26th September last that a man had been burnt in the mine; Bailey did not tell me that morning that something unusual had occurred in No. 6 district.

*By Commissioner:* I gave instructions for the use of the safety-lamp; I told Bailey to use one and also Rendal; that would be about the same date; Bailey used it from the time he examined No. 6, after being taken off the night-shift; the manager's instructions to me were that we were to use a safety-lamp in No. 6, not because there was gas there, but as a precaution against gas being found in the dyke; there were two lamps in the pit at the time—the small Marsaut and the Clanny; they had been there for some time before those instructions were given, but had not been used.

*By Mr. Curley:* I look at the report-book [*Exhibit I*]; by that book Bailey made his first report of No. 6 on the 26th September last; as under-manager, I about this time told Rendal to examine with a safety-lamp in the No. 6 district in the winnings approaching the faults; I do not think that Rendal put his reports in a book at that time; I do not think he reported in a book till about five months ago; till about five months ago we did not consider a report from Rendal necessary, as we considered it a continuous shift; he inspected on a Sunday night when there was not a continuous shift; I did not ask him for a report in the book then, because I considered a verbal one sufficient at that time—that was if he found no gas; had he found gas I would not have considered a verbal report sufficient; I did not tell him that if he found gas he had to report in the book; I regard fire-damp in a mine as a very serious danger; I have never read of an explosion in a colliery where, prior to that, no fire-damp had been seen; there is a connection between the A and B pits; between the two a large number of men are employed; it has occurred to me that the finding of fire-damp should be reported in a book; I did not know that Rendal had found gas; I did not know that he had put a note in the lamp about finding it as a friendly warning to Bailey; I would not say that Rendal had found it even after reading his note [*Exhibit G*]; I deny knowing anything about Wear's incident till I heard Bailey speak of it on the No. 8 heading; the only reason the manager gave me for the use of the safety-lamps in No. 6 was that we were approaching the dyke; although the manager had adopted the lamp because there was a likelihood of finding gas there, I doubted Bailey's report, because he made mistakes as to the heading, and was so confused and agitated in his manner about it; I never received a note from Bailey; he never handed me a note of any sort in his life; I never told him that it would be enough to report gas verbally; we did not anticipate gas in No. 6, although we used a safety-lamp; we used it as a precaution; I did not put myself in motion to discredit Bailey's report of finding the gas.

*By Commissioner:* I sent word to the manager the same day as Bailey reported the gas; I saw him a little after 2 p.m. that day about the gas.

*By Mr. Curley:* After he had read the report I told him that I doubted the correctness of it; he said nothing before I spoke after he had read it; I was the first to give rise to the doubt about the accuracy of the report; when I said I doubted it the manager asked me, "What causes you to doubt it?" I told him the excited state of Bailey and the way the report was worded; I had, prior to this, been down to the place where the gas was said to have been found; I had never doubted any of Bailey's reports prior to this; what made me doubt this one was the repetition of the words "All safe," and his excited manner; I doubted that he had found gas; I followed Bailey round with Gall because I was ordered to do so; it was not for the purpose of discrediting Bailey's report, but to find out whether there was any truth in it; on the morning I went in with Gall I went up to the back heading, cut through with my flare-light; Gall went to the same place; I believe ours were a little out-by side of Bailey's—possibly 6 feet; we all went up to the stentin with the flare-lights where the air was coming through; I saw nothing wrong in Bailey taking his flare-light to where he did; the point where the flare-lights were left was about 10 or 12 yards from the face; that was not near the place where Bailey had reported gas the previous day; it was in the rise headings that we left the flare-lights; the highest point in the pit is the rise heading where we left the flare-lights; I went in with Bailey and Gall, and noticed where he was testing; I did not "dog" Bailey at all; he was not molested in any way; it did not occur to me that it would be better for Bailey to make his examination by himself without any interference on our part; when Bailey said there was a small trace of gas in the right-hand side of the front rise heading I wanted him to show it to me; he said his light had exhumed it all; I expected, even if there was only a small trace, that we would get a movement of the flame; neither Gall nor I could get any movement of our flames; I did not expect him to show a blue flame on the lamp when we went there; I did not expect to see gas there at all; I inspected four places for gas that morning—the back and front rise headings and the back and front dip headings; I had never inspected for gas before that morning, nor had Gall to my knowledge; I had never, in my experience as colliery manager or official, in that pit or any other, inspected for gas before that morning; there was no charge made against me in the colliery office on the 14th April last; to the best of my recollection the manager did not ask Bailey to make a statement of his charges; I believe he took Ambrose's case first, and asked him if he had been a party at any time to deceive the inspector by putting up brattice in No. 8 return between 7 and 8 districts; Ambrose said, "It's a lie"; I do not remember the manager then asking Bailey to make a statement; I do not remember his asking Bailey to make a statement before he took up the second case; Newburn's case was taken next; Bailey introduced that; the manager said to Bailey, "You told me that you put up brattice in No. 2 intake"; Bailey turned to Newburn and said that he had done it, and asked him if he could not get a friend to come and swear that he had passed under it while they were holding it up; Newburn replied, "No, you could not get a man to do it but a lying scoundrel like yourself"; the manager then asked Bailey if he had told the Minister and Chief Inspector that someone had been burnt; Bailey said yes; the manager then said that he considered Bailey had only gone to the Minister and Chief Inspector out of pure spite towards him and his officers; that he would not allow Bailey to go down the pit again while he was manager; Bailey then said, "I had my notice written out and intended to give it to you, but the Minister and Chief Inspector told me not to do so, but wait till you discharged me, then write to them at once; I have done with it now; the world's wide; they told me to write, and I'll do so"; the manager then said, "Yes, but don't forget to tell the Minister and Chief Inspector why you are discharged—for incompetency and taking untruthful statements to the Minister"; I allowed Bailey to make inspections after the 28th March last; he inspected on the 29th and 30th March last; he made none later that I am aware of; the report-book shows that he made an inspection on the night of the 9th April last; that was a Sunday night; that inspection would be made for the shiftmen; the districts he examined were Nos. 1 and 2; Bailey made his last report of No. 6 district on the 30th March last; he did not report on that district after that, because there was another man inspecting that district; I had not removed Bailey from that district; the manager put the new man on in that district; the manager directs when a deputy is to inspect a certain district, and when to remove to another; I carry out the manager's instructions; the manager told me that Jones would be coming on in Bailey's place; I received that letter on the Thursday before last Good Friday; the letter was addressed to Bailey, and was given to me to deliver to him [*Exhibit F*]; nobody ever reminds me when the inspector is coming; I never fix any particular date in my own mind when he is likely to be there; I never told anybody in my life when the inspector was coming; I never knew; I did not on one occasion fix up No. 5 overcast; I would scorn such an action; I did not order Dobb to go and take that down afterwards; I did nothing of the kind when the check inspectors were in the colliery on the 15th February, 1898; I did nothing like that in 1895; I never in my life ordered Dobb or any one else to interfere with any air-course in the mine; when Taft and Turner were working in No. 5 I believe Bailey was the deputy; nobody ever reported anything about Taft and Turner to me; I was in that part of the mine when Taft and Turner were working there; that would be between 11 a.m. and 1 p.m.; I have not been there at night when those men were actually at work there; I have never been in to see how the night men are getting on unless I am down with the surveyor, when I have a peep at the men; I depend upon the night overman for reports about the night men; when the night overman was not making reports I did not inquire of him how things were going on at night, beyond remarking upon the quantity of work that had been done during the night; it was about 3:10 p.m. when I went into Williams's place on the second day of the quarter; the men had gone home then; I did not inquire

inquire why they had gone home ; I was with Inspector Atkinson some time ago, when he was going through the mine, and saw several men coming out of the mine ; one of the men complained to the inspector that he could not get brattice when he asked for it ; his name was Mitchell, and he worked in No. 8 district ; I did not inquire about Williams leaving the mine, because it was only the second day of the caving, and it is only about one man out of ten that goes to work for the first or second day ; they generally sit about and talk in their places ; it is not an exceptional thing for the men to go home ; I can tell the output for that particular day ; I think that will pretty well show what work was done ; neither Williams nor any one else in that district complained to me of the ventilation in that district ; I regarded it as good there ; it was good also where Taft and Turner were in No. 5 ; none of my deputies ever reported to me that the smoke hung about in No. 8 district ; I never saw it myself ; none of the men have ever complained to me during the whole time I have been manager ; I have never heard of them complaining to any of the deputies ; Gall never reported to me that a man in No. 6 had reported to him a flash of gas.

*By Mr. Bruce Smith :* The manager told me that Inspector Dixon had advised him to use the safety-lamps in approaching the faults ; the Sunday night inspections are reported now ; that began about five or six months ago ; the manager instructed that they should be reported ; he said that Mr. Dixon had requested that they should be reported ; in both these cases I was acquainted with the manager's reasons for making these changes ; I never knew of a case in which a report was filled in without an inspection ; at the meeting in the office on the 14th April last Bailey had an opportunity of explaining in every case which was brought under the notice of the manager ; it is not true that the word "traitor" was used at that meeting ; the manager did not say, "If I hear a man complain of bad air I promptly tell him to go where there is better air" ; he did not call Bailey a "damned liar" at that meeting nor at any time.

*By Mr. Curley :* It is not a fact that on idle days reports have been made of inspections which have never been made.

*By Commissioner :* There were two lamps in the cabin for some time before they were actually used ; it may have been a month or a couple of months ; the manager's reason for sending them there was that we were approaching the faults, and Inspector Dixon had asked him to use the safety-lamps when doing that ; we had never used them before when approaching faults ; it was at Mr. Dixon's instigation that we used them ; I do not know the reason why another man was put on in Bailey's place, and Bailey sent to the night-shift ; I know of no alteration in Gall's duties, or those of any deputy, to cause him to use a safety-lamp where he had not before ; since Fox gave his evidence the other day the manager has instructed every deputy to carry a locked safety-lamp on his examinations ; I do not know why the lamps were not used for the month after they had been sent down to the cabin ; I know there was a dyke near where Wear was working ; I know that a dyke is a likely spot in which to find gas ; I did not hear the question of black-damp mentioned at the meeting of the 14th April last ; to the best of my recollection I did not hear black-damp mentioned at that meeting ; in Williams's bord the canvas was 8 or 9 yards from the face ; the next day it was within 5 or 6 yards of the face ; there was plenty room for the air to go round between the end of the brattice and the face ; the brattice was close enough to the face when it was within 8 or 9 yards of it ; I suppose the deputy would put another length on when he was going his rounds ; a bit of splint had been removed on the second day I went there ; it was not in the way of the brattice on my first visit ; it was likely removed by the night-shift ; I think it was about the end of January or the beginning of February, 1898, that I had some words with Dobb ; it was shortly after that time that he was put on the night-shift ; no man took his place in the day-shift when he was put on night-shift ; I had words with him about ridding some stone that had fallen ; I did not consider he had done so much as he should have done ; he seemed to be very annoyed, and said I was a tyrant and a bully, and would not get the men to work for me ; I do not know who the shiftman was who worked in Williams's bord that night when the splint was removed ; I am in the habit of discussing with my father different things in the management of the mine ; he never told me of Taft's affair ; I first knew of it from the newspapers ; we may have discussed Bailey's charges before that, but I have no recollection of his telling me of Taft's affair.

*By Mr. Curley :* I cannot remember Bailey making a report to me when the pit was idle ; at the present time all the returns in the mine except No. 1 can be travelled ; No. 10 can be travelled ; it is in good condition ; No. 2 is also in good condition ; we stopped those places in No. 6 on account of our horses ; I refer to the dip headings ; there is another reason the dip heading will be up long before the narrow bords, and there will be no necessity to drive the headings ; those two headings have been standing since the beginning of the quarter.

*By Commissioner :* I did not know that Rendal was in the habit of inspecting with an unlocked safety-lamp after he was supposed to use a safety-lamp ; as long as Bailey did not inspect the face with his naked light there was no objection to his carrying it with the safety-lamp ; the station for No. 6 is just opposite No. 7 headings ; I knew they had passed through a dyke some few yards out by where Wear was supposed to have been burnt.

Taken and sworn at Court-house, Newcastle, this }  
12th day of July, 1899, before me,—

C. G. WADE, J.P.

H. C. CROFT.

#### EXHIBIT No. 7.

THIS deponent, *David Yardley*, on his oath, states:—I am a deputy in the A pit of the Newcastle Company ; I have occupied that position for about eighteen months ; before that I was a deputy in the B pit for about eighteen months ; prior to that I was employed on shift-work in B pit ; I have been employed by the Company between thirteen and fourteen years ; I began as a miner ; I never heard of any gas in the mine before Bailey's report ; I never came across it, nor heard about it from anyone else ; I never came across black-damp, nor did I ever hear of anyone else meeting it ; my hours in the A pit are from 7 a.m. to 4 p.m. ; I go down about 6.30 a.m. ; I met Bailey down the pit in the cabin ; I remember when Bailey reported having found gas ; the under-manager, Gall, and myself went down in the cage together ; we arrived at the cabin, and the under-manager said, "Good morning," as usual ; Bailey, Jones, and Ambrose were present besides us three ; the under-manager asked was all right ; Jones replied, "Yes" ; Bailey pointed to the report-book on the desk, and said, "Look at that" ; the under-manager opened the book, and said, "Bailey has reported a little gas" ; he asked Bailey how much gas there, and Bailey replied, "I could not say" ; the under-manager then asked him, "Did you get it in your lamp?" and Bailey replied, "Yes, it's there all right" ; that was all he said about it ; the under-manager then sent Gall away to the No. 6 dip headings, telling him that he would follow him as soon as he got the pit started ; I cannot say if Gall took anything away with him ; nothing more took place after that in my presence ; we all went to our respective duties ; I was never present at any other interview subsequently where Bailey was ; I never heard of the Wear incident till this investigation began ; I read it in the paper then ; I did not hear of the Taft affair till this investigation opened ; I have never known beforehand when the inspectors were coming into the mine ; I have never been instructed to alter the ventilation in the mine when the inspectors were there ; I have never done such a thing nor known anybody else to do it ; I have never known canvas to be put up while the inspector was in the mine, and taken down again after he had gone ; I never used a safety-lamp till after Bailey had reported the gas ; I have seen the safety-lamps in the Newcastle mine—close on a dozen I should say ; I have never heard the under-manager instruct Bailey not to report gas in the book ; I have never heard him instruct Bailey about limiting his report in any way in the book ; I never saw Bailey hand the under-manager a note ; I never saw the under-manager tear up or burn a note in Bailey's presence ; I have never heard Bailey inform the under-manager of the presence of gas or black-damp ; I never told Dobb that I could not travel in return No. 2 ; I have never known that return to be in such a condition that I could not travel along it.

*By Mr. Edmunds :* No. 10 was closed when I became deputy for No. 2 ; I cannot give the date when I became deputy for No. 2 ; No. 2 main engine-road is 8 feet high and 12 feet wide ; it is that nearly all the way of those dimensions.

*By Mr. Curley :* Sometimes the under-manager goes down before us, at other times with us ; I do not know how long before us he is when he goes down before us ; he might see Bailey when I was not there ; I have worked with Bailey on fairly friendly terms ; I never had any unpleasantness with him before this ; I see a report about gas in the report-book ; it is signed by Bailey, and says he found a small quantity of gas—carburetted hydrogen—in No. 6, and that he removed it and left all safe ; it bears a protest by the manager against the report as being incorrect ; I was an inspecting deputy at that date ; I never heard tell of gas in the Newcastle Colliery ; I never used a safety-lamp on my inspections ; I was never followed by anyone on my inspections ; I never had a protest made against my reports.

*By Mr. Bruce Smith :* I was not inspecting deputy for my district, but the deputy ; Samuel Jones was the inspecting deputy for the district ; he went down at 3.30 a.m. with Bailey.

*By Mr. Curley :* I never heard of Wear's or Taft's affair till this investigation started.

*By*

*By Mr. Edmunds*: I misunderstood Mr. Curley's question when I said I was the inspecting deputy; I only examined the pit when it was idle.

*By Commissioner*: I make an examination of the district once during my shift but I do not put any report in the book; there is nobody working in the mine between 1 a.m. and 4 a.m.

*By Mr. Curley*: I do not know that when men are coming in to work on the night-shift I should make a written report during my shift; if I were inspecting deputy now, and there were no men in the pit during the day, and men coming on in the night, I should make a written report of my inspection of the places.

*By Mr. Edmunds*: I have made written reports of the inspections of my districts; I reported as to the places in which men were not working when I inspected them, but men coming on to work in them afterwards [*witness produces report signed by him in Exhibit I*]; the pit was idle that day, but the water-balers were coming in that night, and I inspected their places for them.

*By Mr. Bruce Smith*: If from any cause the pit was idle during the day, and there were men coming on at night to work, I would inspect their places before they came in; the only cases in which the men have not been at work during the day, and there have been men coming on at night, were when the pit was idle.

*By Mr. Curley*: I made those inspections in the morning; I went down at 5.30 a.m., and soon after made my inspection; I would walk round my district once during my shift and make my report.

*By Commissioner*: If men are at work in the daytime in Nos. 2 and 6, but not in No. 5, which was also my district, and shiftmen were coming on in the night-shift to No. 5 to clear the headings, I would examine that part of No. 5, and make a report in the book.

DAVID YARDLEY.

Taken and sworn at Court-house, Newcastle, this }  
11th day of July, 1899, before me,—  
C. G. WADE, J.P.

#### EXHIBIT No. 8.

DEP. A, 1st April, 1899, to 2nd May, 1899.

#### EXHIBIT No. 9.

THIS deponent, *James Richardson*, on his oath, states:—I am a miner; I have acted as a check inspector; I last did in March last; I carried out the check inspections on two occasions—one on the 9th, 10th, and 13th March last, and the other 30th November and 1st and 2nd December, 1898; check inspectors generally hold their positions for six months; I know the witness Watts; I remember at a lodge meeting after the March report Watts stated that we had taken the in-take at the wrong place; that was not true; we took the in-take where it was always customary to take it; on each inspection we went round the same way; we gave nobody notice that we were going; as far as I know nobody would be aware that we were going round.

*By Mr. Edmunds*: We examined in all the working-places, and found the ventilation sufficient everywhere; we did our work together; we took a thermometer with us; I cannot say whether it had been tested; it was the one we always take; I cannot say how long it had been in use; the highest reading was 80° in 8 and 9 return, and in 74 pillar of No. 6; it was in the district return that we got that temperature, and in the pillar in No. 6; I carry the thermometer by a string; I do not put it in my pocket when I have taken a reading; in the November inspection we got 80° in a pillar in No. 6, and a pillar in No. 8; on that occasion we took the total return; we did so on each occasion; I am working in the B pit; I was working in the A pit for six months before the last cavil—a month ago; I worked in No. 10, No. 1, No. 8; I last worked in No. 10 about a month ago; I found the ventilation in No. 8 pretty good; in November there was an average current there of 140 cubic feet in that district; in March last we got an average of 180; it never struck me that there was any difference in the temperature of the mine when we were making our inspections and when I was working ordinarily in the mine; I never noticed any difference; I did not examine for inflammable gas; I did not inspect the faults; we went through no faults except in the return for 7 and 8; I have travelled the return for 7, 8, and 9, and the No. 2 right-hand return; there was no difficulty in getting through those returns; they were in pretty good condition, and there was a free passage for the air; we did not travel No. 1 return; there was no necessity to do that, and it would take up too much time to travel all the returns; the men are at liberty to complain to the check inspectors as they are going round; the manager goes round with us, but he does not go into all the working-faces with us; he stays on the heading when we get to some of the faces; no complaint of any sort was ever made to me as a check inspector; I know a good many of the miners; no complaint of any sort was ever made to us, either in or out of the mine, except that of Watts, at the lodge meeting.

*By Mr. Curley*: My reading for the furnace return in March last was 101.440 cubic feet; I took the thermometer readings on the headings and in the returns.

*By Commissioner*: It was in towards the face of the headings that the thermometer readings were taken; they were never taken on the flats.

*By Mr. Curley*: The reading for No. 2 main in-take was taken on the main engine-road; that was a half-mile from the nearest place we were going in that district; the reading for No. 7 pillar was taken at the pillar next to the working-face; the men were working a pillar from the same cut-through; the reading for No. 2 was taken about the same distance from the men at work there; the reading for No. 74 pillar in Nos. 6, 7, and 8 return was taken at the pillar next to where the men were working; the reading of 79° in pillar 134 was taken in the straight heading for No. 8, I think; some of the men were only a few yards from that, others might be 10 or 15 yards in; we go into every place in the mine—right to the face; nobody ever complained to me about ventilation; we inspected No. 1 pillars in March last; Watts was working there, and Proud; we took No. 1 in-take about two pillars along the main road in-by the return; that was not near where the men were working, but about half a mile on the out-by side towards the shaft; we took the return for No. 1; we went up No. 2 return over a fault, and took the return reading not very far from the No. 1 overcast; we took the in-take readings where it had been customary to take it.

*By Commissioner*: We divided our in-take reading by the number of men in the district, and thus got an average.

*By Mr. Curley*: We never took a reading at the bord ends where the men were working; Watts never suggested how we should take our in-take reading; I understood that he wanted the reading taken nearer the flat; it would be wider, if anything further in, than where we took our reading; Watts did not complain at the meeting that he did not get the air where he was working; all he complained of was that we took the reading too far out on the main road.

*By Commissioner*: He did not say that the reading should be taken near the working-place; I told him that it was the custom to take it where we did and divide it among the number of men in the district; we found an average of over 500 feet for No. 1; I would consider 80° at the working-faces a high temperature; as one goes into the headings the temperature gets higher; I consider when the temperature gets towards 80° it is warm; Watts did not propose at the meeting that the reading at the in-take should be taken in a different way; the question was not discussed and not carried; some of the air in No. 1 was turned towards where Watts was working, the rest went straight on; if it all went beyond the point where it was turned in towards Watts it might or might not get back to Watts.

*By Mr. Curley*: The manager was at the pit bottom when we went down to make our inspections.

Taken and sworn at Court-house, Newcastle, this }  
13th day of July, 1899, before me,—  
C. G. WADE, J.P.

JAMES RICHARDSON.

#### EXHIBIT No. 10.

THIS deponent, *Joseph Croft*, on his oath, states:—I am the manager of the Newcastle Coal Company; I have held that position about ten years; I have been with the Company about ten years; prior to that I was with a Mr. Bradley, and prior to that with Messrs. J. and A. Brown for twenty-four years; I have had thirty-three years' experience of coal-mining; I hold a manager's certificate; I first heard of gas in the mine on the 28th March last; I had never in all my experience of the mine found the slightest trace of gas in either pit; I had never had gas reported to me before that date; I first heard of

of black-damp in the mine on the 23rd May last, when I read of it in the local paper; I never saw fire-damp or black-damp in the mine; nothing of the kind was ever reported to me; on the 25th March last I received a message from the under-manager of the A pit, in consequence of which I at once visited the pit; I went to the cabin, where I met the under-manager alone; I read the report, and had some conversation with the under-manager; I then visited the place; I did not see Bailey before I went there; I went to the place where gas had been reported with the under-manager and Deputy Gall; I got a safety-lamp at the No. 6 station; I made an inspection of the dip headings, both back and front, which had been reported; I made a careful inspection, but could not get the slightest trace of gas in either; a hole in the roof was pointed out to me by the under-manager and Gall; there was a slight cavity in the roof there; I tried that for gas, but found not the slightest trace; I then arranged with the under-manager to send Gall round with Bailey on his morning inspections till further orders; I then told the under-manager to arrange for all the deputies to meet me the next morning at 9 o'clock; we all met that morning—Ambrose, Bailey, Gall, the under-manager, and myself; I asked Bailey to go to No. 8 engine-road with me, as it was quieter there; I said to Bailey, "Bailey, you will have noticed that I have protested against your report, because it is not a correct report"; he replied, "Yes"; I said, "It appears to me that on the first time of entering you find all safe; then under that you add finding gas"; I then read Rule 11—special—aloud to him, and continued, "I consider you should have said something more about the condition of the place where you said you found gas; did you get the gas in the safety-lamp?" he replied, "Yes"; I said, "Did you get a permanent blue cap on the flame?" and he replied, "Yes"; I then said, "And yet you only got a small quantity of gas?" and he replied, "Yes"; I then said, "Does it not strike you that if you got gas in your lamp and there was a permanent blue flame, that there was a large quantity of gas?" he replied, "I do not think so"; I then said, "Bailey, I am of the opinion that there is something behind the scenes that caused you to make that report"; he said, "Yes, there is; some time ago someone got a bit of a singe in the No. 6 heading, and he and his friends have been talking, and say that I should report having found a little gas"; I said, "Whether you found gas or not?" he replied, "Yes, and I've done so"; he seemed very agitated, and could hardly answer anything; he seemed anxious to get away from me; I said to him, "Well, I have lost confidence in you, and am convinced now that there is collusion going on"; I asked him who it was that was burnt, and he replied, "Anthony Wear"; nothing was said by Bailey at that interview about black-damp or Taft; I have given the whole of the conversation that took place between us on that date; on the 30th March last I sent the letter marked "F" to Bailey; I gave it to the under-manager about 4 p.m. on the 30th March last to send to Bailey; I next saw Bailey in connection with this matter on the 13th April last; Rendal, Bailey, and myself were only present; I sent for Bailey to come to the office, and arranged that Rendal should come with him and remain in the office till I had said all I wanted to say to him; I had spoken to Rendal and Mr. Atkinson before this meeting; I had seen Mr. Atkinson on the 12th April; I said to Bailey, "Bailey, how is it that you are neglecting your work?" (he should have started work on the 3rd April, and had not till the 6th April; he was off again on the 12th April; I had received no communication from him regarding his absence, nor had anyone else to my knowledge); he replied, "Chief Inspector Atkinson knows that I could not be at my work last night; I had an appointment with him"; I said, "After you made your report of finding gas in the report-book, and after I had protested against it, did you write or see anyone personally about the matter?" he said, "I did not write; I saw someone officially about it"; I said, "Whom did you see officially about it?" he replied, "The Minister for Mines and Chief Inspector Atkinson"; I said, "Did you go to Sydney to see them?" he said, "I went further than that; I went to Lithgow"; I asked, "When you were there did you tell the Minister for Mines that certain things were done to deceive the Government inspectors in taking their results of the districts?" he replied, "I did"; I asked him where it was done, and he replied, "In No. 2 in-take and No. 8 return"; I asked, "Who did it in No. 2?" and he replied, "I did it"; I asked, "How long ago is it since that happened?" he said, "Three or four years ago"; I said, "How often did it happen?" and he replied, "Once"; I asked, "How long is it since the No. 8 return?" and he replied, "Three or four months ago"; I asked him who did it, and he replied, "Ambrose and me"; I asked how often, and he replied, "Once"; I asked, "Did you also say that someone had been severely burnt in the mine?" he replied, "Yes"; I said, "How did you know that?" and he replied, "I was told so; he was off three or four days with the burns"; I said, "That's how you know he was burnt—because you were told so?" and he replied, "Yes"; I told him that I did not believe his statements, and that I intended to inquire into them at once; he then asked me might he go to his work, and I told him he could pending an inquiry; Wear's name was not mentioned in that interview; he did not at that interview mention Taft or black-damp; between the 29th March and the 13th April I had seen Mr. Atkinson at my office; that was on the 12th April; I next saw Bailey on the 14th April; I summoned the whole of the deputies to come to my office; there were present myself, my son, Gall, Newburn, Ambrose, and Bailey; that was about 4.15 p.m.; I said, "I have a statement to go through with you of charges that Bailey has been to the Minister about; he says that there was something put up in No. 2 in-take to throw more air into No. 1 district"; I had a few pencil notes in my hand; when I said that Bailey turned to Newburn, and said, "Newburn and I put it up"; he had not mentioned Newburn's name at the previous interview with me; Newburn then said, "It's a lie; I deny anything of the sort; how could it be possible for anybody to put up anything in No. 2 in-take, when trains are going in and out every quarter of an hour?" Bailey turned in his chair, pointed his finger in Newburn's face, and said, "Now, Newburn, I'll have you, I'll have you"; Newburn asked, "How can you have me?" Bailey replied, "Can't I find a friend to say that he went under the canvas when you and I were pulling it across the road?" Newburn replied, "You can get a lying scoundrel to say so, but you can't get a man"; Bailey said nothing in reply; I then said to Ambrose, "Bailey says that you assisted him to put up something in No. 8 return to deceive the inspectors"; Ambrose replied, "It's a lie"; Bailey said nothing in reply to that; I then turned to Bailey, and said, "Bailey, I have proved all your statements to be false; I consider you went to the Minister for nothing but spite, and to injure myself and my officers; I have made up my mind that you shall never go down that mine under my management"; he said, "I intended to leave, and I have my notice written out in my pocket to give you, but the Minister for Mines and the Chief Inspector, Mr. Atkinson, told me not to do so, but to get you to dismiss me and then to write to them at once; I've done with it now; the world's wide; they told me to write, and I'm going to do so"; I said, "Don't forget to tell the Minister and Chief Inspector what you are discharged for—incompetency, and for taking untruthful statements to them"; as he walked away he said, "I intend to do so"; nothing was said by Bailey at either of these interviews as to the authority he had for doing this work—the interferences with the ventilation; on the 23rd May last I saw some letters in the local newspaper about the "Bailey charges," in which the Taft incident was referred to; the letter shown me in the paper of the 23rd May last is what I refer to; at neither of my interviews with Bailey was anything said about the opening of doors [*newspaper of 23rd May last put in and marked Exhibit 1*]; I first knew of a man having been overcome with black-damp in the mine when I read that letter; I visit the A pit three times a week; I take readings of the ventilation and temperature once a month, in accordance with the Act; I have done that since the Act came into force; I keep records of those inspections, and they are entered in the book produced [*put in and marked Exhibit 2*]; I take the ventilation oftener than that, but record it once a month in accordance with the Act; I have taken the ventilation when the furnace has been out, in order to see what it was without the aid of the furnace; I took it on the bar of the furnace.

*By Commissioner*: The air goes through the same place when the furnace is burning as where I took it when it was out; the furnace had been out from 12 o'clock the previous night, and it was 8 a.m. when I took it.

*By Mr. Bruce Smith*: I found 20,000 cubic feet of air per minute passing over with the furnace out; I never knew beforehand when the inspectors were coming to the mine; I know of nobody that did know beforehand; I am familiar with all parts of this mine; it has been opened up during the last ten years; according to my judgment I developed Nos. 8, 7, 6, and 1, and No. 2 right and left since I have been manager—the whole of No. 2 from a point 20 chains from the boundary; I have often consulted Inspector Dixon in developing the mine—not as to the laying out of the mine, but matters in connection with faults and the reading of the Act; I have not consulted him as to which way I should take the air; safety-lamps were first brought into the mine about two years ago; I introduced one then—a Mueseler; I brought that in in consequence of a conversation with Mr. Dixon; we were coming to a fault, and Mr. Dixon said that as a matter of precaution we should use a safety-lamp; he referred to the adjoining colliery, and said that appearances of fire-damp had been seen there in the faults, and possibly we might come across it in our pit when we came to the fault, and passing through the fault; he said that my overman and I should use it now and then going round as a precaution; I got the lamp, and it was kept in the cabin at the bottom of the pit; there was a key to it; the cupboard in the cabin is about 5 feet long, about 4 feet high, and about 2 feet wide, and has a sloping top; it is used as a desk and cupboard in one; the whole of the front opens; the Marsaut lamp produced was brought from England by my late overman, Mr. Mouter; that was kept in the cabin in the cupboard; he said he had brought it out as the latest design in lamps; I next got the Clanny lamp; I got it because I liked it—preferred it to the heavy Marsaut; I have used a lamp in inspecting the fault since I spoke to Mr. Dixon; the third lamp was kept in the cabin also; it had a key to it; about a dozen more lamps have been purchased



purchased since this inquiry opened; that was in consequence of the evidence of Fox; there used to be an old Marsaut there twice the size of that produced; I think Mouter left that there; my first lamp I took home to my house; it was my own private property.

*By Commissioner:* The other two lamps produced are, I suppose, my private property also.

*By Mr. Bruce Smith:* The under-manager had key to the cupboard, and also the morning deputy; I know that Bailey had a key; I never restricted Bailey in any way with regard to his reporting in the book; I never offered any objection, or felt any, to the manner in which he reported in the book; the furnace-man starts in the morning at 3 o'clock, and is on till 7 a.m., according to my instructions; then there is a shift from 7 a.m. till 4 p.m., then from 4 p.m. till 6 p.m., then from 6 p.m. till 3 a.m.; from 3 a.m. to 7 a.m. Redpath attends to the furnace; his duties are to attend to the horses and look after the furnace; there is nothing in his duties respecting the horses to prevent him looking after the furnace; at 7 a.m. Watson comes on; his only duty is to attend to the furnace till 4 p.m.; he has nothing whatever to do with the pumps; from 4 p.m. till 6 p.m. Bennett is looking after the furnace and horses; he has nothing to do with the pumps, and his duties about the horses do not prevent him looking after the furnace; at 6 p.m. McGuinness comes on, and works till 3 a.m., looking after the furnace and pumps; there is nothing about the pumps, either as regards distance or anything else, to prevent him from looking after the furnace properly; I have never given instructions on any particular occasion that the furnace should be fired up with the best coal; I have never given instructions that different treatment should be adopted when the inspectors are in the mine; I have never applied the term "gassy" towards any part of the mine; I have never heard the term used in connection with the mine until Bailey's report; at the interview with Bailey and the deputies nobody called Bailey a traitor; I did not lean over the table, shake my fist at Bailey, and say he was a damned liar; it is not true that when he was leaving the office jeering remarks were made to him by the deputies; nobody in my hearing said to him, "What were you dismissed from the Borehole for?" I know the part of the mine where Dobb cavilled—No. 8 heading; I have been through there frequently; I found the ventilation there very good; I know the No. 2 return; I have never known it to be in such a condition that it could not be travelled over; as an air return it is the best return in the pit; I know that from having travelled over it; it is clear right through; there is a little water at the sump; it is pumped out from there every day; it might lie for a depth of a foot or 18 inches if anything went wrong with the pump; it is not difficult to get along that return; there is no heaped-up muck in it; it has never been in an unfit condition that I know of; there is no provision in No. 8 for cutting off the air.

*By Commissioner:* There were no falls in No. 2 which have to be climbed over; there is a fault there.

*By Mr. Bruce Smith:* There is a fault there; it is a rise from the floor; it is about 6 or 7 feet high, and a corresponding cavity has been made in the roof to give the space.

*By Commissioner:* I do not agree with Mr. Atkinson's evidence as to that return [page 155, beginning at the words, "We came out by the cross-cut," to the end of the paragraph].

*By Mr. Bruce Smith:* The sump is in the middle of the return, and is the width of the return; anybody walking along that return can get to the side of the sump, but if he walks along the middle of the return he will walk through the water; I can walk along the return without getting wet; the fault I have spoken of is not very rough; it is got over by walking; I have never in the slightest manner interfered with the deputies in their reports of what they found; I have never said that if any man complained of the air in that mine he could go where he would get better; it was on the 25th May last that Taft's name was first mentioned to me in connection with his accident; it was in consequence of the letter in the paper that I made inquiries in the pit about it, but could hear nothing about it; I heard of it by sending for Rendal; I told him what I had seen in the paper, and that I had been making inquiries through the pit, but could not hear of anybody who had been overcome with black-damp; I then asked him if anything of the kind had happened on his shift; he said that a man named Taft, working with Turner in the No. 5 pillars, was taken with the shivers one night when working in the No. 5 pillars; that he had assisted Turner to carry him from his place to the in-take air at the narrow bord; I asked, "In what way was he affected?" he shook his arms, and said, "He shook like that, and seemed to me to have the fever and ague; I asked him if he was affected like that before, and he said, 'Yes, but not in this mine';" I considered it was a matter that Rendal should have reported to me, and told him so; he said, "As the man was able to get up and walk out of the pit in a short time, I did not think it worth while reporting"; I asked him if he or Turner had been affected at all, and he said no; it was one or two days after the 28th March last that I heard from Rendal about Wear; I sent for Rendal, and asked him about the burning, and if he had heard that Wear had been burnt, or had a bit of a singe; Rendal replied, "I do not see any singe about the man—only a few hairs on the side of his moustache"; I asked him if he had seen any gas, and he said no; I asked him why he had not mentioned it to me before, and he replied, "It was so insignificant and small that I did not think it was necessary to report it"; I asked was he sure there were no burns on the man, and he replied, "Yes, I am sure there was no skin broken in any way whatever"; I told him he ought to have reported the matter to me; I did not on the 29th March, in the interview, speak the words, "Well, Bailey, I want you to keep that word carb—" and the stop, and my son finish the word "carburetted hydrogen"; the words "carburetted hydrogen" were never used at that meeting; Ambrose was present at the interview on the 28th March last; Bailey was appointed examining deputy in July, 1898; when I appointed him I did not know that he had any certificate.

*By Mr. Edmunds:* Rendal did not tell me that he had found gas on a previous occasion; there is no question that something happened to Wear, according to the evidence in this case; I do not remember Rendal say in evidence that he had found gas in the mine; I consider that if an overman sees gas in a mine he should report it; it would depend upon the quantity he got as to whether it was reprehensible on his part not to report it; I do not know that if an overman sees only a small quantity he should report it.

*By Commissioner:* I say that the only recognised test for gas is the safety-lamp, and if an overman does not discover it in the safety-lamp I do not think it should be reported.

*By Mr. Edmunds:* My desire in the management of the mine is to carry out the Act in its integrity; I consider that gas in any quantity whatever found in a mine should be reported, whether discovered with a safety-lamp or a naked light; I consider that what Rendal found should have been reported; I consider it was reprehensible on Rendal's part not to report the gas, both what he found himself and what he had heard of with regard to Wear; I consider it would be reprehensible on the part of the management not to report such an accident as Wear's to the Government inspector when known to the management; I do not think that Rendal's inspection of the place for water-baler was sufficient; I think he should have gone to the face, and that it was reprehensible for him not to have done so; I know Special Rule 73; I have heard the evidence of the men who say they saw black-damp; I think they should have reported it; I know that I am liable under the Act if I do not use all reasonable means for publishing the special rules and enforcing them; I consider the miners should report any choke-damp or fire-damp that they come across; I was first informed of Bailey's report of the 28th March by my son; he did not tell me that he had had any inspection made before he spoke to me; I understood he had had none made up till that time; I inspected myself, and did not see Bailey till next day; it was between 2 and 3 p.m. on the 28th March that I made my inspection, and Bailey's would be about 4:30 a.m.; I consider my inspection on that afternoon was a test as to whether Bailey had found gas there that morning; he said he had got a permanent blue cap on his flame, and that would indicate sufficient gas there to show me some trace of it in the afternoon. Bailey's report stated he had found a small quantity of gas and had removed it; I consider if he had found a blue cap on his flame it would be making all day, and that I should have found it in the afternoon; if the gas had been removed there would be no blue flame there, but the gas could be making all day; I consider that if there is sufficient gas found at 6 a.m. to show a permanent blue cap that I ought to find it there between 2 and 3 p.m., although the brattice had been put up to remove it; all I knew on that afternoon was what I had read in his report; I thought I might get the gas in the afternoon the same as he had in the morning; if he got it, I considered I would get it in the same spot; it would in all probability be exuding from the coal in the afternoon; I did not stop the work there; I saw no reason to stop it; I would have stopped it if I had seen any gas there; I did not consider it my duty to stop the work in that place after reading the report until I had made my inspection.

*By Commissioner:* If gas is found in a working-place in the morning by the deputy it would be unsafe to let men go to work there with a naked light that day.

*By Mr. Edmunds:* It would be hard to say how long one might expect to get gas after it had been found in a face by the deputy in small quantities; it would depend upon the quantity being emitted; the length of time of emission depends upon the quantity there; it might be coming off for a minute or a day, according to the quantity there; a small quantity might be emitted in a minute or two; the overman had told me that the place had been inspected before 7 a.m. that day by Gall, and afterwards by himself; if Bailey found gas there before 6 a.m. and removed it, it is possible that it could not be found there at 7 a.m.; it would depend upon the quantity of gas there. [Mr. Edmunds asks: "Can you give any reason for supposing that Gall's inspection at 7 would test the truth of Bailey's report on his inspection before 6?"

Witness answers: "They doubted the report. I cannot give any reason." It was upon the strength of my inspection that I wrote my protest—that and other things; I wrote it at 4 p. m. on the 28th March; the other things were the Chief Inspector and the District Inspector coming to those districts so often, and letters appearing in the paper about those districts made me suspicious; nothing appeared in the paper suggesting gas; there was nothing else prompted me in writing my protest; I considered it was not a correct report, because at first Bailey reported "All safe", then he comes back half an hour afterwards and adds to the report; that was enough to make me suspicious.

*By Commissioner* I did not know he had written the report at different times on the 28th when I wrote the protest.

*By Mr. Edmunds* The wording of the report made me suspicious; the overman also noticed the wording of it; when I said the report was not correct, I meant it was not made in a correct manner; I consider he should also have said something about the state of the ventilation in accordance with Rule 11, and the conditions of the place; I should have liked to know something about the brattice—whether it was up or down, I consider that should be stated when gas is found; I do not think that the fact that he reported that he had removed it was sufficient report as to the ventilation; that report means that the ventilation was satisfactory; I do not know that that means that the brattice was all right; I do not know that I knew the report was not correct when I wrote my protest, but I was suspicious about it in consequence of the wording; I thought I wrote my protest in the proper manner; I never wrote such a protest on report before that, I have never seen a deputy's report with such a protest on it; as far as I know this is the only protest of that kind that I have heard of; I do not think such a protest is likely to intimidate a deputy; I had my suspicion as to Bailey finding it; I suspected that he had reported gas when he had not seen it; I could not say whether the mistake was an honest one or a fraudulent one; I thought he had misrepresented intentionally; I do not know why I did not dismiss him on the spot; I sent him to take Jones' place afterwards, but did not reduce his wages; Jones was a leading man under Rendal; I ordered that Gall should accompany him on all inspections he made till further orders; I consider that was a proper step on my part; I did not tell Bailey Gall was to go with him; I told Gall to test with Bailey; I do not think that was intimidating a deputy; I think it left him free to state his honest opinions on his return to the cabin; I had Gall and Ambrose present at the interview of the 29th March, because I thought it was necessary for them to be there to hear what was said; the object of the interview with Bailey was to discuss his report; I did not specially ask Ambrose to be present, but sent a general message to all the deputies to be present; I am certain Bailey was not at his work on the night of the 12th April last; I am almost positive about it; I am speaking from what Bailey told me; I am sure he was absent from his work on the night of the 12th April; I know that from the pay-book; that shows the time of every man employed at the colliery; I heard from Mr. Atkinson of the charge of interference with the ventilation during inspection; the fact of a man being carried out from the mine was not mentioned at the interview between Bailey, Rendal, and myself in April last; in that respect Rendal's evidence is wrong; when I heard of Wear's matter I made inquiries of Rendal, that was the only inquiry I made; I asked Rendal if Fox had seen anything of it, and he said that Fox had told him that he had not seen anything of it; I did not know that Abell was Wear's mate at that time; I believe I asked Rendal who was his mate; I did not ask what his mate said about it; I depended upon Rendal for my information about it; I asked Rendal if he had inquired of Fox and Abell about it, and he told me that he had; I was satisfied with what Rendal told me; I knew that Rendal had not been a witness of the affair; I asked him who was in the place, and he said Fox; I asked him if he had questioned Fox, and he said "Yes," and that Fox had told him that he had seen nothing; Rendal said the thing was so insignificant that he did not think it worth reporting; Bailey had reported that a man had had a bit of a surge; I had been told that no skin was broken; I asked Rendal if it was not possible that it might have happened through the man's lamp being knocked off his head, and burning his moustache; Rendal said it was quite possible; I asked Rendal if he had questioned Fox about it, and he said "Yes," and that Fox had seen nothing of it; I then suggested that it might have happened through the lamp falling off his head; I do not consider that was what happened after hearing the evidence in this investigation; having heard the facts stated in evidence here, I consider the examination I made about the matter was sufficient, according to the way it was reported to me; I did not read Mr. Wade's report upon the Dudley Colliery explosion; I believe I received a copy of it from Sydney; on the 14th April I brought those men together for the purpose of honestly informing my own mind whether Bailey's charges against them were correct or not; when Bailey said to Newburn that he could find a friend to say that he went under the canvas, I took it that Bailey meant he would procure a false witness against Newburn; I do not know why I did not ask Bailey who the man was he could get; Bailey did not say he knew a friend who could say that; I did not know that Bailey had reported about Ambrose and the door being left open; I was satisfied with what Ambrose and Newburn said to the charges; I believed what they said, and not what Bailey said; I had proved all Bailey's charges to be untrue.

*By Commissioner* The black-damp was not referred to at that interview.

*By Mr. Edmunds* I considered the inquiry I then made was a sufficient one into such a charge as was then made—that the ventilation had been interfered with while the inspector was in the mine; Bailey was there to deny anything that was said, but did not do so; I consider I was justified in saying that Bailey had gone to the Minister only to injure me and my officers.

*By Mr. Curley* I first managed the Duckenfield Colliery in 1866, and continued there till 1887; I had experience of gas there; I do not recollect a number of men being burnt there when I was manager; I am not sure whether I was in charge of that mine in 1881; I was never absent as manager from the time I was appointed till I left there; I was not manager in 1866, but went to Minni in that year; I cannot remember whether it was in 1881 or not that I was appointed; I know of two men that were burnt in that colliery; when I went in on the 28th March I took my flare light to the box at No. 6 station; I examined by myself that day; there were others with me, but I made the examination; I knew that the under-manager was going round with Gall and Bailey when I instructed Gall to go round the following day; I did not instruct them that they were not to take their flare lights past the station; I did not know that they had gone past the station with their flare lights; I heard the under manager's statement yesterday as to where they took their flare lights; I do not consider that those three men committed a breach of the Act in taking their flare lights where they did on that occasion; the station was more than 12 yards from the face; it was 200 yards; it is a proper thing to take flare-lights within 12 yards of the face to examine for fire damp if they have not seen the fire damp; they went with Bailey to inspect the place where he had reported gas; I asked them if they had gone round with Bailey, and they said they had; I heard Gall state in evidence where Bailey had left his flare-light; I think it was in No. 6 rise headings; I did not on that occasion instruct them that they were not to take their flare lights past the station; I presumed they knew their duty, and what they were to do and not to do; I have not taken up the position that I will not accept my examining deputy's report unless I can corroborate it by my own examination; I have heard Bailey go back on the statement in his report; that happened in this inquiry; his report stated that he had found it in the front heading, and his evidence showed he had found it in the back heading; I do not remember my son stating in evidence that Bailey said verbally that he had found it in the front heading; these headings have been called back and front headings; the air does not go into the leading heading; the furthest-in heading is the front heading; that is not the heading that gets the air first, but the one this side of it—the in-by heading; the back heading gets the air first; if gas were being given off in equal quantities in both headings I cannot say in which heading gas would be more likely found.

*By Commissioner* The hole in the roof was in the back heading; I believe Bailey mentioned the hole in the roof when he spoke of the gas; that was the only hole there was.

*By Mr. Curley* I have never seen an examining deputy using a safety lamp in his inspections; the only instruction I gave was that a safety-lamp should be used as a precaution in approaching faults and going through them; I gave those instructions two years ago to the overman, Mouter.

*By Commissioner* The overman and deputy were to use them occasionally to test for gas in approaching and going through the faults, but no instructions were given that they were to use them on their morning inspections.

*By Mr. Curley* I gave Rendal general instructions about safety-lamps in approaching faults, but not with reference to any particular occasion; those instructions were given two years ago; I gave instructions that if they came across gas they were to report to me immediately; that included Rendal as well as the others; it was a general order; I cannot account for Rendal not reporting the finding of gas to me.

*By Commissioner* It was a breach of the Act, and of my order too.

*By Mr. Curley* I saw Bailey the morning after he had made his report of the gas; it was between 9 and 9 30 a. m.; I know the rule refers to noxious gases as well as inflammable gases; I cannot account for Rendal not reporting Taft's affair to me; I have paid some attention to the percentage of gas that will show on a safety lamp, it is from 2½ to 3 per cent, that will give a blue cap; I have heard the witnesses describe the manner in which Bailey tried for gas with his



his lamp by poking his lamp into one corner of the face and then into the other; I do not think that was a proper mode of examination; I would not examine for gas by putting the lamp into the roof of the working at first; I would lower the light to a pin's point, and start at the bottom and gradually raise it to the top; Bailey did not mention anything about a door being kept open in No. 8 engine-road in the interview in my office; the only excited man at that interview was Bailey; I saw nobody standing about the office outside when I went out; when a man sends a note as to his absence I am satisfied with it as long as it is a genuine one; any man who stays off for two days without any explanation is liable to be dismissed; I did not dismiss Bailey for being away without explanation; I got the key of the Marsaut lamp with the lamp; the Clanny lamp locks with a key also; the expression, "Think of poor Mr. Croft's wife and family," was never used at that interview in the office; I have at times had to speak to different deputies about some things that were not right in their districts; I never had occasion to find fault with Bailey; I have given Bailey a written testimonial; I wish to withdraw every word of it now; I did it as an act of kindness; I gave Dobb one also; I think Dobb was in my employ at that time; the clerks in my office are Mr. Clayton and Mr. Dixon; the latter is a son of Mr. John Dixon, the inspector; I say positively that I never had any intimation when Mr. Dixon was going to inspect the mine; I never heard of any interference with the ventilation of the mine till Bailey told me he had brought it under the notice of the Minister for Mines; I have never done anything myself while I have been manager to trick any of the inspectors; the difference between the furnace and district readings in my inspection of the 2nd March last is accounted for by the scalings through the old workings; that is done to keep them sweet; I take the readings in the in-take; I often take a reading in the district returns; I consider the manner in which our furnace is looked after is in compliance with the rules; my general order is that he shall keep a good brisk fire throughout his shift; he has to look after the pumps as well; I think he can attend to the pumps and still attend properly to the furnace.

*By Mr. Edmunds:* The whole of the A pit has been inspected since the evidence given in this inquiry about the gas being seen; it was not done prior to that; No. 2 return is not in the same state as when Mr. Atkinson last saw it; something has been done to it since; it is quite consistent that it was in the state as described by Mr. Atkinson when he visited it and in the state I have described it since; there was a good deal of stone lying about it when Mr. Atkinson examined it; the sump was high then, as the pump had been out of order for four days just prior to his inspection.

*By Commissioner:* I came to the conclusion in consequence of what Rendal told me that Wear had not been burnt with gas; he said Fox had told him he had seen nothing; I did not ask Rendal if Wear had been using powder at all; I did not tell Mr. Atkinson that I knew about Wear's case on the 12th April last; I had not heard of gas in the mine at that time; I was present with my son, and Gall, and Ambrose when Mr. Atkinson was questioning us; we were all asked whether we had seen any gas in A or B pit, and all answered, "No"; I do not remember Gall saying that he had come across a little of it about fourteen years ago; I brought Newburn down to the interview in the office because Bailey had been under him when the ventilation was interfered with in No. 2; I had asked Newburn whether he had been a party doing it; Newburn's name had not been mentioned to me by Bailey at that time; I was mistaken when I said that I had asked Newburn if he had been a party to it; I wanted Newburn at the interview to tell me how Bailey had been able to go away and do that without Newburn's knowledge; I remember Dobb being put on the night-shift; he came to my house about it; I told him to go and see the overman about it—that I left such matters to the overman; I allowed Bailey to go and inspect on the 29th March last, in order to see whether anything could be found; I wanted to see whether my suspicions were correct; I could not trust him to examine, so put him off the examination on the 30th of March last; I sent him to a different district—Nos. 1 and 2—on the 9th April last; he was not examining deputy for that district—S. Jones was; I suppose Rendal sent him to examine that night, which was a Sunday; it was contrary to my wishes; the bords should be ready for the men before they start the cavi; on 28th May, 1895, there were fourteen men working in No. 10 district with two horses and a man and a boy; it remained at fourteen men for about two months; it worked till 21st September, 1895; the inspector obtained his figures from the overman; the occasion of my giving Bailey the testimonial was when he was going up for his examination; that was about two years ago.

*By Mr. Curley:* I do not know that fire-damp is more likely to be given off in March than in any other month.

Taken and sworn at Court-house, Newcastle, this }  
13th day of July, 1899, before me, — }  
C. G. WADE, J.P.

J. CROFT.

This deponent, *Joseph Croft*, recalled, on his former oath, states:—I understood the Act to mean that gas should only be tried for with the safety-lamp, and if it could not be discovered in the safety-lamp it should not be reported; a very small quantity of gas would not show itself in the safety-lamp, and if it were so small as that I had doubt as to whether it should be reported; I had not considered Special Rule 73 in connection with the discovery of gas.

*By Commissioner:* The only recognised means for finding the gas is the safety-lamp; a naked light will light it; I have heard of a naked light lighting it where it could not be discovered with the safety-lamp; from what I have heard I should say that you will get the gas with a naked light where a safety-lamp will not show it; Bailey acted as under-manager on the 3rd March, 1899; on the 28th May, 1895, there were fourteen men on the pillars in No. 10, eight on ordinary bords; 29th June to 21st September, 1895, there were fourteen on pillars and ten in the bords; from 23rd September to December, 1895, the number of men was ten.

*By Mr. Curley:* I consider that any quantity of gas, however small, should be reported; the depth of our shaft is 300 feet; the length of the airway in No. 2 right district in-take and return is about 2 miles; in No. 2 left it is about the same; in No. 6 is 2½ miles; in No. 7 2½ or 3 miles; in No. 8 about 2 miles, and in No. 9 about half a mile; those are the districts I have mentioned for my report of 3rd July instant; there has been no material alteration in the length of those airways since March last; no portion of the fault in No. 2 return has been cleared away; it is the same now as it was ten years ago; it is not a hindrance to the coursing of the air.

*By Commissioner:* It is not correct, as Rendal stated, that he came to use the safety-lamp in consequence of Weir's accident, as I considered it would be better to do so in future to avoid such accidents.

Taken and sworn at Court-house, Newcastle, this }  
14th day of July, 1899, before me, — }  
C. G. WADE, J.P.

J. CROFT.

[Annexure to Joseph Croft's Evidence.]

EXHIBIT No. 1.

[Extract from the *Newcastle Morning Herald and Miners' Advocate*, Tuesday, 23 May, 1899.]

THE MINES ACT.—IS IT BEING CARRIED OUT?

Sir,—Some four or five weeks ago, in compliance with the C.M.R. Act, I reported the existence of fire-damp in the Glebe A pit, No. 6 district. Two days after another man was put in my place, and eventually I was dismissed. I am approaching the Minister for a full inquiry, under section 23 of the C.M.R. Act, into this and three other circumstances:—

1st. The burning of a man with fire-damp.

2nd. Another man being overcome with black-damp (neither of which cases was reported to the inspector).

3rd. The opening of doors and other methods of turning air into districts when the Mines Inspector happened to be in.

A deputation of the members and the delegate board may possibly procure the investigation which, personally, I as yet have failed to obtain.

I am, &c.,

J. W. BAILEY.

Mitchell-street, Merewether, 22nd May, 1899.

EXHIBIT

## EXHIBIT 2.

REPORT, showing the quantity of air in the respective splits.

A Pit, November 4, 1896.

No. 1 District .....	10,520 cubic feet.
No. 2 " .....	16,800 "
Nos. 5, 6, and 7 Districts .....	20,160 "
Furnace, 83,030.	
J. CROFT, Colliery Manager.	

B Pit, November 11, 1896.

No. 1 District .....	23,820 cubic feet.
Nos. 2 and 3 Districts .....	16,460 "
No. 4 District .....	4,000 "
Straight in District .....	16,300 "
Furnace, 75,000	
J. CROFT, Colliery Manager.	

A Pit, December 2, 1896.

No. 1 District .....	9,610 cubic feet.
Nos. 2 and 10 Districts .....	13,330 "
Nos. 5, 6, and 7 " .....	17,440 "
Furnace, 78,500.	
J. CROFT, Colliery Manager.	

B Pit, December 10, 1896.

No. 1 District .....	22,750 cubic feet.
Nos. 2 and 3 Districts .....	16,550 "
No. 4 District .....	4,030 "
Straight in District .....	15,400 "
Furnace, 70,000.	
J. CROFT, Colliery Manager.	

A Pit, January 4, 1897.

No. 1 District .....	11,230 cubic feet.
Nos. 2 and 10 Districts .....	17,520 "
Nos. 5, 6, 7, and 8 Districts .....	21,180 "
Furnace, 80,000.	
J. CROFT, Colliery Manager.	

B Pit, January 11, 1897.

No. 1 District .....	10,330 cubic feet.
Straight in District .....	16,420 "
No. 2 District .....	11,300 "
No. 3 " .....	18,770 "
Furnace, 64,500.	
J. CROFT, Colliery Manager.	

A Pit, February 3, 1897.

No. 1 District (64) .....	11,500 cubic feet.
Nos. 2 and 10 Districts (60) .....	17,320 "
Nos. 5, 6, 7, and 8 Districts (56) .....	21,240 "
Furnace, 75,000.	
J. CROFT, Colliery Manager.	

B Pit, February 9, 1897.

No. 1 District .....	10,200 cubic feet.
Straight in District .....	16,300 "
No. 2 District .....	10,200 "
No. 3 " .....	17,550 "
Furnace, 64,000.	
J. CROFT, Colliery Manager.	

A Pit, March 2, 1897.

No. 1 District .....	11,430 cubic feet.
Nos. 2 and 10 Districts .....	17,450 "
Nos. 5, 6, 7, and 8 Districts .....	21,320 "
Furnace, 72,500.	
J. CROFT, Colliery Manager.	

B Pit, March 9, 1897.

No. 1 District .....	10,440 cubic feet.
Straight in District .....	16,330 "
No. 2 District .....	11,300 "
No. 3 " .....	18,720 "
Furnace, 63,000.	
J. CROFT, Colliery Manager.	

A Pit, April 5, 1897.

No. 1 District .....	9,840 cubic feet.
Nos. 2 and 10 Districts .....	16,200 "
Nos. 5, 6, 7, and 8 Districts .....	19,500 "
Furnace, 85,000	
J. CROFT, Colliery Manager.	

B Pit, April 5, 1897.

No. 1 District .....	5,530 cubic feet.
Straight in District .....	10,750 "
No. 2 District .....	11,550 "
No. 3 " .....	22,320 "
Furnace, 70,000	
J. CROFT, Colliery Manager.	

A Pit, May 3, 1897.

No. 1 District .....	10,330 cubic feet.
Nos. 2 and 10 Districts .....	16,220 "
Nos. 5, 6, 7, and 8 Districts .....	20,000 "
Furnace, 78,000.	
J. CROFT, Colliery Manager.	

B Pit, May 4, 1897.

No. 1 District .....	10,340 cubic feet.
Straight in District .....	15,750 "
No. 2 District .....	14,300 "
No. 3 " .....	16,500 "
Furnace, 70,000.	
J. CROFT, Colliery Manager.	

A Pit, June 4, 1897.

No. 1 District .....	11,120 cubic feet.
No. 2 Right and Left Districts .....	16,110 "
Nos. 5, 6, 7, and 8 Districts .....	21,210 "
Furnace, 78,000.	
J. CROFT, Colliery Manager.	

B Pit, June 4, 1897.

No. 1 and Straight in District .....	20,140 cubic feet.
No. 2 District .....	14,440 "
No. 3 " .....	16,320 "
Furnace, 98,000.	
J. CROFT, Colliery Manager.	

A Pit, July 6, 1897.

No. 1 District .....	11,220 cubic feet.
Nos. 2 and 10 Districts .....	16,250 "
Nos. 5, 6, 7, and 8 Districts .....	21,000 "
Furnace, 79,000.	
J. CROFT, Colliery Manager.	

B Pit, July 6, 1897.

No. 1 and Straight in District .....	20,000 cubic feet.
No. 2 District .....	14,300 "
No. 3 " .....	16,200 "
Furnace, 97,000.	
J. CROFT, Colliery Manager.	

A Pit, August 4, 1897.

No. 1 District .....	11,350 cubic feet.
Nos. 2 and 10 Districts .....	16,430 "
Nos. 5, 6, 7, and 8 Districts .....	21,250 "
Furnace, 80,000.	
J. CROFT, Colliery Manager.	

B Pit, August 4, 1897.

No. 1 and Straight in District .....	21,250 cubic feet.
No. 2 District .....	15,270 "
No. 3 " .....	16,550 "
Furnace, 98,000.	
J. CROFT, Colliery Manager.	

A Pit,

## A Pit, September 3, 1897.

No. 1 District .....	11,000 cubic feet.
Nos. 2 and 10 Districts .....	13,000 "
Nos. 5, 6, 7, and 8 Districts .....	21,000 "
Furnace, 90,000.	

J. CROFT,  
Colliery Manager.

## B Pit, September 3, 1897.

No. 1 and Straight in District .....	21,000 cubic feet.
No. 2 District .....	16,000 "
No. 3 " .....	11,000 "
Furnace, 96,000.	

J. CROFT,  
Colliery Manager.

## A Pit, October 5, 1897.

No. 1 District .....	11,130 cubic feet.
Nos. 2 and 10 Districts .....	12,870 "
Nos. 5, 6, 7, and 8 Districts .....	20,890 "
Furnace, 88,000.	

J. CROFT,  
Colliery Manager.

## B Pit, October 5, 1897.

No. 1 and Straight in District .....	21,000 cubic feet.
No. 2 District .....	16,000 "
No. 3 " .....	11,250 "
Furnace, 95,000.	

J. CROFT,  
Colliery Manager.

## A Pit, November 3, 1897.

No. 1 District .....	10,540 cubic feet.
Nos. 2 and 10 Districts .....	13,330 "
Nos. 5, 6, 7, and 8 Districts .....	20,000 "
No. 9 District .....	1,350 "
Furnace, 95,000.	

J. CROFT,  
Colliery Manager.

## B Pit, November 3, 1897.

No. 1 and Straight in District .....	20,000 cubic feet.
No. 2 District .....	18,400 "
No. 3 " .....	4,500 "
Furnace, 98,000.	

J. CROFT,  
Colliery Manager.

## A Pit, December 2, 1897.

No. 1 District .....	11,000 cubic feet.
Nos. 2 and 10 Districts .....	13,550 "
Nos. 5, 6, 7, and 8 Districts .....	21,000 "
No. 9 District .....	1,260 "
Furnace, 96,000.	

J. CROFT,  
Colliery Manager.

## B Pit, December 2, 1897.

No. 1 and Straight in District .....	20,330 cubic feet.
No. 2 District .....	18,500 "
No. 3 " .....	4,250 "
Furnace, 98,000.	

J. CROFT,  
Colliery Manager.

## A Pit, January 4, 1898.

No. 1 District .....	12,000 cubic feet.
Nos. 2 and 10 Districts .....	13,000 "
Nos. 5, 6, 7, and 8 Districts .....	21,500 "
No. 9 District .....	1,400 "
Furnace, 95,000.	

J. CROFT,  
Colliery Manager.

## B Pit, January 5, 1898.

No. 1 District .....	21,550 cubic feet.
No. 2 " .....	18,230 "
No. 3 " .....	4,300 "
Furnace, 100,000.	

J. CROFT,  
Colliery Manager.

## A Pit, February 3, 1898.

No. 1 District .....	11,500 cubic feet.
Nos. 2 and 10 Districts .....	12,200 "
Nos. 5, 6, 7, and 8 Districts .....	20,300 "
No. 9 District .....	1,500 "
Furnace, 92,000.	

J. CROFT,  
Colliery Manager.

## B Pit, February 4, 1898.

No. 1 District and Straight in .....	20,320 cubic feet.
No. 1 " right hand .....	4,000 "
No. 2 " .....	19,000 "
No. 3 " .....	4,500 "
Furnace, 100,000.	

J. CROFT,  
Colliery Manager.

## A Pit, March 3, 1898.

No. 1 District .....	10,200 cubic feet.
Nos. 2 and 10 Districts .....	12,150 "
Nos. 5, 6, 7, and 8 Districts .....	21,000 "
No. 9 District .....	1,400 "
Furnace, 98,000.	

J. CROFT,  
Colliery Manager.

## B Pit, March 3, 1898.

Straight in District .....	18,500 cubic feet.
No. 1 District .....	4,000 "
No. 2 " .....	19,500 "
No. 3 " .....	4,500 "
Furnace, 100,000.	

J. CROFT,  
Colliery Manager.

## A Pit, April 4, 1898.

No. 1 District .....	9,200 cubic feet.
No. 2 " .....	11,100 "
Nos. 5, 6, 7, and 8 Districts .....	20,500 "
No. 9 District .....	1,300 "
Furnace, 90,000.	

J. CROFT,  
Colliery Manager.

## B Pit, April 5, 1898.

No. 1 District .....	4,350 cubic feet.
Straight in District .....	19,400 "
No. 2 District .....	18,340 "
No. 3 " .....	4,600 "
Furnace, 95,000.	

J. CROFT,  
Colliery Manager.

## A Pit, May 3, 1898.

No. 1 District .....	11,340 cubic feet.
Nos. 2 and 10 Districts .....	12,130 "
Nos. 5, 6, 7, and 8 Districts .....	21,520 "
No. 9 District .....	1,500 "
Furnace, 92,500.	

J. CROFT,  
Colliery Manager.

## B Pit, May 3, 1898.

Straight in District .....	18,440 cubic feet.
No. 1 District .....	4,500 "
No. 2 " .....	17,240 "
No. 3 " .....	4,700 "
Furnace, 94,750.	

J. CROFT,  
Colliery Manager.

## A Pit, June 6, 1898.

No. 1 District .....	10,500 cubic feet.
Nos. 2 and 10 Districts .....	11,400 "
Nos. 5, 6, 7, and 8 Districts .....	19,480 "
No. 9 District .....	1,450 "
Furnace, 90,240.	

J. CROFT,  
Colliery Manager.

## B Pit, June 6, 1898.

Straight in District .....	13,420 cubic feet.
No. 1 District .....	7,000 "
No. 2 " .....	20,000 "
No. 3 " .....	9,700 "
Furnace, 93,500.	

J. CROFT,  
Colliery Manager.

Pits stopped work on the 2nd June, and resumed work on the 6th—Federation vote.

## A Pit, July 4, 1898.

No. 1 District .....	12,500 cubic feet.
Nos. 2 and 10 Districts .....	16,320 "
Nos. 5, 6, 7, and 8 Districts .....	22,550 "
No. 9 District .....	1,650 "
Furnace, 95,000.	

J. CROFT,  
Colliery Manager.

B Pit,

## B Pit, July 5, 1898.

Straight in District.....	18,450 cubic feet.
No. 1 District .....	5,550 "
No. 2 " .....	25,400 "
No. 3 " .....	10,750 "
Furnace, 100,000.	

J. CROFT,  
Colliery Manager.

## A Pit, August 1, 1898.

No. 1 District .....	11,000 cubic feet.
Nos. 2 and 10 Districts .....	16,430 "
Nos. 5, 6, 7, and 8 Districts .....	21,520 "
No. 9 District .....	1,530 "
Furnace, 95,750.	

J. CROFT,  
Colliery Manager.

## B Pit, August 2, 1898.

Straight in District.....	17,850 cubic feet.
No. 1 District .....	5,530 "
No. 2 District .....	24,750 "
No. 3 " .....	10,550 "
Furnace, 98,500.	

J. CROFT,  
Colliery Manager.

## A Pit, September 1, 1898.

No. 1 District .....	4,500 cubic feet.
No. 2 " right hand .....	8,750 "
No. 2 " left hand .....	8,650 "
Nos. 5, 6, 7, and 8 Districts .....	20,550 "
No. 9 District .....	2,350 "
Furnace, 87,000.	

J. CROFT,  
Colliery Manager.

## B Pit, September 2, 1898.

Straight in District.....	16,420 cubic feet.
No. 1 District .....	7,850 "
No. 2 " .....	22,000 "
No. 3 " .....	13,500 "
Furnace, 100,000.	

J. CROFT,  
Colliery Manager.

## A Pit, October 3, 1898.

No. 1 District .....	4,500 cubic feet.
No. 2 " right hand .....	8,550 "
No. 2 " left hand .....	8,650 "
Nos. 5, 6, 7, and 8 Districts .....	19,500 "
No. 9 District .....	3,850 "
Furnace, 88,000.	

J. CROFT,  
Colliery Manager.

## B Pit, October 3, 1898.

Straight in District.....	16,500 cubic feet.
No. 1 District .....	7,750 "
No. 2 " .....	21,000 "
No. 3 " .....	13,000 "
Furnace, 99,000.	

J. CROFT,  
Colliery Manager.

## A Pit, November 2, 1898.

No. 1 District .....	4,300 cubic feet.
No. 2 " right hand .....	8,330 "
No. 2 " left hand .....	8,540 "
Nos. 5, 6, 7, and 8 Districts .....	18,950 "
No. 9 District .....	4,450 "
Furnace, 89,000.	

J. CROFT,  
Colliery Manager.

## B Pit, November 2, 1898.

Straight in District.....	16,400 cubic feet.
No. 1 District .....	7,830 "
No. 2 " .....	21,500 "
No. 3 " .....	12,850 "
Furnace, 102,000.	

J. CROFT,  
Colliery Manager.

## A Pit, December 2, 1898.

No. 1 District .....	4,500 cubic feet.
No. 2 " right hand .....	8,450 "
No. 2 " left hand .....	8,300 "
Nos. 5, 6, 7, and 8 Districts .....	18,900 "
No. 9 District .....	4,500 "
Furnace, 90,000.	

J. CROFT,  
Colliery Manager.

## B Pit, December 2, 1898.

Straight in District.....	16,500 cubic feet.
No. 1 District .....	7,850 "
No. 2 " .....	22,500 "
No. 3 " .....	13,250 "
Furnace, 102,300.	

J. CROFT,  
Colliery Manager.

## A Pit, January 4, 1899.

No. 1 District (S.A. 68).....	6,400 cubic feet.
No. 2 " right and left (60=48 x 48) .....	16,500 "
Nos. 5, 6, 7, and 8 Districts (56) .....	18,500 "
No. 9 District (30).....	4,450 "
Furnace, 92,000.	

J. CROFT,  
Colliery Manager.

## B Pit, January 4, 1899.

Straight in District.....	17,500 cubic feet.
No. 1 District .....	8,500 "
No. 2 " .....	14,400 "
No. 3 " .....	23,800 "
Furnace, 100,000.	

J. CROFT,  
Colliery Manager.

## A Pit, February 2, 1899.

No. 1 District .....	4,150 cubic feet.
No. 2 District, right and left .....	17,500 "
Nos. 6, 7, and 8 Districts .....	19,040 "
No. 9 District .....	2,500 "
Furnace, 91,200.	

J. CROFT,  
Colliery Manager.

## B Pit, February 4, 1899.

No. 1 District, right hand (S.A. 46).....	10,820 cubic feet.
Straight in District (S.A. 54) .....	16,420 "
No. 2 District (S.A. 80).....	18,550 "
No. 3 " (S.A. 72).....	10,500 "
Furnace, 110,000.	

J. CROFT,  
Colliery Manager.

## A Pit, March 2, 1899.

No. 1 District .....	4,000 cubic feet.
No. 2 " right and left .....	17,500 "
Nos. 5, 6, 7, and 8 Districts .....	19,500 "
No. 9 District .....	2,450 "
Furnace, 91,000.	

J. CROFT,  
Colliery Manager.

## B Pit, March 3, 1899.

No. 1 District, right hand (46).....	10,530 cubic feet.
Straight in District (54) .....	18,900 "
No. 2 District, right and left (80).....	12,000 "
No. 3 District (72) .....	14,400 "
Furnace, 98,500.	

J. CROFT,  
Colliery Manager.

## A Pit, April 4, 1899.

No. 1 District (area, 18 ft.) .....	4,700 cubic feet.
No. 2 " right and left (60 area)...	16,800 "
Nos. 6, 7, and 8 (56 area) .....	20,720 "
No. 9 District (30 ft. area) .....	2,340 "
Furnace, 85,000.	

J. CROFT,  
Colliery Manager.

Monday, 3rd, holiday.

## B Pit, April 5, 1899.

No. 1 District .....	11,500 cubic feet.
Straight in District.....	16,200 "
Nos. 2 and 3 Districts .....	24,390 "
No. 2 District, right and left.....	8,000 "
Furnace, 90,000.	

J. CROFT,  
Colliery Manager.

A Pit,

## A Pit, May 2, 1899.

No. 2 District, right and left (Th. 76)...	16,500 cubic feet.
Nos. 6, 7, and 8 Districts (Th. 76) .....	24,500 "
No. 9 District (Th. 72) .....	2,350 "

Furnace, 86,500.

J. CROFT,  
Colliery Manager.

## B Pit, May 3, 1899.

No. 1 District (Th. 72) .....	10,500 cubic feet..
Straight in District (Th. 75).....	15,800 "
Nos. 2 and 3 Districts, bottom end (Th. 76)	22,500 "
No. 2 District, right, top end (76).....	6,720 "
No. 2 District, left, top end (Th. 76) ...	3,500 "

Furnace, 92,500.

J. CROFT,  
Colliery Manager.

## A Pit, June 3, 1899.

No. 2 District, right (60 men, boys, and horses; Th. 69) .....	9,450 cubic feet.
No. 2 District, left (60 men, boys, and horses; Th. 69) .....	9,482 "
Nos. 6 (49), 7 (68), and 8 Districts (Th. 60) .....	24,080 "
No. 9 District (far-in end, 76, return 78, Th. 72).....	5,400 "

Furnace, 90,000.

J. CROFT,  
Colliery Manager.

## B Pit, June 3, 1899.

No. 1 District (Th. 64) .....	11,900 cubic feet.
Straight in District (Th. 64).....	15,390 "
Nos. 2 and 3 Districts (72) .....	23,520 "
No. 2 District, right hand (70).....	11,440 "
No. 2 " left hand (72) .....	3,840 "

Furnace, 95,000.

J. CROFT,  
Colliery Manager.

## A Pit, July 3, 1899.

No. 2 District, right .....	9,200 cubic feet.
No. 2 " left .....	9,250 "
Nos. 6, 7, and 8 Districts .....	25,300 "
No. 9 District .....	3,500 "

Furnace, 92,000.

J. CROFT,  
Colliery Manager.

## B Pit, July 3, 1899.

No. 1 District .....	12,500 cubic feet.
Straight in District.....	14,550 "
Nos. 2 and 3 Districts .....	24,000 "
No. 2 District, right hand.....	5,350 "
No. 2 " left hand .....	3,550 "

Furnace, 96,000.

J. CROFT,  
Colliery Manager.

[Two Plans.]

Sydney: William Applegate Gullick, Government Printer.—1900.

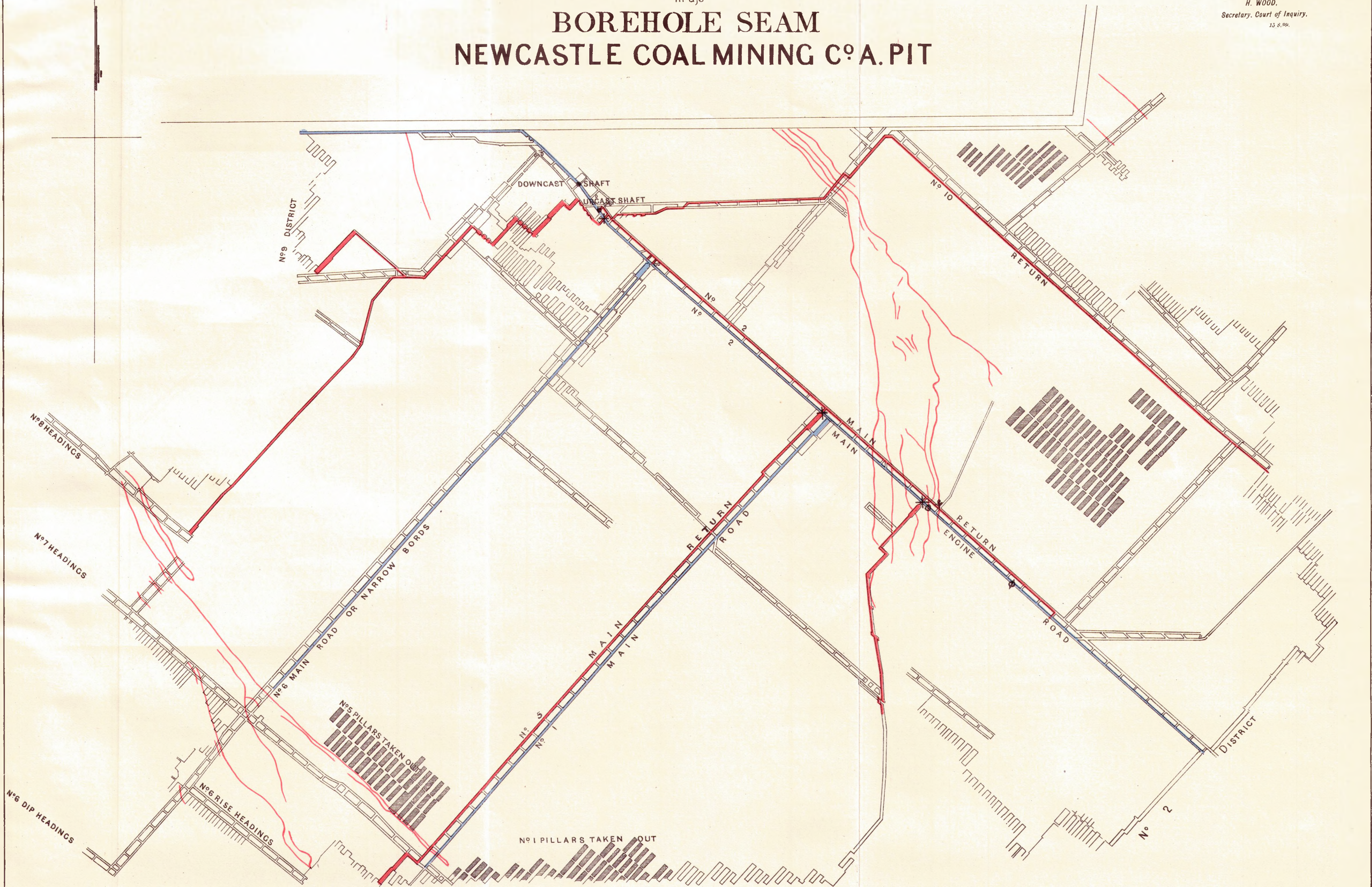
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PLAN  
 shewing Workings and Ventilation  
 in the  
**BOREHOLE SEAM**  
**NEWCASTLE COAL MINING CO. A. PIT**

**EXHIBIT E.**  
*H. WOOD,*  
*Secretary, Court of Inquiry.*  
 25. 8. 1896.





1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## NEWCASTLE COLLIERY COMPANY'S "A" PIT.

(REPORT BY C. G. WADE ON INQUIRY INTO THE WORKING OF.)

*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

Sir,

21 July, 1899.

I have the honor to submit my report on the findings of the Court of Investigation appointed to be held under your hand on 16th June. In accordance with that appointment I proceeded to Newcastle, and on 26th June the investigation was commenced. I sat on fourteen different days, thirty-seven witnesses in all were examined, and at the conclusion of the evidence I heard the addresses of gentlemen appearing for the different interests upon the evidence.

The parties before the Court were represented as follows:—

Mr. W. Edmunds, instructed by the Crown Solicitor, appeared for the Chief Inspector of Collieries.

Mr. Bruce Smith, instructed by Mr. H. J. Brown, for the Newcastle Company.

Mr. James Curley, on behalf of the Newcastle Employees Federation.

The exact terms of my Commission were to inquire into the explosions and accidents that had recently occurred at the Newcastle "A" Pit, and the causes and circumstances of the same. At a very early stage, however, J. W. Bailey, who was really preferring the charges, offered evidence which was strictly quite outside the scope of the inquiry—certain matters, for instance, dealing with the obstruction of ventilation whilst the official inspections were going on in the pit. Mr. Bruce Smith, however, offered no objection to this line of evidence; and as he said that the Company courted, and were anxious for a full inquiry into all these matters mentioned by Bailey, I allowed the evidence to be given, and submit my findings on the whole of the evidence. This must not, so far as I am concerned, be taken as any precedent; because I am satisfied that my jurisdiction under section 23 of the Coal Mines Regulation Act is limited to those matters specifically mentioned in the section, or to circumstances directly bearing on those matters. This section is not a vehicle for investigating every kind of dispute between Colliery Manager and employees. Remedies are provided for breaches of discipline under various other sections of the Act itself.

Part of inquiry outside scope of Statute;

but not to be made a precedent.

I may, before coming to the main issues, refer to evidence given by the man named Price. He was called by Mr. Curley, and at once showed himself to be an adverse witness, and was questioned as to having made statements inconsistent with the evidence he was then giving. I allowed Mr. Curley to prove from the mouths of other witnesses that he had made inconsistent statements. Price was then recalled and admitted what he had previously denied, and proceeded to state facts in support of those admissions. However, in the face of his demeanour in the box, and his admissions, I decline to give any regard to his evidence, and consider the whole of his testimony wiped out. Under these circumstances, the evidence of Wells and Jarvis likewise becomes immaterial.

Evidence given by Price.

Bailey prefers  
the charges.

J. W. Bailey preferred his charges against the Company under the following circumstances:—It appears that he has been engaged in the A Pit as examining deputy since August, 1898. He is a man who professes to have some knowledge of the nature and danger of gases in connection with colliery management, and he also holds an under-manager's certificate of competency. He alleged on 28th March, and so reported in the Deputy's Report Book, that he had found gas in the mine. The Manager disputed the accuracy of that report. He was subsequently removed from that work, and at the end of a fortnight he was dismissed. On his dismissal he made a request to the Secretary for Mines to allow him an inquiry under section 23 of the Act; and he undertook, if this were granted, to produce evidence in support of a number of allegations he had recently made against the Company. Under these circumstances, I placed the responsibility upon Bailey of producing the evidence he wished before me.

Charges  
formulated.

The charges may be shortly stated as follow:—

- (1.) That Anthony Wear was burnt by an ignition of fire-damp.

This matter was elaborated by the production of evidence to prove:—

- (a) Efforts on the part of the Manager and Under-Manager to conceal the occurrence; and  
(b) That the dismissal of Bailey was in consequence of his making known the existence of fire-damp.

- (2.) That John W. Taft had been overcome by black-damp whilst working in the mine.

In dealing with this aspect of the case evidence was adduced as to —

- (a) The concealment of this occurrence by the Management.  
(b) The system of ventilation generally.

- (3.) That on various occasions the airways had been tampered with, so as to deceive the authorised officials when inspecting the pit.

In connection with this last charge there was an insinuation indirectly against the *bona fides* of Mr. John Dixon, one of the Government Inspectors, in the method of his inspections of this colliery.

- (4.) The manipulation of the furnace fire in anticipation of inspections.  
(5.) Discipline in the mine.

Bailey's  
credibility.

An accomplice.

The first and chief witness was Bailey himself. He was examined and cross-examined at very great length. His evidence altogether lasted more than two days, and on his credibility the case put forward by him must largely depend. There are, however, several blots on his credibility. He admits that in all these matters, in which he had a share and which he now charges against the Company, he was practically an accomplice in committing breaches of the Coal Mines Regulation Act; that he did these things, knowing that, at all events, the health of his fellow-workmen was endangered by his so doing; but he excuses himself by saying he preferred doing that to losing his situation by refusing. Moreover, one cannot overlook the fact that these accusations, serious as they are, are only made known outside the mine when he is in danger of losing his position. His manner and demeanour, moreover, on certain occasions during his cross-examination, were not such as to impress me with his reliability as a witness of truth. Consequently, inasmuch as his evidence and his own admissions prove him to be a man with a grievance, also to have played the part of an accomplice in what must be admitted was a most reprehensible fraud, I feel it would be absolutely unsafe to act on any material statement made by him unless it is corroborated in all substantial particulars.

Dismissed  
servant of the  
Company.

Demeanour  
on cross-  
examination.

His evidence  
must be  
corroborated.

#### FIRST CHARGE:—ANTHONY WEAR WAS BURNED BY THE IGNITION OF FIRE-DAMP.

Wear's case.

The evidence shows that Wear and Abel, both shift men, were working in the No. 6 headings on the night of Sunday, September, 25th, 1898. At first Abel and Wear were in the front narrow bord. A water-baler, named Fox, commenced to work at the edge of the canch, some 4 yards from the face of the back heading. The brattice was 12 yards away from the face, and subsequent events showed that the face had not been examined before these men went down to their work. Fox himself

himself did not go nearer the face than the edge of the canch. In a few minutes Wear came in. There is a dispute as to whether he had any right to be there; but the merits of that question are immaterial to this charge. Wear stepped on to the canch, went up to the working face, and his light then ignited some fire-damp. A slight explosion took place which resulted in his being burnt. That he was burnt by an ignition of fire-damp there can be no question. Wear burnt by fire-damp.

There is a controversy as to the extent of his injuries. Of those who saw him immediately after the occurrence, Abel seems to be the most reliable. He states that he heard the explosion some 40 yards away, and that shortly afterwards he saw Wear. He was not seriously injured, but suffering from shock. His hair was singed, the skin of his neck and arms was burnt a little; the skin on the neck rose. However, he remained at work for some hours. He then went home and was away during the next shift, apparently in consequence of the burning he had received. Fox says only the side of his moustache was singed. This witness was reticent. His attitude of mental reserve can be gathered from his evidence as to the occurrence. It was only a small flash, he says. When pressed for more detail he admits it was 6 feet in length. He also admits that Wear did complain of his neck being sore. Rendell, the night overman, arrived on the scene about 1 a.m., and Wear told him then that he had been burnt with the gas. Rendell belittles the whole thing in his evidence—describes it as a singeing of a few hairs of the moustache. However, Wear did complain of being in pain—so much so that Rendell allowed him to go home before his shift was finished. The important point at this stage to remember is that the Night Overman Rendell, the man who was in charge of the mine that night, was then informed definitely of the existence of inflammable gas. A circumstance of this character would be an epoch in the history of a colliery such as this, with a record, so far as I know, of freedom from gas, at all events, up to the beginning of 1898. The obvious and natural impulse of any man under these circumstances, with the interests of the mine and the workmen at heart, would be to acquaint the management. It was, moreover, a duty to do so, because the Act entails the following consequences on the discovery of inflammable gas:—

- (1.) To make a report in accordance with General Rule 7.
- (2.) To make a report of the accident to the Inspector according to section 29.
- (3.) The use of a safety lamp on inspections before work commences, under General Rule 4.

It was admitted subsequently that none of those abovementioned provisions had been complied with. The question who was responsible for those omissions brings us to the next matter. Provisions of Act not complied with.

(a) *Efforts on the part of the Manager and Under-Manager to conceal this occurrence.*

The evidence shows that Wear's occurrence was more or less generally known amongst the miners. Rendell, Wear, Abel, and Fox knew of it that same night. Dobb says he heard of it three or four days later. Wilson, an examining deputy at that time, swore that he heard Bailey telling Sam Jones, another examining deputy, of the occurrence a few days after at the overman's cabin. Fox, indeed, says that the matter was generally known amongst the shift men that night. H. Croft, the Under-Manager, was down below every day. Under ordinary circumstances, one would expect the news to quickly reach the ears of the management. On 24th September Ambrose was examining deputy in No. 6, using a naked light. On 26th September, under orders from the Under-Manager, Bailey undertook the duty of examining deputy in No. 6 district with a safety-lamp. Was this change made in consequence of Wear's accident? Bailey says distinctly that he acted under instructions from the Under-Manager. Is there any corroboration of that statement? Rendell states that he first used a safety-lamp on his inspections after Wear's occurrence after conversation with the Manager. This piece of evidence is most important as affecting Joseph Croft the manager; and Mr. Bruce Smith contended that Rendell's evidence will not bear that interpretation. But Rendell refers to the matter on several occasions. On page 47 he says: "I used the safety-lamp because Wear went to a place to which he had not been ordered to go, and he says that he saw a small flame of gas there; it was after I heard that that I took to using a safety-lamp." Page 105: "It was after Wear's accident that I began to use a . Wear's matter generally known.  
Safety lamps in No. 6 after 25th September.  
By order of Manager.

Explanation  
of Joseph  
Croft.

safety-lamp in that part of the mine—the No. 6 narrow-boards or dip headings.” Page 107: “I came to use the safety-lamp after Wear’s accident because the Manager and I thought it better to do so in order to make sure if ever such a thing occurred again.” This to my mind puts his meaning beyond doubt. Joseph Croft and Herbert Croft deny the truth of this statement of Rendell. Herbert Croft admits that he gave instructions to Bailey and Rendell to examine with a safety-lamp, and we may take it, as he himself implies, that he did so after consultation with the Manager. John Dixon, the Government Inspector, intimated to the Manager two years ago the desirability of obtaining safety-lamps with which to examine the country when approaching faults. The Manager says this was two years ago; the Under-Manager says twelve months. In any event I am willing to believe that they were in the pit in June or July, 1898. The Manager says the introduction of these lamps into the mine was owing to a general intimation from Dixon that the Manager or the overman might occasionally examine a locality for gas when nearing a fault; but no suggestion or instruction was given to the effect that deputies should use them whilst making their morning inspection of the pit. The Manager offers no explanation of the undoubted fact that the examining deputies, after 25th September, made it a practice to use the safety-lamp on their inspections in No. 6 district. The Under-Manager admits that he ordered Bailey and Rendell to use the safety-lamp, because, as he says, the Manager had told him that the winnings, when approaching faults, ought to be examined with a safety-lamp. Now it appears faults had been met with in No. 6 and other parts of the A Pit previously to 25th September, 1898. It also is established that a dyke had just been driven through some 4 yards before that spot was reached where Wear ignited the gas. If the Under-Manager’s version is true, no explanation is offered why that lamp was never used before by a Deputy in approaching faults or dykes and that the first occasion of its use is immediately subsequent to Wear’s occurrence.

Explanation  
of Herbert  
Croft.

Safeties used  
in conse-  
quence of  
Wear’s acci-  
dent.

Bearing in mind that Rendell, though called by Bailey, most strongly leaned towards the Company, I view any admission of his against the interest of the Manager or Under-Manager as probably true. Again, the use of safety lamps in this part of the mine immediately after the burning of Wear forcibly suggests that it was done as a consequence of what happened that night; and that probability is strengthened by the worthlessness of the explanation Joseph Croft and his son offer for the use of these safety lamps. The version offered by the Manager and his son is that they first heard of Wear’s accident on March 29th from the lips of Bailey. What is their procedure on hearing these facts? The Manager, whilst admitting that the omission to report a circumstance of this kind would be most reprehensible on the part of a deputy, asks Rendell for particulars. Rendell tells him that Fox and Able were both in the locality; he himself cannot throw any light on the matter; yet he, as Manager, takes no steps whatever to probe this matter deeper. On April 14th, when the Manager holds his Court of Inquiry into Bailey’s charges, a large array of deputies is present to deal with the ventilation matter; but neither Abel nor Fox nor Rendell is summoned to answer Bailey’s allegations in respect to the Wear occurrence. This apathy and neglect of the imperative duty imposed by the Act and the natural impulse of a man on hearing of fire-damp making an appearance for the first time in his colliery, is inconsistent with his discovery of these things on March 29th, but can be explained on the assumption that he was aware of the general features of the occurrence some time previously.

Manager knew  
of Wear’s  
injury,

I therefore come to the conclusion—

- (1.) That the Manager and Under-Manager both became aware about September, 1898, of the ignition of inflammable gas in No. 6 district;
- (2.) That they concealed this occurrence from the proper officials; and
- (3.) Protected themselves against a similar occurrence happening and perhaps being made public by examining that district with safety lamps.

and concealed  
it.

Bailey  
ordered not  
to report find-  
ing of gas in  
Report Book.

Bailey further alleges that when he was appointed to inspect No. 6, Herbert Croft told him, in case he found any gas, not to enter that fact in the Report Book, but to mention the matter to him. Now the Report Book is a record which is regularly examined by Government Inspectors on their periodical visits; and if the allegation of Bailey is true it is evident that such a course would be consistent with, and moreover necessary to, the plan of suppressing from the Government officials

officials anything that would suggest that Wear had been burnt, or even that gas had been found in the pit. It must be borne in mind that Bailey's new duty was to examine with a safety lamp in the locality where, I am satisfied, Herbert Croft then knew gas had been found, and where it might consequently be discovered again. Herbert Croft says that he told Bailey to report the finding of gas. The Manager states that he gave general instructions for the reporting of gas. Under these circumstances it is strange that Bailey should admit having openly violated his orders, and infringed the provisions of the Act, without any motive.

Inspectors  
examine  
Report Book.

I find, further, that Rendell not only did not report gas in Wear's case, but that he, on a subsequent occasion, on discovering fire-damp in the same district, again failed to report it. On the latter occasion, however, he thought the discovery of sufficient importance to justify him in leaving a note in Bailey's lamp as a warning to the latter. This action of Rendell, again, is contrary to what one would expect from him, an overman of seventeen years' experience, and it gives colour to what Bailey asserts.

Corroboration  
of Bailey.

Rendell's  
action.

Further corroboration may be gathered from the report of the Chief Inspector of Collieries (Mr. Atkinson) to the Secretary for Mines. (*Exhibit "V."*) There is a conflict as to this matter between Mr. Atkinson and the two Crofts. Where they are in conflict, I prefer to believe Mr. Atkinson's version. It appears from this report that on 12th April they had a conversation with Mr. Atkinson, and (although on their own admission they had heard from Bailey on 29th March all about Wear) when questioned by Mr. Atkinson they led him to believe that they are not aware of any person having been burnt with gas in the mine at any time.

Croft's inter-  
view with the  
Inspector.

I further am of opinion that, in pursuance of the plan to suppress Wear's incident, the Under-Manager and the Manager instructed Bailey not to report the finding of fire-damp in the ordinary Report Book. This brings me to the question—

(b) *Was the dismissal of Bailey in consequence of his making known the existence of gas?*

The facts leading up to the dismissal are shortly as follows:—On 28th March Bailey says he saw gas in No. 6 front dip heading. When he returned to the cabin he signed the Report Book as all safe in these words: "28th March, 1899.—I have this day examined, as required by General Rules, Coal Mines Regulation Act 1896, all working places and roadways where workmen are to work or pass in Nos. 1 and 6; found all safe." He left the cabin, returned some short time afterwards, and said to Jones, another examining deputy who was present, "I am not satisfied with that"; and then added the following words in the Report Book:—"I found a small quantity of gas (carburetted hydrogen) in front dip heading, No. 6 district; removed it, and left all safe."

Bailey's  
report of  
28th March.

An hour or so later the Under-Manager met the day and examining deputies at the cabin, and in reply to his query, "Is everything right?" Bailey referred him to his report. The Under-Manager asked him some questions about his discovery, and then sent Gall, a deputy, to examine the same spot.

Whether Bailey actually found gas or not is immaterial to this part of the inquiry. It is necessary for a moment to pause and see what facts must have been present at this time to the mind of the Under-Manager. Bailey up to that time had been trusted by him and his father. Inflammable gas had already been found in that neighbourhood. Safety lamps were being used in case it might be seen again. It is a matter of elementary knowledge that gas may be detected, be at once removed, and possibly never seen in the same place again; and Bailey's report states that he removed the gas and left all safe nearly two hours before this. The Under-Manager's account is as follows:—That the excited condition of Bailey when questioned, and the fact that the words "all safe" appeared twice in the report, caused him to doubt its genuineness. How those circumstances alone could produce that belief I fail to understand. He further adds that there should have been some reference to roof and sides. Such an addition no doubt might make the entry more complete, but could not be any guide as to the truth of the statements therein. However, he sends Gall at once to examine the spot with a safety-lamp, and follows himself shortly after, with the result that they find no trace of gas. Now an examination under these circumstances could only be negative. If gas was again found, it would confirm the previous report; but the failure to find it the second time, under the circumstances, could not possibly afford any guide as to the value of the report.

Under-  
Manager's  
conduct.

The

Manager's  
conduct.

The Manager is sent for by the son. On his arrival he is shown the book and informed of Gall's examination, and he, at that hour, 4 o'clock in the afternoon, proceeds to the spot with the expectation of finding gas. He is asked why he made the examination. His answer was, "If Bailey can find it at 6 a.m., I should find it at 4 p.m." He is reminded that Gall had failed to find any trace at 7 that morning. Another reason offered was that as Bailey found a permanent blue-cap in the morning, there must be a large quantity of gas, and there would probably be some there at 4 o'clock. But it appears he did not hear till the next day that the flame had a permanent blue-cap. Lastly, he says he was then suspicious, because the report was added to, a fact which first came to his knowledge the following morning. Yet he states that it was on the strength of his examination that he made his protest then and there, giving it as his opinion that Bailey's report was incorrect, and intentionally incorrect. However Bailey remains in the same work two days longer, Gall following him round on his inspections. On the following day, according to the defence, Bailey admitted that he had been put up to make this entry, because Wear's friends had said that gas should be reported. On the 30th March he is put on the night shift at the same wages. The Easter holidays ensued. On Easter Monday, Bailey interviews the Secretary for Mines, returns after some days' absence from the mine, and on one occasion after his return inspects, as deputy, Nos. 1 and 2 Districts. On 14th April, after an interview at which the Manager, Under-Manager, and deputies heard his charges, Bailey was dismissed.

Now, if the Manager honestly believed that the report of Bailey was untrue, and intentionally so, the fact of his allowing a man who had committed such a grave offence against discipline to remain in his service one hour, or of his permitting a person who had forfeited all claim to be trusted to ever examine again, is inexplicable. That a manager should take that view of colliery discipline is incredible. To my mind this course of conduct, so obviously opposed to what we should expect from a man of Mr. Joseph Croft's experience in coal-mining, can only be explained if there is some unusual motive prompting such action. That Bailey was dismissed because he made known the existence of gas I am unable to say. Denials by the deputies on 14th April of the other charges then made by him may have induced the Manager to believe Bailey was making false accusations, and so to dismiss him; but the failure to dismiss when he proved the first lie on 28th March is only consistent, considering all the surroundings and facts, with a desire to nullify the effect of Bailey's report, but still to keep him on in the service of the Company, whilst doing work where he could not find gas.

SECOND CHARGE:—THAT J. W. TAFT HAD BEEN OVERCOME BY BLACK-DAMP  
WHILST WORKING IN THE MINE.

Black-damp.

About twelve months ago Taft and Turner were at work on the night shift, clearing a heading in No. 5 District. Some miners were at work in that district in the daytime. These were the only two at work on the night-shift in that place, and were so engaged for a period of nearly three months. The lights used to burn dull, and Taft frequently suffered from headaches, when he would go out on to the flat till he felt better. On the night in question he had gone down to work at 4 p.m. His head began to ache some time before he actually was taken ill. At 7 he says his head was ready to burst. He lost the use of his legs, and his breathing became heavy. He called Turner to his assistance. Just then Rendell came on the scene, and he, with Turner, carried Taft on to the main intake airway. The air current, as he got into a cool atmosphere, caused him to shiver. His clothes were put on, and after a short rest he was able, with Turner's assistance, to travel home. Next day he had not recovered, and stayed away from his work.

Taft's illness.

Caused by  
black-damp.

The first question that arises is: Was this illness caused by black-damp? At no time did the atmosphere fail to support combustion. The lowest percentage of black-damp in the air which will extinguish a light is 16 per cent., according to Haldane's Tables (*See Exhibit "N."*) There must, consequently, have been a less amount than 16 per cent. of black-damp where Taft and Turner were working. Dr. Haldane further states that so long as combustion is supported, black-damp has no effect upon the individual. Mr. Atkinson thinks that proposition should be qualified to this extent: that although productive of no immediate effect, yet in a short time the head will begin to ache. On the other hand, the light may burn dull, and the head ache, owing to the presence of carbonic acid gas where men have been working  
in



in a still atmosphere for some time. Bullerwell, another witness, states that about that same period Taft speaks of he detected black-damp in these No. 5 pillars; and inasmuch as pillar workings are a likely place to find that gas, the probabilities seem to me to point to black-damp as being the cause of Taft's indisposition.

There can be no doubt that Rendell knew of Taft being taken home on that occasion. It is also admitted that neither the Manager nor the Under-Manager made any inquiry about this matter before the end of May, 1899. Was this because they were in ignorance of the occurrence? They say they never heard of the matter till 23rd May of this year, when they saw it mentioned in the Newcastle paper. S. Jones, the deputy, tells us that he heard of Taft being ill that same night, and he further says that he heard the miners talking about it subsequently. There is no evidence that it came to the knowledge of the Manager or of his son before 13th April; but on 13th April, says Rendell, he, Bailey, and Joseph Croft were all present at a conversation, in which Bailey referred to a man being carried out of the mine. On 14th April a conversation took place between the two Crofts, Gall, Ambrose, Newburn, and Bailey. Ambrose says that Joseph Croft asked Bailey if he had written to the Minister about black-damp, and that Bailey replied that he had told the Minister about black-damp. Gall, who was present, said, in answer to Mr. Bruce Smith, that he first heard of Taft's affair on 14th April, when it was mentioned by Bailey. Newburn has no recollection of this statement either way.

I find, then, that Taft's incident was known to both Crofts, father and son, on 14th April; yet for some inscrutable reason they made no effort to investigate this matter till just before the inquiry, when Taft is sent for and questioned.

(b) *The System of Ventilation generally.*

The evidence may be divided into—

- (1.) Ventilation of pillars; and
- (2.) Ventilation of workings other than pillars.

(1.) Taft states that he found the air bad in No. 1 pillars at the same time that he was working in No. 5, but his evidence is too vague to be of any assistance to me. John Atkinson and Watts, both men whose evidence I can rely upon, were working on pillars in No. 1 the first quarter of this year. Atkinson says the air was very hot and vitiated; that there was a current of air coming up to him, but it was very hot. According to Watts, who was in No. 2 pillar, near Atkinson, the air could be felt when he commenced the pillar, but as he advanced he left the air and the atmosphere became warmer. At the face there was not sufficient pressure to bend the flame of his lamp. There was no brattice in the pillar, and the state of the atmosphere quickly tired him. Mr. Dixon, the Government Inspector, examined Atkinson's place during that quarter, and found the air very hot; but the air was being forced into the pillar, and the ventilation was satisfactory considering the broken nature of the workings. With regard to Watts' pillar, I am satisfied that the air was not forced up to the working face in such a manner as to comply with General Rule 4 of the Coal Mines Regulation Act.

The ventilation of pillar workings is undoubtedly a difficult matter, because, unlike a bord, there is no fast wall along which the air current may be conducted. It thus becomes harder to concentrate the air, and, owing to the disturbance of the strata, the air has a tendency to leak. At the same time, it is practicable to conduct the air up to the face of the pillars; and, bearing in mind the imperative terms of General Rule 4 of the Act, it is clear that means must be devised to accomplish that object.

No. 5 Pillars.—The condition of the ventilation in this district has already been referred to in connection with Taft being carried out into the main intake. It appears that the air for this district was diverted from No. 5 return by a sconce which only partially projected across the return. As a result, some of the air escaped down the return. It is proved that these men complained to Rendell of the state of the ventilation, and that he took no steps to improve it. Yet the breaking down of the stopping by Dobb and Turner seems to have afforded relief.

As to (2)—Watts speaks of one instance in No. 6, at the end of last year, when the gob was heaped up in his bord and blocked the ventilation. However, Gall and Dixon deny that allegation, and I do not consider that charge to be substantiated.

Alfred

Alfred Johns deposes to smoke hanging about in the third bord in the face of No. 7 heading. This was in the middle of last year. This matter, again, is too vague to act upon.

No. 8 District.

No. 8 District seems to have given rise to some complaints on the part of the miners. Taft and Turner allege that the ventilation was defective about two years ago, when they were driving No. 8 back heading. Arthur Johns about the same date found the air defective in a bord in that district. Watts again says that about the same period he found that the smoke was very slow in getting away after firing a shot. This continued so for several weeks. These matters are all confined to the same period of time. The cause seems to have been of a temporary nature; but what it was I cannot say.

Williams was working last quarter in a bord off the front heading in No. 8. He complains that the air was deficient, and did not circulate up to the face of his bord, and that the air was hot like steam for the first fourteen days after he started to work. As against this, it appears that there were two men able to work on the same air after it had passed Williams, and Mr. Atkinson, the Chief Inspector, who was in the bord during that fortnight, is of opinion that there was sufficient air passing for Williams.

System of ventilation satisfactory.

This branch of the inquiry is one in respect of which it is not at all easy to arrive at a satisfactory conclusion; for complaint or approval is determined by the individual's temperament. What feels hot to one man is cool to another, and we have not the aid of the thermometer in case of doubt. A colliery cannot always be perfect, and temporary inconveniences must arise from time to time. The brattice occasionally may not be close enough to the face. But I do not consider there is any evidence to justify me in saying that the system of ventilation as a whole is deficient.

**THIRD CHARGE:—THAT ON VARIOUS OCCASION THE AIRWAYS HAD BEEN TAMPERED WITH SO AS TO DECEIVE THE AUTHORISED OFFICIALS WHEN INSPECTING THE PIT.**

Tampering with ventilation.

This is the most serious charge, and if established the most deserving of punishment. Nothing can exceed the baseness of men who, for the purpose of deceiving the Government officials, legally appointed to see that the Coal Mines Regulation Act is properly administered, employ means to hoodwink and mislead them, and the men who take part in such a conspiracy, even through fear of dismissal, can neither justify nor extenuate their conduct. There are things which a workman submits to for the sake of retaining his position which he may feel are morally indefensible; but no man with a vestige of self respect or honor will lend himself, under any compulsion, to the perpetration of a fraud which may entail injury to his own friends and fellow workmen. It is idle to urge "My poverty, not my will, consented." Bailey and Dobb, by their own admissions as to this aspect of the inquiry, lay themselves open to such criticism; and I decline to act upon any charge they may make unless they are supported by substantial evidence as to time and place.

Bailey speaks of certain occasions when he played his part during the last twelve months. Dobb deposes to two dates in February, 1898; and as to one incident in July, 1895, they both testify. To take Bailey first—

(1) Blocking airway in No. 7 District.

(1.) About seven or eight months ago, Ambrose, a deputy, instructed him to put up some canvas across the road connecting Nos. 7 and 8 Districts. This took place about 10 a.m., and when he left the pit bottom at 6.40 a.m. the Government Inspectors were expected. He was late in keeping his appointment, and when he reached the spot he found Ambrose already there, and he assisted Ambrose to put the canvas up. The effect of so doing would be to cut off the air from No. 7 District and send it down No. 6. Nobody else was present. The date of the incident he cannot fix, nor can it be proved that the Inspectors were in the pit that day.

To this Ambrose gives a denial. In the face of this contradiction, and in the absence of any evidence to corroborate Bailey, I hold that he has failed to prove this allegation.

(2) Forcing air into No. 8 District, March 10th, 1899.

(2.) The date of this occurrence he puts at about the 3rd or 10th of March, 1899. He had been told that the Inspectors were to be there that day. There is a door leading into No. 8 District which is always kept shut, except when wheelers pass

pass through it in the course of their work; and it was the duty of a boy named Harry Jones to attend to that door. The effect of keeping this door open would be to increase the volume of air in No. 8 District, and to correspondingly deplete the other districts. On this day Ambrose, he continues, told him to take the boy out of the way for a bit. He did so, and went up No. 7 heading for three-quarters of an hour. He left Ambrose near the door. While away they put up some canvas, and when they returned the door was open. Ambrose then told him to take the boy away again. He was then away about the same length of time, and on returning the second time the door was shut. Harry Jones was called, and he corroborated Bailey as to going away the first time. He heard Bailey and Ambrose talking before Bailey took him away, but could not hear the words. On returning he was some 12 yards behind Bailey. He heard him and Ambrose speak, but could not hear what was said. Bailey then said, "Come on back, Harry." They then went to the same locality, and Bailey picked up a small piece of quartz. On returning the second time Ambrose was at the door, and the door was shut.

Neither he nor Bailey saw any Inspector in the mine that day.

It appears that on March 3rd Bailey was Under-Manager; and as he was taking orders from Ambrose on the day he refers to, that day must be March 10th rather than the 3rd. On March 9th and 10th the check inspectors examined the A and B Pits.

Ambrose admits the two trips of Bailey with the boy, but explains them in this way: that Bailey had told him some bords wanted canvassing; that he then sent him to do the work, and as his shift was nearly over, Jones was sent to help him. When they returned he asked Bailey whether he had canvassed all the bords. Bailey said, "No, not the gannin bord." He, Ambrose, thereupon sent him back to do it.

Next morning, on going his rounds, he found that Bailey had not yet done the work in this bord, and when he questioned Bailey the latter stated he was laying roads instead. This in itself seems to my mind a reasonable explanation of Bailey's movements that day; and, inasmuch as the boy did not hear any conversation that passed between Ambrose and Bailey, and did not see the position of the door when he came back the first time, I am of opinion that there is not sufficient corroboration of Bailey to warrant me in holding that the charge has been proved.

As to Dobb,—That on February 15th, 1898, the Under-Manager, H. Croft, told him the check inspectors were coming round the mine. That he intended blocking No. 5 overcast, and Dobb must see to the removal when they came out. This overcast is at the spot where No. 5 return airway passes over the main haulage road. The effect would be to decrease the air in No. 5 and 6 Districts, and increase the air readings in No. 2. He states that he did as he had been instructed, and, further, that he saw the Inspectors coming out of No. 2 District on that day.

(3) Forcing air into No. 2 District, February 15th, 1898.

The check inspectors were in the Mine that day; but H. Croft denies the accusation so far as he is implicated, and I do not think it safe to act upon Dobb's story under the circumstances.

(4) On February 25th, 1898, a similar occurrence happened; but on this occasion Mr. Dixon was inspecting the mine. Mr. Dixon admits that he was so engaged. But Croft again denies the charge, and I decline to act upon Dobb's testimony.

(4) Similar to (3), February 25th, 1898.

We now come to the incident of which both Bailey and Dobb give evidence. Bailey's account is very short. In examination-in-chief, he states that he saw Newburn, a deputy, putting up canvas on No. 2 main intake on an occasion when he believed Mr. Dixon was inspecting. The effect of this proceeding would be to increase the volume of the air in the other portion of the pit, and to reduce it in No. 2 District very considerably.

(5) Blocking No. 2 District, July 18th, 1895.

Bailey's version.

The date was somewhere about the middle of July, 1895. In a conversation with Mr. Atkinson, on April 12th, he said that he assisted Newburn to put up this canvas.

Dobb states that he had been sent into No. 1 return airway to do some work when he saw canvas hung across the airway. He retraced his steps into No. 2 main intake, when he came across Bailey and Newburn holding up a canvas across that airway. He did not actually speak to the men or see them, but recognised their voices as they conversed together. He fixed the date specifically as being July 18th, 1895.

Dobb's version.

Bailey's story is attacked on specific grounds, apart from the question of general credibility.

Joseph Croft says the mention of Newburn's name is quite an afterthought ; that he had not said a word to him (Croft) about Newburn on April 13th, when they discussed these allegations of tampering with the ventilation. But I think Mr. Croft must be mistaken, for he had Newburn in attendance on April 14th, when these charges were to be discussed. Mr. Atkinson states in his report (*Exhibit "V"*) that Bailey mentioned Newburn's name to him on April 12th in connection with this matter. Bailey must have coupled Newburn's with the offence previously to April 14th. Dobb can be fairly charged with having a grievance against H. Croft. In his examination-in-chief, he stated that he had made notes at the time of this matter, and also of the occurrences of February, 1898. At Mr. B. Smith's request, he produced the original notes. It is suggested that these entries are of recent manufacture. Now, although they are open to fair comment in some of the details, I am satisfied on the whole that they are genuine. On the page where these notes appear other matters are intermingled, some referring to H. Croft, others personal to himself alone. The book itself contains entries dated 1894.

Corrobor-  
ation. Dixon  
did inspect  
that day.

Newburn's  
explanation  
of the charge.

Mr. Dixon admitted in his evidence that he did inspect the pit on July 18th, as alleged by Dobbs.

Newburn gave evidence as to the circumstances. He admits that Bailey did assist him to hang a canvas about four years ago, but says that the purpose was quite innocent.

At that time, he added, the number of men in No. 10 District had been gradually reduced until, on the occasion referred to, there were only fourteen men at work in that district, with a boy and a horse. At the same time the miners were being gradually increased in the No. 2 District. The opening leading into No. 10 was reduced from 12 feet x 6 feet to 3 feet x 3 feet. Under these circumstances, undoubtedly, the air volume should be increased in No. 2 and greatly reduced in No. 10.

Not supported  
by records.

On turning to Mr. Dixon's reports of inspections in the pits (*Exhibit "W"*), I find he gives the number of men, boys, and horses in No. 10, on July 18, 1895, as sixteen. This corresponds with the fourteen men, one boy, and one horse, of which Newburn speaks ; and this date is the only occasion when the number of men in No. 10 was as low as fourteen. It also appears from the same document that the number of men in No. 2 District, on July 18th, was fifty-four, and that the number had increased by September to 143.

These facts satisfy me that the occasion Newburn refers to must be in July, 1895. But when we come to examine the air readings for No. 10 Districts, we find that on May 28th the quantity of air was 4,000 cubic feet per minute for twenty-two men, &c. ; on July 18th it had increased to 6,000 cubic feet for sixteen men, &c. ; and on September 3rd was 5,000 cubic feet for twenty-four men, &c.

This charge  
proved against  
Newburn.

If, as I believe to be the case, Dobb made this entry referring to July 18th, 1895, at that time there must have been present, to his mind, something that had a sinister aspect rather than an innocent, and Newburn's explanation of what he asserts was a legitimate transaction is not borne out by the official records. This, then confirms my view that Dobb's entry refers to something dishonest. I therefore find that the charge as to July 18th, 1895, has been made out.

I should, however, add that there is not sufficient evidence before me to enable me to say that H. Croft was a party to the wrong-doing.

*Is there any ground for questioning Mr. Dixon's boná fides ?*

Mr. Dixon's  
boná fides not  
impeached.

Dobb and Bailey gave evidence to the effect that they knew from time to time when the Inspector intended to visit the pit. They say their information was derived from the deputies or Under-Manager. It was argued that if these inspections are, as Mr. Dixon asserts, on the surprise-system, then his arrival could not be anticipated without some reprehensible indiscretion on his part.

It may be argued now, if it is proved that the ventilation was obstructed for the purpose of giving false readings in the expectation of Mr. Dixon's inspection, that he must have made known his intention to the Colliery officials. Such a charge is very serious, considering that the whole value of an inspection depends upon whether warning has been given or not. The work of an Inspector who announces that he is coming is worthless, and he is not fit to occupy such a position of trust.

But

But I am glad to be able to say that I have no hesitation in absolving Mr. Dixon from the suggestion of warning the Company as to his visits.

I can well understand that his visit might very often be known through no fault of his.

It appears that another pit, B, is worked in conjunction with the A Pit, and the inspection, whether by the Government officer or by the check inspectors, for these two pits lasts sometimes as long as three days. Consequently any part not examined the first would certainly be dealt with on the following days. Further than that, the Inspector sometimes spends a little time at the pit mouth before descending, and word of his arrival may be thus passed along. And it is noteworthy that out of the four dates specifically mentioned by Dobb and Bailey, three of them are not the first day of an inspection.

That Mr. Dixon has been deceived is beyond doubt, but I cannot see how his integrity or *bona fides* has been in the least degree damaged by any evidence that has been given in this inquiry.

For the future, however, since fraud has been proved against some of the mine officials, some measures should be adopted to prevent such tricks being repeated. Precautions against fraud on Inspector.

No doubt if the Inspector descended the pit immediately on arrival, and measured the air in the intake and return at a point as near as possible to the pit bottom before inspection, and did so again on completion of the inspection, and compared these readings with the sum total taken of the readings in the various districts, it might be some indication whether the air has been doubled in any particular air split. The nature of these precautions, however, may well be left to the discretion of the Inspectors.

#### FOURTH CHARGE:—MANIPULATION OF THE FURNACE FIRE.

Some evidence was offered to prove that the furnace fire was allowed Furnace. improperly to get low, and that it was the custom to fire up with best coal so as to increase the draught of air when an Inspector was expected. I find that that charge is not sustained.

#### FIFTH CHARGE:—DISCIPLINE.

The following offences have been disclosed in the course of the evidence. In Discipline. In connection with Wear's accident Rendell is the chief offender:—

He has offended in—

- (1) Omitting to inspect the working face of the heading where Wear was burnt before Fox went in to bale water. (*See* Section 47, General Rule 4, and Special Rule 11.)
- (2) The brattice not being carried up so as to force the air as far as the face of the heading. (Section 47, General Rule 1.)
- (3) Omitting to make a report in the Report Book of inspections made on Sunday night before the shift men commenced work. (Section 47, General Rule 4.)

This rule seems plain enough, but it does not appear to have occurred to the Manager that it applied to Sunday night inspections, when the mine had been idle since Saturday.

For the last five months this has been done, on the representation of Mr. Dixon. He also at one time was under the impression that the report was not necessary.

- (4) Not complying with the provision of General Rule 7 after being informed of Wear's accident. He evidently considered the spot dangerous for he withdrew Fox and put up a danger mark.
- (5) Making inspections after September 23th, 1898, with an unlocked safety lamp. (Section 47, General Rule 4.)

He states that he never saw a key, but the Manager and his son say that a key was close by.

- (6) Omitting on a subsequent occasion when he ignited gas to make a report to the Under-Manager. (Special Rule 15.)

In connection with Taft's case—

- (7) Omitting to report the occurrence in accordance with Special Rule 16.

Joseph Croft's offences are—

- (1) Allowing any portion of the mine to be inspected with naked lights after discovering inflammable gas.
- (2.) Omitting to have a report in the book of the result of the examination of places where Taft and Turner were to work when they were on the night shift in No. 5 District. (Section 47, General Rule 4.)

Bullerwell was guilty of an offence under section 47 of General Rule 4 and Special Rule 15 in not reporting the presence of black-damp.

In addition to these there are the numerous breaches of the statute to which Bailey and Dobb have pleaded guilty.

Importance  
of enforcing  
Act.

There is no part of colliery management which is more important for the well-being of the miner than the enforcement of the Act and the Special Rules; and perhaps there is no task that is more thankless than endeavouring to instil into the minds of the workmen the necessity of reporting to the responsible officials the presence of gas, or defects in the condition of their places. The miners as a rule are content to let matters rest, so long as no harm ensues to them. The witness, Arthur Johns, did not hesitate to say that he did not mind a bit of gas so long as it did not hurt him. But these men forget that they owe a duty to their fellow workmen, and their own families; and they do not realise that by the timely reporting of what may seem to them an insignificant quantity of gas, they may avert a terrible catastrophe in the future. Of course a man may be too fond of picking holes in the management, and reckless fault-finding is to be deprecated on numerous grounds; but no reasonable person should complain because the existence of gas is made known to the proper authorities.

In the Newcastle Pit discipline is absolutely undermined. With regard to the matters that have come before me, the tendency has been to combine to evade those provisions which are meant to ensure the safe working of the mine. The evidence shows that Rendell, the night overman, has laid himself open to prosecution for seven distinct breaches of the Act and special rules. The Under-Manager sees Bailey start off to test for gas with an unlocked safety-lamp in one hand and a naked light in the other; and, although he knows that the latter is doing wrong, not a word of remonstrance escapes his lips.

The rules of discipline are the same for all mines, be they gassy or not. The law does not allow men to decide for themselves what is worth reporting and what may be passed over. To urge that fire-damp is not likely to appear again does not even mitigate (to my mind) the offence of concealing its existence when found. It may be that the presence of gas in a pit may lead to the necessity of working the mine with safety-lamps; although I do not at present see any necessity for such a course being adopted in the Newcastle Colliery. But if the existence of gas does make such a course expedient, the responsibility should not be shirked, however great the inconvenience that may be entailed thereby.

The Coal-mines Regulation Act of 1896 was framed for the protection of the miners, and the periodical visits of the various Inspectors are in the interests almost entirely of the workers underground. The men should comply with the Statute for their own well-being: there is a corresponding duty imposed upon the higher officials; but so long as those whose duty it is to do so refuse to co-operate to secure the safe working of collieries, so long will coal-mining remain a dangerous industry.

To summarise, I find that—

- (1) Anthony Wear was burnt by an ignition of fire-damp on September 25th, 1898.
- (2) The Manager (J. Croft) and the Under-Manager (H. Croft) became aware of that circumstance shortly after the event.
- (3) The Manager and Under-Manager concealed this circumstance from the proper authorities. (4.)



- (4) J. W. Taft was overcome by black-damp in the pit about June or July, 1898.
- (5) Taft's accident became known to the Manager and Under-Manager on or about April 14th, 1899.
- (6) Neither the Manager nor the Under-Manager took any steps to inquire into Taft's case until the end of May.
- (7) The general system of ventilation in the pit is satisfactory.
- (8) On July 18th, 1895, the air courses were obstructed for the purpose of deceiving the Government Inspector, Mr. John Dixon.
- (9) There is not sufficient evidence to connect the Manager or Under-Manager with this charge.
- (10) No charge can be made against the integrity of Mr. John Dixon.
- (11) The mine in places where the workings pass through dykes or faults is likely to give off fire-damp, but it cannot be called a "gassy" mine.
- (12) Black-damp exists in certain parts of the mine, but the system of ventilation, if properly applied, is sufficient to render it harmless.
- (13) The discipline is disgraceful.

I have the honor to be,

Sir,

Your obedient Servant,

C. G. WADE,

Commissioner.

The Honorable Joseph Cook,  
Secretary for Mines and Agriculture.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## EAST GRETA COLLIERY DISASTER.

(RETURN RESPECTING, NOVEMBER, 1898 )

*Printed under No. 6 Report from Printing Committee, 19 October, 1899.*

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## No. 1.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

18 November, 1898

MANAGER of East Greta reports three men buried by fall of roof in main incline drive Am now going up to inspect, and therefore cannot return Sydney to-night Will wire further information early to-morrow  
A. A. ATKINSON

Particulars given to Minister Register —D McL, 18/11/98

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture

18 November, 1898

ACCIDENT (East Greta) has happened in main incline drive, dipping at an angle of 45 degrees, length of fall, approximately, 40 feet, and almost uniform height of 10 feet, top end of fall, 260 feet from face. Roof still uneasy, and consider inadvisable to allow any one to pass seat of fall until roof is secured, as little or no hope is entertained that any of the three men can be alive Going down now, and will report later if you will kindly wire West Maitland station your private address  
A. ATKINSON

Seen — D McL, 19/11/98.

## No. 2.

Telegram from Mr. H. Winchester, Coal-fields Office, to The Under Secretary for Mines and Agriculture.

18 November, 1898

MESSAGERS received Mr Atkinson having spoken through telephone at Court-house, proceeded to Maitland, accompanied by Mr Inspector Bates, per 3.30 train, and will probably communicate further information from West Maitland station. East Greta Colliery is on the Telephone Exchange  
HERBERT WINCHESTER

Seen —D McL, 18/11/98.

Telegram

Telegram from Mr. Inspector Humble to The Under Secretary for Mines and  
Agriculture.

18 November, 1898.  
JUST received your wire. Accident is at East Greta Colliery. Three men were buried by fall of roof in main dip incline. Chief inspector and Mr. Bates have gone to investigate. Chief will call upon me if he finds it necessary.  
WM. HUMBLE.

Seen.—D.McL., 19/11/98. Copy sent to Hon. Joseph Cook, Katoomba, and the Under Secretary, William-street.

No. 3.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines  
and Agriculture.

19 November, 1898.  
NEWS from East Greta Colliery, per telephone, this morning is that good progress has been made during night in clearing away fall and replacing timber. Large quantity of stone yet to be shifted before men are reached. Am now going to colliery with Inspector Dixon. Am wiring Minister.  
A. A. ATKINSON.

Seen.—D.McL., 19/11/98.

No. 4.

Telegram from The Chief Inspector of Coal-mines to The Secretary for Mines and  
Agriculture.

19 November, 1898.  
NEWS from East Greta Colliery, per telephone, this morning is that good progress has been made during night in clearing away fall and replacing timber. Large quantity of stone yet to be shifted before men are reached. Am now going to colliery with Inspector Dixon. Am wiring Under Secretary.  
A. A. ATKINSON.

Telegram from Mr. Inspector Humble to The Secretary for Mines and Agriculture.

19 November, 1898.  
CHIEF Inspector, who is at East Greta, asks me through telephone to inform you that work is progressing satisfactorily. Having regard to the safety of workers, timbering will be finished some time to-morrow, after which removal of the fallen *debris* will proceed as fast as possible. Am wiring Under Secretary to same effect.  
WM. HUMBLE.

Telegram from Mr. Inspector Humble to The Secretary for Mines and Agriculture.

19 November, 1898.  
RECEIVED your wire last night too late to get reply through. I mean buried. The fall of roof occurred in a dip slope of one in one, and would slide with great force to face where men were at work. No hope of men being found alive.  
WM. HUMBLE.

No. 5.

Telegram from The Colonial Secretary to The Secretary for Mines and Agriculture.

19 November, 1898.  
VISITED East Greta this afternoon. No fresh developments. Atkinson considers chance of discovering entombed miners hopeless.  
JAMES N. BRUNKER.

No. 6.

Telegram from The Secretary for Mines and Agriculture to The Under Secretary.

19 November, 1898.  
EAST Greta accident. Wire to relatives in my name expressing sympathy.  
J. COOK.

Wires (568-571) sent to—1. Mrs. D. Gronow; 2. Mrs. Bertie Monteith, or Moncrieff; 3. Mrs. and Mr. Barnes; 4. The Minister.—19/11/98.

David Gronow, wife; Bertie Monteith, or Moncrieff, wife; Richard Barnes' parents.

East Greta.  
PERMIT me to express my great regret at the accident which has happened, and my sympathy with you in the anxiety you are suffering. My fervent hope is that even yet your husband will be rescued.

No. 7.

Telegram from The Under Secretary to The Secretary for Mines and Agriculture.

19 November, 1898.  
HAVE sent the following wire to wives of Gronow and Moncrieff and parents of Barnes in your name. Permit me to express my great regret at the accident which has happened, and my sympathy with you in the anxiety which you are suffering. My fervent hope is that even yet your husband (son) will be rescued.  
D. C. McLACHLAN.

No. 8.

No. 8.

## The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

Coal Fields Office, Department of Mines,

Newcastle, 19 November, 1898.

Sir,

In order that you may afford information to the Minister with reference to the accident at East Greta Colliery, I have the honor to give you the following brief particulars:—

The coal is won at this colliery by means of two main tunnels, and as the seam dips at an angle of 45 degrees, these tunnels approach more nearly to shafts than level drives. The rails are laid down about 4 ft. 8 in. apart, on which runs a trolley or cage on wheels, and which forms the receptacle to carry the tubs or skips in and out of the mine.

The coal-seam is about 10 feet thick, and overlaid near the surface by hard conglomerate rock, so hard, in fact, that it was unnecessary to timber a considerable length of the tunnel.

For some short time, however, the character of the roof appears to have been changing, and shale of a somewhat friable nature has come in immediately over the seam; and the conglomerate, at the point where the fall has taken place, appears to be about 10 feet above the top of the seam.

The fall took place, at a point about 670 feet from the mouth of the tunnel, or about 127 feet from the lowest pair of levels.

It is evidently about 40 feet long, 10 feet wide, and 8 feet thick, occupying a space of about 3,200 cubic feet, and the fallen material would weigh somewhat over 200 tons, probably. This material as soon as released would, in consequence of the heavy inclination, gradually run in to the face of the drive, which is about 90 yards further down to where the men were working, who would thus have little or no chance of escape.

There were three men in at the time of the fall, and it was just about the usual hour when they should have been relieved by another shift.

The timbering in this portion of the drift has been of a very substantial character, the roof, floor, and sides all being timbered.

I examined the seat of the accident yesterday evening, and considered, with the colliery managers who were present, that it would be highly dangerous to allow anyone to pass beyond the fall until the timber has been renewed and all made safe where the fall has occurred.

The rough sketch enclosed shows the method of timbering, and further particulars you will receive by wire as the work progresses.

After conferring with the Minister, if you think it desirable that the Crown should be legally represented at the inquest, which I do not think necessary, I hope you will be good enough to advise me as to what has been decided upon. So far as I am able to judge, it is a pure accident.

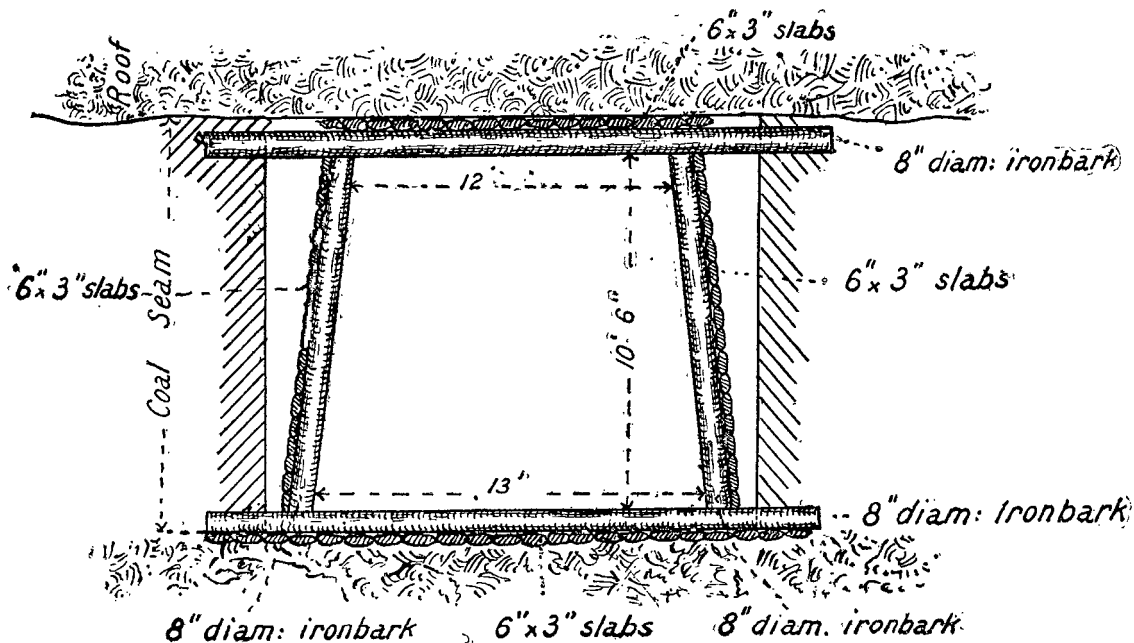
I will remain here until the bodies are recovered and the inquest has been held, unless I receive other instructions.

I have, &amp;c.,

A. A. ATKINSON,

Chief Inspector of Coal Mines.

For Minister's information,—Mr. Atkinson may be informed that it is not necessary to have the Crown represented at the inquest. An inspector should, however, watch the proceedings.—D.McL., 21/11/98. Read.—J.C. It was decided this morning with Mr. Atkinson that it would be better to be represented at the inquest if one is held.—D.McL., 22/11/98. Mr. Atkinson. Crown Solicitor (with papers), 28/12/98.



Main sets of timber are 5 feet apart



5

## No. 9.

Telegram from Mr. Inspector Humble to The Under Secretary for Mines and Agriculture.

19 November, 1898.

CHIEF Inspector, who is at East Greta, asks me, through telephone, to inform you that work is progressing satisfactorily. Having regard to the safety of workers, timbering will be finished some time to-morrow, after which removal of the fallen *débris* will proceed as fast as possible; am wiring Minister to same effect.

WM. HUMBLE.

Seen, 21/11/98.

Telegram from The Chief Inspector of Collieries to The Under Secretary for Mines and Agriculture.

21 November, 1898.

WORK going on well at East Greta. Have wired Minister. Please say if I could see Minister to-morrow, as I propose going Sydney to-night. Please wire Winchester, who will forward message by telephone to colliery, where I am going by 9.25 train.

A. A. ATKINSON.

Reply to Mr. Winchester, Coal Office, Newcastle:—Minister will see Mr. Atkinson to-morrow; please let him know, 21/11/98. Wire (573) to H. Winchester, 21/11/98.

## No. 10.

Telegram from The Chief Inspector of Coal-mines, Newcastle, to The Under Secretary for Mines and Agriculture.

21 November, 1898.

WORK of retimbering temporarily suspended in consequence of fall out of original hole, which displaced the three last sets of renewed timber. No one hurt, but men somewhat alarmed. Will examine place again before men resume work, and wire result; please repeat to Minister if not in town.

A. A. ATKINSON.

Repeat to Minister at Hawkesbury College. Wire (575) to Minister, 21/11/98.

## No. 11.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

21 November, 1898.

It has been decided to further strengthen back timbers in order to ensure safety to workmen; this will delay recovery of bodies. Returning to-night; will be in Department to-morrow.

A. A. ATKINSON.

Minister informed, 22/11/98.

## No. 12.

Telegram from Mr. Inspector Dixon to The Chief Inspector of Coal-mines.

22 November, 1898.

DOUBLING of the sets above seat of fall finished, and the men are now proceeding to timber further down towards the opening, in accordance with decision arrived at yesterday. Place quiet, with the exception of two small pieces of stone, which have fallen within the last two hours in advance of the timber.

JOHN DIXON.

Noted.—A.A.A., 22/11/98. For information of Under Secretary. Seen.—D.McL., 22/11/98.

Telegram from Mr. H. Winchester, Coal-fields Office, to The Chief Inspector of Coal-mines.

22 November, 1898.

INSPECTOR DIXON just returned from below, and reports there has been no serious falls since last night. The place is now very quiet; they have doubled five sets, making eight in all.

H. WINCHESTER.

Seen by Minister, 22/11/98.

## No. 13.

Telegram from Mr. H. Winchester, Coal-fields Office, to The Under Secretary for Mines and Agriculture.

23 November, 1898.

MR. ATKINSON desires me to wire that the work of securing the timbering is going on satisfactorily.

H. WINCHESTER.

Seen by Minister, 23/11/98.

Telegram

Telegram from the Chief Inspector of Coal-mines to The Under Secretary for  
Mines and Agriculture.

23 November, 1898.  
WORK of renewing timber at East Greta going on satisfactorily; no further serious falls.  
A. A. ATKINSON.  
Seen by Minister.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for  
Mines and Agriculture.

24 November, 1898.  
EVERYTHING going on satisfactorily at East Greta Colliery; nothing new to report.  
A. A. ATKINSON.  
Seen by Minister.

Telegram from Mr. H. Winchester, Coal-fields Office, to The Chief Inspector  
of Coal-mines.

25 November, 1898.  
THE seventh set now in and lashed back with ropes to sill; fifth and sixth sets doubled and propped; slabs put on, and ti-tree now being put on; no further falls; everything going on satisfactorily.  
HERBERT WINCHESTER.

Under Secretary.—J.C., 25. Noted.—A.A.A., 25/11/98.

Telegram from Mr. Inspector Dixon to The Chief Inspector of Coal-mines.

26 November, 1898.  
THE eighth set of timber has been completed, and the ninth started with, at East Greta. During last night the third and fourth sets of timber on in by-end of fall gave way, and a fall took place. The strata below the original fall opening is uneasy, and may break the other cap-pieces. The roof is quiet where men are working. Have wired the Minister at Lithgow.  
JNO. DIXON.

Noted.—A.A.A., 26/11/98.

Telegram from Mr. H. Winchester, Coal-fields Office, to The Chief Inspector of  
Coal-mines.

28 November, 1898.  
MR. INSPECTOR BATES reports: The whole of the cavity made by the fall is now secured by timber. Men are now engaged filling cavity with ti-tree. When I and Inspector Dixon were down a short time since everything was quiet, and work progressing satisfactorily.  
H. WINCHESTER.

For the information of the Under Secretary.—A.A.A., 28/11/98. For Minister's information.—  
D. McL., 28/11/98. Seen.—J.C., 28.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for  
Mines and Agriculture.

29 November, 1898.  
ALL the timbers knocked out by original fall have been renewed, in addition to being made much stronger than before. Cavity from which the stone fell has been completely filled with ti-tree and other timber. In proceeding below fall it will be necessary to continue strengthening to keep everything safe. Since cavity has been filled men work with much more confidence. Considering work to be done, little chance of reaching bodies before next week.  
A. A. ATKINSON.

For Minister's information.—D.McL., 29/11/98. Read.—J.C., 29.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for  
Mines and Agriculture.

1 December, 1898.  
WORK at East Greta proceeding satisfactorily. Hole made by second fall will be filled up in few hours. To ensure safety to workmen, work is necessarily slow.  
A. A. ATKINSON.

Seen.—D.McL., 1/12/98.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for  
Mines and Agriculture.

2 December, 1898.  
WORK proceeding satisfactorily at East Greta. About 20 yards remains to retimber up to where *débris* from fall can be seen, which will occupy about four days; after which, *débris* will be filled out. There appears to be another fall, extent of which cannot be ascertained. Returning to-night.  
A. A. ATKINSON.

Seen.—D.McL., 3/12/98.

Telegram

Telegram from Mr. Inspector Dixon to The Minister for Mines and Agriculture.

3 December, 1898.

AT East Greta three sets of timber have been doubled and trebled below second fall. The third fall shows about 4 feet in height, and there are four sets out at this point. Timber can be seen standing beyond the point of third fall. Work proceeding satisfactorily.

JOHN DIXON.

J.C., 5.

Telegram from Mr. Inspector Bates to The Chief Inspector of Coal-mines.

5 December, 1898.

TIMBER completed down to edge of fallen *débris*. Cage now being taken off to allow filling *débris* away. Timber will be strengthened as progress is made. Good progress made since Saturday.

T. L. BATES.

For the information of the Under Secretary.—A.A.A., 5/12/98.

Seen.—D.McL., 6/12/98.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

8 December, 1898.

TIMBERING at third fall going on satisfactorily but slowly, on account of having to cut out bent rails. Impossible to say when bodies will be recovered.

A. A. ATKINSON.

For Minister's information.—D. McL., 8/12/98. J.C.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

14 December, 1898.

WORK at East Greta proceeding satisfactorily, but of necessity slowly. About 75 feet more of tunnel to be cleared to extreme end. This distance is full of water and fallen material.

A. A. ATKINSON.

For Minister's information.—D.McL., 14/12/98. J.C.

Telegram from Mr. Inspector Dixon to The Chief Inspector of Coal-mines.

21 December, 1898.

VERY little headway made in East Greta last night, as very many of the cap-pieces in the place where the dirt is being cleared are found to be broken and have to be renewed. The working party is still 40 feet from the face.

JOHN DIXON.

For the information of the Under Secretary.—A.A.A., 21/12/98.  
—D.McL., 22/12/98.

For Minister's information.

No. 14.

Telegrams from Mr. Inspector Bates and Mr. Inspector Dixon to The Chief Inspector of Coal-mines.

BODY of Barnes recovered at 1.45 this afternoon. Found about 8 feet from face between last pair of sets. All work in tunnel now suspended.

T. L. BATES.

Noted., A.A.A. For the information of the Under Secretary, 28/12/98.

26 December, 1898.

BODY of Gronow recovered 10.40 Saturday night. I am going to colliery this morning.

T. L. BATES.

24 December, 1898.

INQUEST opened this afternoon by Coroner Martin, and adjourned to Wednesday, 4th January, at Court-house, West Maitland, 10.30. Body identified as Albert Moncrieff.

T. L. BATES.

24 December, 1898.

ONE body recovered 11 o'clock last night. Found on right-hand side of tunnel about twenty-five (25) feet from face, evidently sheltering behind prop. No coroner available, and no arrangement yet made as to inquest.

T. L. BATES.

24 December, 1898.

BODY found in East Greta this morning very much decomposed. Inquest will open this afternoon. Mr. Inspector Bates now at East Greta.

JOHN DIXON.

For Minister's information. The inquest has been adjourned to Wednesday, the 4th proximo. I have asked the Crown Solicitor to see that the Department is represented.—D.McL., 28/12/98. Approved.—J.C., 29.

No. 15.

## No. 15.

## The Under-Secretary for Mines and Agriculture to The Crown Solicitor.

*Subject* :—East Greta Colliery Accident.

Sir,

Department of Mines and Agriculture, Sydney, 28 December, 1898.

For your information, I have the honor to send herewith all official papers bearing on the fatal accident which happened at the above colliery on 18th November causing the death of three miners, [see Appendix X]; also the Inspector's reports on the colliery since August, 1897.

The Chief Inspector of Coal-mines hopes to be able to call at your office on Friday or Saturday next to discuss the points which require to be brought out at the inquest.

I have, &c.,

D. C. McLACHLAN,  
Under Secretary.  
(Per H.B.S.)

## No. 16.

Extract from *Newcastle Herald* containing Reports of Inquest on body of Albert Moncrieff.

[*Newcastle Herald*, 26 December, 1888.]

THE EAST GRETA COLLIERY DISASTER.

THE INQUEST OPENED.—GRONOW'S BODY FOUND.

MR. MARTIN, of Newcastle, opened an inquiry at the colliery surgery, East Greta, on Saturday afternoon into the circumstances attending the death of the man whose remains were recovered from the tunnel at the colliery on the previous evening. A jury of twelve was empanelled and sworn in, and evidence of identification was given. Mr. T. L. Bates, colliery inspector, represented the Mines Department, and Mr. James Curley, Miners' General Secretary, was present in the interests of the relatives of the three victims of the disaster—Moncrieff, Gronow, and Barnes.

Arthur Morrison, a wheeler, engaged at East Greta, deposed that he recognised the knife produced as the property of his brother-in-law, Albert, or Bertie, Moncrieff. He could not identify the body as it was too much decomposed. Moncrieff was 25 years of age, was married to witness' sister, and had one child—a daughter. Moncrieff was born in Sydney, where his mother resided.

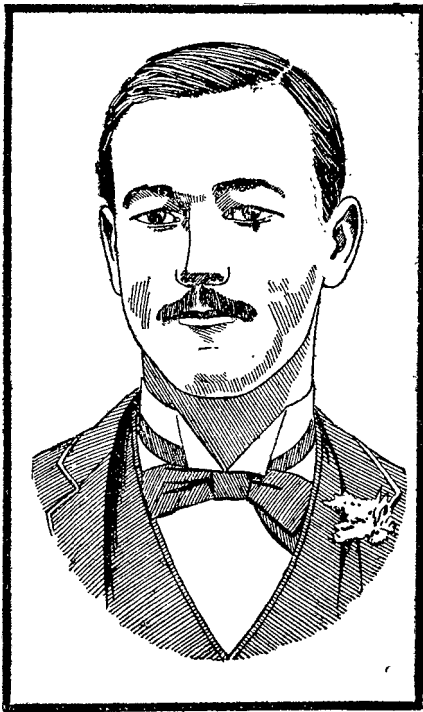
Constable W. T. Doran deposed that he received the clothes of the deceased, also the corpse, from Constable Townsend. On searching the trousers pocket he found a knife, which was identified in his presence by the previous witness, and also by William Tiedeman. He had shown the clothes to the relatives of Barnes and Gronow, and they declared that they did not belong to them.

At this stage the Coroner announced that sufficient evidence for identification purposes had been given, and he issued a certificate for the burial of Albert Moncrieff.

After consulting the jury and Messrs. Bates and Curley, Mr. Martin adjourned the inquest until Wednesday, the 5th January, at the West Maitland Court-house.

On Saturday most sensational rumours were circulated in town concerning the alleged finding of the bodies of the three victims of the disaster, and telegrams were sent to all the immediate relatives of the late Daniel Gronow, informing them that his body had been found. Needless to say, unnecessary grief and pain were given the bereaved relatives when it was discovered that only one body had been recovered.

The members of the four exploring parties, encouraged by the recovery of Moncrieff's remains, redoubled their previous efforts on Saturday, and at about 10:40 p.m. discovered a body on the floor of the tunnel between two sills. It appears that they had forged their way right over the body before they realised that it was beneath them. After about an hour's work they had the *debris* cleared, and the body prepared for removal to the surface. The body was lying between the middle of the road and the right side of the tunnel. It was on its left side, with one leg extended down the tunnel, and the other bent up towards the body, which was inclined towards the centre of the road under a steel rail. The body was facing down the tunnel, and the head was drooping towards the breast. The left arm was stretched down the tunnel, and the right rested on the body. The head was close to the upper sill. Just above the sill, at his feet, Gronow's clock, which was of the one-day Bee pattern, was found, uninjured. It had evidently continued going after the fall of conglomerate, which occurred



ALBERT MONCRIEFFE.

at 7:5 a.m., as the hands pointed to 1:20 p.m. when the clock was found. Gronow always kept his change clothing in a small bag, which he usually left above where he was working in the tunnel. This bag was found above the sill at the head of the body. The panel in which the remains were found is 20 feet from the bottom. A number of iron rails and some heavy timber extended from sill to sill over the body, but did not press on it.

The members of the shift who discovered and unearthed the body were George Price, Samuel Searston, John Tiedeman, Jack Jones, Phillip Degail, Herbert Davis. The men who completed the preparations and removal of the body to the surface were Dan Genge, Herbert Genge, Frank Genge, James

James Henny, John Lishman, J. Farnham. During the progress of this sad and necessary work Mr. R. St. V. Heyes, colliery engineer, Mr. Dave Lewis, deputy, and Constable Townsend were present in the tunnel. The body was not so much decomposed as that of Moncrieff, but the features were beyond recognition. Owing to the peculiar formation of the teeth in the upper jaw the relatives had no difficulty in identifying the body as that of Daniel Gronow, leader of the ill-fated shift.

Yesterday morning Dr. R. G. Alcorn, Government Medical Officer, examined the bodies at the colliery surgery, and failed to discover any fractured bones. He expressed the opinion that death probably resulted from shock to the system and suffocation. There could be no doubt, in view of the great mass of débris over them, that the men died almost instantaneously.

There was a sad scene at the surgery when Gronow's aged father and younger brother viewed the body for identification. The poor old man was warned by Constable Doran that the sight would be a terrible one, but he insisted upon being allowed to see the body. The constable permitted him to enter the room for a few moments only. He bore himself bravely while viewing his son's corpse, but completely broke down when he retired from the room.

The funeral of the late Bertie Moncrieff took place yesterday afternoon, moving from the colliery surgery at 1 o'clock for the Church of England cemetery at East Maitland. Although the funeral was held at a very inconvenient hour, it was well attended.

During the five weeks that have elapsed since the date of the disaster, the colliery officials, Messrs. A. Thomas (manager), R. St. V. Heyes (engineer), and H. Cartwright (under-manager), have been in close attendance supervising the work of exploration in the tunnel. Yeoman service has also been done by one of the deputies, Mr. Dave Lewis, who was always ready to lead the shifts where danger had to be faced. His many friends will regret to learn that the severe strain to which he had been subjecting himself had the effect of preventing him from taking his usual position at the tunnel.

West Maitland, Monday, 1.17 a.m.

The exploring party were engaged for several hours timbering below where Gronow's body was found, and it is expected that they will finish about 3 o'clock a.m. When this necessary work of precaution is completed, the party will resume the work of exploration.

[*Newcastle Herald*, 5 January, 1899.]

### EAST GRETA COLLIERY DISASTER.

#### OPENING OF THE INQUEST.

THE inquiry into the circumstances concerning the death of Albert Moncrieff, one of the victims of the East Greta disaster, on the 18th November, was resumed before Mr. Martin, Newcastle District Coroner, and a jury of twelve, at the West Maitland Police Court yesterday morning. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Messrs. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Robert George Alcorn, a duly qualified medical practitioner, residing at West Maitland, deposed that he examined the body of Albert Moncrieff. The body was in an advanced stage of decomposition. He came to the conclusion, from information received and from the examination made, that death was caused primarily from shock and suffocation. He was almost certain that death was instantaneous. There were no bones broken.

Ada Emily Moncrieff deposed that she was the widow of Albert Moncrieff, and identified the singlet and trousers produced as her husband's. She did not see the body of her husband after death. She had one child—a girl, Evelyn May—aged 7 months.

Azariah Thomas, manager of the East Greta Colliery, residing at Mount Dee, West Maitland, deposed that he instructed certain work to be done in a part of the pit. The work was let to David Lewis, Joseph Thompson, John Griffiths, and Daniel Gronow, on an understanding that they should make good wages at driving or sinking a tunnel, or what he would call extending No. 1 tunnel. He was to see that it was done to his satisfaction, and he was responsible for the work being done well. The work was done by continuous work of three eight-hours shifts, and the five extra men required were engaged by witness at the mine, and transferred to the tunnel as necessity occurred. He did not tell them what the strata was composed of, as he understood they knew themselves. He considered everything was perfectly safe there, and that the work of cutting through was safe for them. He did not go there every day, but when he did go he was satisfied with the work. He was deceived in the thickness of the conglomerate in that part where the accident occurred. He never found a thickness of conglomerate less than 50 to 60 feet at right angles. He considered that to be the average thickness where the men worked. The men never asked him about the safety of the tunnel.

To Mr. Tillett: The work was commenced from the lower level. They commenced to clear the old sump out on the 22nd June, 1897, preparatory to proceeding with the driving, and had got nearly to the end of the job when the accident occurred. The fall occurred 127 feet from the lower level, and 260 feet from the face. The tunnel had passed the place where the fall occurred some months previously. He went through the tunnel many times, and did not see any indications where the fall occurred. He did see indications in other parts of the tunnel, about 40 yards from the face. He noticed pressure on the timber there. The caps were bending, but that did not indicate to him a change in the roof. He did take precautions to examine the caps, but as they were not considered dangerous the timber was not strengthened. The same timbering was not maintained right through the tunnel, because they considered that the greater the depth the stronger the timbering should be. He was last in the tunnel on the Tuesday before the accident, which occurred on the Friday. That was one of the occasions on which he noticed the pressure on the roof. No complaints whatever concerning the roof had been made by anybody. He heard of none. The men were not to make, if they worked to his satisfaction, less than miners. They were paid at per yard, and extra for anything extra asked for. They had not to do the work in a certain time. No time was fixed. There were to be three in each shift. The four men were to have assistance if required, and the assistants were to be paid out of a lump sum. There was no written agreement. Under General Rule 4 of the Coal Mines Regulation Act, the four men—Lewis, Thompson, Griffiths, and Gronow

Gronow—were appointed as competent persons to make the inspections as required by the rule. Before they were paid the work was measured up, and they were supposed to settle with the others. He considered he was responsible for the wages of the other men. The model produced would show how the timbering was done in the tunnel. He also produced a tracing, showing the position and dimensions of the tunnel. The props and caps were from 8 to 10 inches in diameter, with a minimum of 8 inches. The sets were placed 5 feet centres apart, and were slabbed over the roof, by the sides, and under the sills. The slabs were 6 feet long,  $2\frac{1}{2}$  inches to 3 inches thick, and from 6 inches to 9 inches wide. The height of the tunnel from the top of sill to bottom of the cap was 10 ft. 6 in., and the mean width 12 ft. 6 in., or 12 feet at the cap and 13 feet at sill. The timber which fell had since been taken out, and some of the caps were found broken. He could not say whether those caps showed signs of having been bent before they were broken.

To Mr. Atkinson: The timber used was ironbark for sets and ordinary hardwood for slabs. The sills and caps were let into the sides. The caps were 15 feet long, and there was 15 inches outside of the prop on each side. They were let in from 8 to 10 inches. The sills were 16 feet long, and were let into the coal. They avoided the roof. The floor was moderately soft, and became softer from wet and exposure. The timber used was newly cut. It was not seasoned timber. The props were mortised into the sills and caps about 4 inches deep. The timber above the lower level was of the same dimensions, but the sets were farther apart, being 8 feet centres instead of 5 feet. He had occasion to renew some of the sets above the lower level some years ago, but not recently. The sills breaking rendered this renewal necessary. There was very seldom any fracture of caps or props. All pressure came from below. This pressure was probably due to the expansion of the floor by exposure to water and air. All timber for some time used was ironbark. He could not compare it with other timber, as he had used it almost exclusively. He had used, recently, as miners' props, ordinary hardwood. He had no fall previous to the late one in any part of the mine to indicate that the conglomerate had disappeared. The conglomerate at the lower levels was proved at 7 feet thickness at right angles. He did not know how much more it was proved. The station, under General Rule 4, was on the surface. The men commenced work on a Monday at 7 o'clock. David Lewis made the examination before they commenced work on Monday morning, and then took the night shift at 11 o'clock. He made a report every day in writing. None of the other men made a report. Reports on the condition of the tunnel were made every week by the engineer, under General Rule 5. The engineer's inspection had regard to the condition of the timber and other things. No defects had been reported by the engineer. There were refuge holes made in the tunnel at intervals of 20 yards. He did not know if any of the intervals exceeded 20 yards. The last refuge hole should have been made on the night of the disaster, within 10 feet of the face. It was generally instructed and understood that the refuge holes had to be cut at every 20 yards, and to be made immediately after securing the bottom corner of the intended manhole. None of the deceased were found in the refuge or manholes. They were found in the tunnel. All manholes found below the débris were completely blocked up. The tail end of the débris was 130 feet from the face of the tunnel. Under General Rule 39 the workmen did not make any inspection of the whole mine. He would estimate that caps he saw bent were bent from 2 to 3 inches. They did not require renewing, but would require strengthening ultimately. No strengthening was required below the lower level.

To Mr. Curley: He had a copy of the Special Rules of the colliery. Before the work was commenced he had an interview with the four men separately. He saw Lewis first, and told him he would like him and his party to take the work, as they had done a similar work so satisfactorily. They conversed about terms, and it was agreed that they should have a certain price, which he considered would be sufficient for them to make good wages, provided the ground proved the same as it did at the commencement; but should it alter and become worse he would give them more, and see that they would get wages equal to the miners. The price agreed upon was £3 19s. per yard. Nine men were engaged; three in each shift. He engaged all men at the colliery, and engaged all the nine men working in the tunnel. Before they began the work at the tunnel they were working at the East Greta Colliery in a general way. The assistants, that is those five men working, with the four who had the job, came to him and asked to be transferred from the mine to the tunnel, and he gave them permission. Moncrieff and Barnes were assistants. He considered both men sufficiently practical to work as assistants. He could not tell how long they had worked in the mine. Moncrieff was onsetting in the No. 2 tunnel when he asked to be allowed to work in No. 1. Barnes was last engaged in No. 2 in filling coal from a miner. He did not regard his arrangement with the men as a contract. He would not call it a daily wage pay, but an arrangement satisfactory to both parties. It was a verbal, not a written, arrangement. There was nothing binding in any way. The payment arranged was carried out, and was satisfactory. He last noticed the bent caps on the visit previous to the one on the Tuesday before the disaster. He made no note of the date. He could not tell whether he went into the tunnel once a week or once a month. The report books were kept at the colliery office, and were either examined by him or read to him. He saw nothing in the report books about the caps being bent. He did not consider it of sufficient importance to find the matter missing from the report-book. There were no extensive falls in the colliery prior to the disaster.

At this stage the inquiry was adjourned for an hour and a half.

On resuming, in reply to Mr. Curley, the witness, Mr. A. Thomas, deposed that he believed the tunnel was inspected by David Lewis on the night prior to the morning of the accident. That was previous to the deceased men entering the tunnel. He believed the three were working at the coal face that night, but one should have been making the manhole. Thompson and another man worked with Lewis on the shift timbering nearly all the time. Lewis and his men worked at the face when they were not timbering. Griffiths and Gronow, as well as Lewis, inspected the tunnel in the ordinary way. Griffiths and his men worked at the face. He considered it was complying with General Rule 4 for those men working at the face to be inspectors. He appointed them to inspect, but had no record of the appointment. He had some knowledge of the thickness of the strata overhead at the colliery. It could be seen on the surface. Some years ago he had a place driven from the lower to the upper seam off No. 1 level in the same tunnel, and that gave him an idea of the thickness, which was from 50 to 60 feet at 212 feet perpendicular from the surface. He had never seen it of a less thickness at the colliery. It was hard and strong. He had no knowledge of the stratification of the Maitland Colliery. They had no slow movements coming down and crushing pillars. He attributed cracks in the surface of the ground to subsidences after removal of pillars. The cracks occurred in old workings. From surface indications there was subsidence. He knew of no fall there. In No. 2 tunnel they



they had some floor upheavals. They had not done much extra work in the way of timbering since the disaster—not more than usual. He had the inspectors there. They drew his attention to the deeper workings and to the timbers and pillars. They advised him to use more timber in the mine, having regard to the altered state of the roof as revealed by the fall. They suggested that larger pillars should be left in the lower working. He had some communication in writing from the inspector, and was willing, with Mr. Atkinson's consent, to produce it. [*The letter was read, and, at Mr. Curley's request, was put in as evidence.*]

Mr. Bates was the inspector who usually inspected the colliery, but he never drew attention to anything of a very serious nature. He did make suggestions regarding the fencing of the machinery, and of the opening of the tunnel; also regarding ventilation, methods of signalling, security of roof in No. 2 tunnel on No. 1 level. He did not suggest that new timber should be put in. He drew attention to some timber broken by floor-pressure about two months ago. Attention was also directed to some timber in No. 2 level of No. 2 tunnel, showing evidence of pressure, two or three weeks ago. He did not suggest that more timber should be put in there. He sent no written communication about the matter, nor about any defect in the colliery. He had no objection to the men having two inspectors from their number, under Rule 39, as regards examination. He had never asked them to do it, nor to exercise the privilege. The face where the men were working at the time of the disaster was 387 feet away from any opening branching off the tunnel. A parallel drive was started, and was being worked by another gang of men at the time of the disaster. The depth the men were down gave him no anxiety as to their safety. The fact of the tunnel being near its present destination did not influence him in any way with regard to ordering additional timber to be put into the level. The fact of the inspector having drawn his attention to bent caps in other parts of the mine had no influence with him in attempting to get more timber into the tunnel before he considered it was required. He could not say how much coal, &c., came out in a shift, and the men placed no token on the tubs. No information was needed of that nature. The weighman could not tell. Gronow, Moncrieff, or Barnes never at any time complained of broken timber or of danger in the tunnel.

To Mr. Millard: He could have stopped the sinking of the drive at any time he wished. There was no agreement that they were to sink so many hundred feet in a certain time. The same four leaders had sunk the drive in No. 2 tunnel, and the pay was satisfactory to them, and the work to him. The rate of pay paid in No. 2 assisted in arriving at a right figure for No. 1. The leaders had good experience of the kind of work to be met with in the tunnel, and were well qualified for it. No ordinary miner, unless experienced, could do the work. He knew of no men anywhere better qualified to do the work than Lewis and his three mates. He could produce a general plan of the working of the colliery. [*The plan was produced.*] The seam at No. 1 tunnel was at an angle of from  $45\frac{1}{2}$  to  $47$  degrees. In No. 2 tunnel the length was 1,132 feet. Both seams crop out at the surface, and owing to the inclination the seams crop out close together. The stratum between the two seams is composed of conglomerate. As they drove No. 2 tunnel they found the same conglomerate roof, and had no indications prior to the fall of the conglomerate having thinned out. From indications in other places he found this conglomerate associated with the seam in the roof. When prospecting for the crop, the conglomerate was the indicator to where the seam lay for many miles from East Greta Colliery. It was a very hard conglomerate, and was very expensive to remove. It was an excellent roof for a coal-mine, having strength and cohesion. When working in No. 1 tunnel there was no indication of the conglomerate thinning out. At the seat of the big fall the top end of the conglomerate showed from 2 feet tapering to 2 inches and back to 2 feet at the bottom of the fall. Thirteen feet above the roof there was a band of conglomerate 2 feet thick, and a few days after the first fall this band also fell. Between this band and the band on the roof, and also above it, was mudstone, a soft weak substance. From what he had seen since the fall, he was of opinion that the mudstone and the very thin shell of conglomerate fell suddenly. From the top of the fall water is now coming. There was a subsequent fall on the 26th November, which proved 2 feet of conglomerate with mudstone above it. Very little of the roof lower down was broken. The place where he saw the caps bent was away from the fall, and they were still in the tunnel, only bent more. There was no timber bent at the seat of the fall. Pressure from below would bend the caps. The floor was a soft stuff, of the nature of fire-clay. The seam was about 10 ft. 6 in. thick in No. 1 tunnel. The tunnel was about 13 feet high when excavated. The fact of the timber being to a certain extent green was in its favour. He knew of no better timber that could be got than that which he used. It is recognised as being the best timber for strength and durability. The particular manner in which the tunnel was timbered has been recognised as the best. He went down the mine almost daily. He had been at No. 2 level several times a week, and from there the tunnel was straight, so that he had a good view to the face, and frequently held a conversation with the men below. In his opinion the cause of the accident was the change of roof, which was not apparent from the usual conglomerate to a soft mudstone, that being in a big pothole in a strong conglomerate roof, from which it shelled away.

At 4:30 p.m. the inquiry was adjourned until 10:30 this morning.

[*Newcastle Herald, 6 January, 1899.*]

#### EAST GRETA COLLIERY DISASTER.

THE inquiry was resumed at the Court-house, West Maitland, yesterday morning, before Mr. Martin, Newcastle District Coroner, and a jury of twelve. The following gentlemen were in attendance at the solicitors' table:—Messrs. J. V. Tillet, Millard, F. A. S. Bowden, Jas. Curley, A. A. Atkinson, and T. L. Bates.

The Coroner announced that he would not be able to sit this morning.

Continuing his evidence, which was interrupted by the adjournment on the previous evening, Mr. Thomas, manager of the East Greta Colliery, in reply to Mr. Millard, said he knew of no reasonable precaution not adopted by him that could have prevented the accident. The place where Mr. Bates drew attention to timbering was at the other side of No. 2 tunnel, and 28 chains from the seat of the fall. As No. 1 tunnel was cut no coal was worked on either side, so that extra strength was given to the roof. The pressure which caused the timber to bend in No. 2 could not possibly have caused the accident in No. 1 tunnel. The conglomerate has been standing between the surface and the top level without timbering for over seven years, and is still good and strong. There was no one in the colliery whose inspection

inspection of the tunnel would have been better than that made by Lewis, who worked for witness in the old country, and was skilled in that class of timber, and in timbering in mines with very bad roofs. That was in South Wales, in a mine 3,000 feet from the surface, and with the worst roof in the world. The caps and props were carried away by the fall, and only the sills remained. Probably 100 tons of stuff went down in the first fall, but it continued falling for days. After the fall the last set standing was made secure, and every effort was made, with safety of those working in rescue, to recover, if possible, those below before death. No expense was spared in the work of rescue. Four gangs of six hours' shifts each were engaged, and he was assisted by the advice of other colliery managers and Government inspectors. In the general working of the mine the amount of timber used was left to his discretion. He held Colonial certificates under the Act, and certificates of competency under the Imperial Act. He served his time as a mining engineer after receiving his certificate, and had experience in working coal at an angle in America and in England.

To Mr. Bowden: He had been over seven years with the company, who had never restricted his expenses at the mine. He selected the timber, which was dressed at the surface of the mine, and was seen by the Government inspectors, who, if not satisfied with, it would have condemned it immediately. The timber when put in was in the best condition. The timber removed after the accident was in a perfectly sound condition, and could be seen by the jury at any time. He believed the Government inspector went down the tunnel when it was in course of construction. The inspector did not find any fault with the timbering in the tunnel, or make any suggestions concerning the same. Where the inspector drew his attention to bent timber he had previously had the place strengthened. Whenever the inspectors did draw his attention to anything he did attend to it. The tunnel was intended as a permanent job, and any break in it would incur extra expense, so that he endeavoured to make it extra strong, as it was intended to be the main artery of that portion of the mine. It would have been a false move to have been economical with timber.

To Mr. Millard: When they continued down the extension in No. 2 tunnel they had a conglomerate roof right through.

To the Jury: The parallel drive would have been a safety to the men going in and out after its completion. The tunnel was thoroughly ventilated. When driving the tunnel under the seat of the fall no false sets had to be removed.

To the Coroner: No mention was made to the four men of the distance it was intended to drive the tunnel, as the distance would depend on the dip.

To Mr. Curley: Occasionally the top coal had been worked, and he had known bits of the roof to fall after the tops were removed. It fell after the timber was pulled out. He had known some to fall behind miners. It did not occur in more than one in ten of bords where they were working tops in. At present they had no tops to work, but would work them when it was safe to do so. It would be dangerous to work tops where there were bad roofs. They worked bords of 8 yards at the outside, and pillars from 5 to 11 feet. Mr. Heyes, colliery engineer, gave him intimation of the accident at about 7:30 on that morning.

John Jones, a wheeler, engaged at East Greta Colliery, and residing at East Greta, deposed: That he knew the three deceased men, and also that the inquiry was being held concerning the death of Albert Moncrieff. He was working in the jig just off No. 1 tunnel on No. 1 level on the morning of the disaster. Mr. Cantwell and his son Thomas were working with him. He saw the light in the tunnel at 6:35 a.m., where Moncrieff was working at the face. He called out to Moncrieff, who replied. He went down the jig to work, and between 5 and 10 minutes to 7 heard a noise like thunder. He went towards the tunnel, as he was startled, and heard the noise of falling stuff. He called out to those on top that the tunnel was falling in, and asked them to send the "alligator" down. He called the names "Moncrieff," "Gronow," "Barnes," and got no answer. The Cantwells clambered up the tunnel, and he remained at the level. He also helped in the search for the bodies, and found Gronow and Moncrieff. They found Moncrieff with his face to the slabs, and Gronow just below Moncrieff's, on his side. He was working at the colliery two years, but had never been below the level in No. 1 tunnel before the fall. Where he had worked the roof was composed of coal and conglomerate. He had only seen little indications of the roof working. He had noticed timber bent, but not broken. He thought it was a safe roof, or he would not have gone into the tunnel. He never heard any of the men complaining of the roof.

To Mr. Atkinson: He went to work at 11 o'clock on the Thursday night before the fall. He went down with Moncrieff to work, but had no conversation with him. In the bords in the steam jig of No. 2 tunnel he had seen a soft stone fall with the conglomerate. That was a long way from the fall. He remembered no falls nearer to the big fall. He never saw any falls of roof in the model jig when he worked there. The jig he was working in on the day of the disaster was 40 yards from No. 1 tunnel. He was working 30 yards from the level, and coal was left in the roof nearly the whole way. He thought the seam was 8 or 9 feet thick. He had a copy of the Special Rules.

To Mr. Curley: He never saw broken timber above or below the fall before the fall occurred. The caps he saw broken after the fall were broken in halves. He occasionally heard cracks and shakes in the levels and bords, but they never came to anything. That was at the other side of No. 2 tunnel. He could not say whether they were cracks from wood or coal. He noticed the coal a bit loose sometimes on the pillar sides about three months ago in No. 2 tunnel. He never noticed any timbers broken. In different parts of the pit he noticed caps bent. He never heard any of Griffiths' or Thompson's parties complaining of the roof.

At this stage the inquiry was adjourned for an hour and a half.

On resuming, at 2:30 p.m., John Jones, in reply to Mr. Millard, said he knew conglomerate when he saw it. With the conglomerate in the last fall there was some ironstone and some soft stuff. He saw the soft stuff in the mine before lying along the roads in the levels. It might have come from the roof. It was of a whitish colour. It was of a pebblish nature. He never noticed any of the soft stuff without the pebbles in the mine. He never saw any of this soft stuff in the roofs where the falls occurred after removal of props. The stuff there was a white stone. At 6:35 a.m. on the morning of the disaster, when he was at the level, and when he heard Moncrieff reply "Hulloa" to him, everything was all right. When he heard cracks and shakes in the mine he never reported to the manager or under-manager. The cracks he heard did not indicate danger. He had two years' experience in the mine, and other experiences at Home.

To

To the Jury: The white stuff he saw in the bords above where the conglomerate fell was sandstone. He never heard of Moncrieff saying anything to anyone about the roof. He could not say if Moncrieff and his mates would take the fall in the tunnel for the sound of coal falling into the alligator.

David Lewis, a miner, residing at East Greta, deposed that he was employed in the East Greta mine for about four years, and on the date of the accident was engaged sinking the No. 1 tunnel from the lower level. He was on the shift relieved by deceased. Thomson and Weller were with witness. The job of sinking the tunnel was between them. No distance was mentioned, as the manager could stop them at any time. They were to be paid by the yard, and were to be paid extra if there was extra trouble, so as to get fair wages. They had to do the timbering as well as driving. Nine of them were employed, three in each shift. Four of them took the job, and there were five assistants. The assistants were paid by the four, and were paid a daily wage. Those five were not included in the arrangement with Mr. Thomas of getting a daily wage. He was one of the deputies, and made his last inspections at 10:30 and after 11 p.m. on the Thursday night before the accident. He entered the report in the report-book at the office some time after 12 o'clock that night. The deceased men were then at work. The result of his inspection was that he believed all was safe. He inspected the roof right through the tunnel, and saw no indications of danger. A few sets were bent at the caps about 40 yards from the face. He did not consider these sets dangerous. He had seen those caps slightly bent on previous occasions. The sills might have risen and bent the caps. He never saw a move in the roof of No. 1 tunnel. He had seen no other falls or movement of roof in any other part of the mine.

To Mr. Atkinson: He was appointed a deputy about the end of June or the beginning of July, when the No. 1 tunnel was about to be extended below the lowest levels. He had a copy of Special Rules, and had read the "duties of deputies." He never had occasion to report any danger or defect. There was nothing dangerous to report. His inspection included No. 1 tunnel as far as the dam, but not the back place or the parallel jig. On the Monday before the accident, as on every Monday, he went to work at 4:30 a.m. and stopped until the men went to work. He examined No. 1 tunnel each Monday morning thoroughly, and made reports in the book at the office. No workman ever asked to be allowed to see the report-book. If they had done so he would have allowed them. Where the caps were bent the pressure in the floor would cause the caps to bend first, if the end of the caps were not tight. There was no space left between the slabs on the caps and the roof. He had no occasion to renew any of the sills in that or any other tunnel. The caps would be bent about 3 inches. Some sills were bent a little at the same place. Pressure from the floor and slight pressure from the sides would cause them to bend. He would not expect to get much side pressure in a single drive. He had seen no evidence of the coal being off the sides. In his capacity as deputy he did not think such bending of sufficient importance to discuss it with the manager. If he had seen similar bending in a sinking shaft he would consider it necessary to report it. In the No. 1 tunnel he did not deem it necessary, because he did not think there was the least danger of the timbers giving way. In consequence of illness after the second body was recovered he was prevented from knowing exactly where the body of Moncrieff was recovered. He never thought it necessary to ask for more timber or stronger timber to be put in. It required three men to fix a set. It would cause no inconvenience to fix in timber of a larger diameter. He was at the tunnel seven or eight minutes after the fall, and he went down with Messrs. Thomas, Hayes, and Cartwright to the edge of the fall. He shouted out to the three men below, but got no reply.

To Mr. Curley: When he made the reports on the Monday morning he returned the same night for another inspection. He commenced work at 11 p.m. on the Monday night, and worked eight hours. Some weeks he began work at 3 p.m., when another shift would come out. He inspected for the first shift at 4:30 a.m., and went home when the shift went to work at 7 a.m. He returned at 3 p.m. with his own shift, and made his next inspection before the 11 p.m. shift. He would make another inspection at 1 a.m. on the Tuesday morning, and that was sufficient on his part for the 7 a.m. shift. The other leaders had to inspect as well. He did not report in a book. When he started as deputy, Mr. Thomas told him to examine the tunnel and report every morning in the book at the office, and if he saw any sign of danger to withdraw the men and report at once. In the book produced, his first report appeared on 1st September. He made a mistake in saying it was in June or July. He worked at the coal face with one shift, but most of his time he was timbering. He very rarely got coal. He never noticed any breaks or falls in any other part of the mine. Gronow never spoke to him about the bent sets. He drew Thomson's and Weller's attention to the bent caps in a casual way. He did not remember the time. He never thought of placing other sets in where the caps were bent. When the work was commenced he was instructed to have sets 5 feet centres apart, and could have put others even less than 5 feet apart. It was left to him by the manager. If he saw there was the least danger in the bent caps he would have strengthened the caps. In the absence of the manager, he gave official orders to the other men in the tunnel. In a fortnight they took from 9 to 12 yards of stuff out of the drive. He did not consider it singular that he did not report the bent caps to the manager, as he did not believe there was any danger.

[*Newcastle Herald*, 11 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning, at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, Manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Messrs. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

David Lewis, continuing his evidence, in reply to Mr. Millard, said that the roof generally in the mine was conglomerate. Before the accident he never saw any sign of that conglomerate running out or ceasing. The conglomerate continued all the way down No. 1 tunnel. The stuff that came through at the fall was a sort of a mudstone, a soft stuff. Before the fall he had never seen any sign of that soft stuff in the roof. There was no indication that would lead him to suspect the presence of mudstone there. Conglomerate made a good roof. It was a hard conglomerate. He got the extra depth by cutting out of the

the bottom, it being softer than the roof. In some places he cut into the roof, perhaps from 1 to 4 inches, and always found it very hard. He had some experience in cutting drives of that description, but not of exactly the same angle. He had experience over thirteen years in timbering. The system of driving and timbering in No. 1 tunnel was the best. He was stinted in no way for timber. The arrangements for wages worked satisfactorily. The place where he noticed caps bent was about 40 yards from the face, and not at or near the seat of the fall. So far as he could judge, the force which bent the caps was not the same as that which caused the fall. Had he strengthened the caps that were bent, it would not have prevented the fall. In his opinion, the bent caps gave no indication of what was the real danger. The caps under the fall must have been broken by the fall. He made an inspection from two to four times every twenty-four hours, but only one that he reported. He made one inspection at the end of his own shift. He never saw any sandstone in the roof of the seam. Since the fall he had been working in the tunnel very long hours. He worked without sleep until his health broke down, just before the last body was found. Since then he had been very ill.

To Mr. Bowden: He could not say when he first saw the bent caps. They were put in about two or three months before the accident. They drove from 9 to 12 yards a fortnight. Those were the only bent timbers.

To the Jury: According to regulations he was only required to make one inspection in twenty-four hours. He had no special reason to make more than one inspection other than that he always considered it his duty to keep a look-out. His first report and others which followed showed that all was safe. The cap-piece between the props was 12 feet long. With the cap sagging 2 or 3 inches the pressure would still be on the props. Four of the caps were bent together, but that was no indication of something being wrong in the roof. He saw the inspector at the top of the tunnel once. He could not say whether he was there oftener, because he (witness) mostly went down on the 11 p.m. shift. His mates never told him that the inspector was down the tunnel. His shift put timber in when sufficient coal was removed. When there was no room his shift would slab the bottom some sets back. When there was no timbering or slabbing to be done his shift worked at the coal.

To Mr. Bowden: It was his duty to maintain constant supervision over the tunnel. The timbers which he noticed bent were there still, but were broken since by the weight from the roof. That place was retimbered since.

To the Jury: When he inspected the caps before the accident they were bent, but after the accident they were broken. It took him about half an hour to inspect the tunnel.

To Mr. Curley: Thompson and Weller worked on his shift. The skip he went down in moved slowly. He never timed it.

To Mr. Millard: The bending of the caps was caused by the floor. He had experience of caps bent by the floor in other parts of the mine. There was a sort of swelling in the floor.

To Mr. Tillett: The caps were bent before the accident by the pressure from the floor, and were broken afterwards by the fall.

Thomas Cantwell, a wheeler, residing at East Greta, deposed that he knew Albert Moncrieff.

To Mr. Tillett: He was working in the lowest level in No. 1 tunnel with his father and Jones. He was working on the level. He went to work at 11 p.m. on the 17th November, and the three deceased went down with him. During the shift, at 6.30 a.m. on the 18th November, he called out to the men below for the "alligator," and they replied, "You can have it directly." After that he got the "alligator," filled it, and sent it on top. After that it went down to the deceased men, who filled it, and it had not reached the top when the fall commenced. He was about 5 yards from the tunnel in the level, and stepped back a few yards, because he thought the "alligator" had broken away. He then went in towards the jig, and met his father. His father, Jones, and he came out. Jones and his (witness') father shouted down to Moncrieff and Gronow. They then rapped for the "alligator." He also called on top for the "alligator," but it did not come down. He and his father then walked up the tunnel. He was working for five years in the mine. He had seen small falls in the mine in the old levels. He noticed movements in the roof of the steam jig bords, where the roof was of coal, but never reported it. He never heard of complaints of the dangerous nature of the roof from other miners.

To Mr. Atkinson: He worked in the back drive, or parallel jig, off the bottom level, before the accident. All the coal was not being worked. Some portion of the seam was left next the roof. He had no opportunity of seeing what the roof was there, except in one spot at the top of the jig, where it was pebbly conglomerate. The coal next the roof in the back drive stood well. Prior to the accident he had never been below the lower level in No. 1 tunnel.

To Mr. Curley: He noticed the roof down in the steam jig. It was a sort of white sandy stone, with little pebbles in it. It had fallen when he noticed it, and was mostly in fragments. The width of the level where he saw this was 9 or 10 feet. It had fallen out between the bars or cap-pieces. The bars there were 6 or 7 feet apart. It fell during daytime, on a shift in which he was working. About a couple of skips fell. Skips carried half a ton. He saw such falls on more than one occasion. They stopped work while it was cleared away. It would leave a space of a foot or 18 inches in the roof. He noticed no retimbering there. None of the deputies went in to see it. He did not know who the deputy was. It occurred two or three years ago. The deputies could see the stone on the side of the road. They used not to report such falls. Mr. Thomas was the manager of the colliery at that time. He noticed coal working about six or seven months ago in the steam jig in the bords. He saw some timber bent and broken. He saw much timber broken. The props were in some cases bent, and in others broken in three bords. The bords were about 9 yards in width. He did notice coal shelling off the pillar sides, sometimes five or six skips. He did not see top coal fall out. There is no board at the outside of the tunnel; no deputy's board. He had seen roof down in different places at different times in "slippery" level, and in the old bottom level. It fell between the timber in the "slippery" level, and in a similar manner in the old bottom level. The stone was damp in some places. It was not soft, but crumbled. He heard none of the deceased make any remark about the tunnel. He saw Gronow, Barnes, Moncrieff, and others at the mouth of the tunnel when they went to work. The last fall he saw occurred about two years ago. He had worked in No. 1 tunnel for three weeks before the accident. He never saw Lewis at the mouth of the tunnel at any time he went to work. He saw him of an afternoon coming up after they went down. During the three weeks he never saw Lewis standing at the mouth of the tunnel. They went down the tunnel on the "alligator" in about two minutes. For four years he had never walked in

or

or out of the tunnel. At the speed he went down in the "alligator" he could not have examined the tunnel very carefully. He would have time to see whether caps were bent, but he saw none. Where he saw the falls on the levels he also saw bent and broken caps.

At this stage the inquiry was adjourned for an hour and a half.

Cantwell resumed his evidence, in reply to Mr. Curley, at 2:40 p.m.: He had often conversed with the men down the tunnel, down which he had looked. He had seen bent caps 100 feet or more from the level. There appeared to be four or five. He noticed them a fortnight before the accident. They appeared about 9 inches below the others. He never heard the men talking about this matter.

To Mr. Millard: He never worked in any colliery other than East Greta. He was never lower down No. 1 tunnel than the level. At certain times, between a quarter and ten minutes to 3 in the afternoon, one could see down the tunnel nearly to the bottom. In the morning one could not see lower down than about 70 feet. He had worked four night shifts that week. He was 5 yards along the level from the tunnel when the accident took place. He heard no timbers straining before the fall, which took place quite suddenly.

To the Jury: He heard someone on the cricket-ground, two or three days before the accident, say they had heard some of the deceased complain of the state of the roof. He did not know who said it. The caps he saw bent were splintered on the under side. The noise made by the "alligator" might prevent him from hearing the cracking of the timber. He never saw any of the inspectors down the tunnel or in the new jig.

To Mr. Millard: If he saw anything dangerous where he was not working he would not report. He had never made any report. He had no idea a fall was going to take place.

To the Jury: He trusted to the deputy going round to see that all was safe. If the deputy said all was safe he would work then.

To Mr. Tillett: He read the Special Rules but he did not know Rule No. 70, which obliged anyone in the mine to report any insecurity in the roof, &c., to the person in charge.

To the Jury: He would trust to his father, who was working with him, to see that they did not stay in any danger.

Henry George Curtis, banksman, at East Greta Colliery, and residing at West Maitland, deposed that he went into work at 11 p.m., on the 17th November, with the three deceased men. He did not speak to any of the deceased after that, but got coal from them—several skips. He received the last skip at about ten minutes to 7 o'clock. He heard someone sing out, "The tunnel's falling in." He could not say at what hour. He ran and looked down the tunnel, and heard someone call out, "Send the alligator down, the tunnel's falling in." He sent the alligator down. He was four months at the colliery, and had never heard any complaints from the men about the roof.

To Mr. Atkinson: His duties were confined to the surface. He never at any time went down the tunnel. He could not say whether the signal for the pulling up of the last skip came from the level or from the face.

To Mr. Curley: The signal was in the engine-house. He could hear the signal at times. When the last coal was brought out he could not say what signal was given. He got to his post at the mouth of the tunnel at twenty minutes to 11 that night. He saw Moncrieff, Gronow, and Barnes go down the tunnel. The two Cantwells and John Jones went part of the way down. He saw no one else go in or come out that night. A board with signals on it was at the mouth. There was nothing else on that board but signals. When he got the report of what occurred in the tunnel, he sent the "alligator" down. John Jones was the first out of the tunnel, and he said the tunnel had fallen in. Witness sent some one to go and call Mr. Heyes, the engineer, who came to the tunnel about ten or fifteen minutes later. He (witness) had not been down the tunnel since the accident.

To the Jury: He had seen the inspector going down No. 1 tunnel, but how often he could not say.

John Downie, timberer, in East Greta Colliery, deposed that he was working in the jig alongside No. 1 tunnel at the time of the accident. He took part in the search for the bodies, and saw Barnes' body when it was found, lying on the left-hand side of the tunnel, standing or stooping on the last set of timber. The nearest manhole was twenty yards from him. They did not clear away the debris to the face. He was working in the colliery between three and four years. He was never down No. 1 tunnel before the accident lower than the bottom level. He never looked down the tunnel. He had known slight falls to take place in the roof along the levels. Conglomerate fell from the roof. It was not the same as the stuff which went down in the big fall. Conglomerate, ironstone, and mudstone were in the big fall. The falls in the levels occurred a good while ago, in the slippery jig. He noticed caps bent in the tunnel. They bent from the weight of the floor, but in some cases from the roof. When they bent from the floor the sills bent up also. The sets below the fall were broken in No. 1 tunnel from roof pressure. Before the fall he never heard anyone complain of the state of the roof, or timbering in the tunnel.

To Mr. Atkinson: The jig he worked in was parallel to No. 1 tunnel. He put the timber in there. The timber was under the coal. He had no opportunity of seeing the roof above the coal. Michael Byrnes worked with him on the shift. In the back drive the sets were put 6 feet apart. The timbers were 6 inches in diameter. The timbers seemed to stand in the back drive, and did not bend. Cantwell made no remark concerning bent caps in No. 1 tunnel. No one else did. When he recovered Barnes' body he could see the coal face. The body was about 6 feet from the face. From the position of the body it appeared Barnes got there for refuge. He did not see Moncrieff or Gronow recovered.

To Mr. Curley: The deputy or the underground manager always gave him his instructions to timber. Hoskings and Higgison were the deputies, and Cartwright was the underground manager. He was never told to do any special timbering in No. 1 tunnel. He was instructed to go to No. 4 bord, in Armstrong's jig, on the day of the disaster, to timber. The jig was in No. 2 tunnel. He had to timber the top rib, which was all broken away. That timber was set under the coal roof. A good amount of props had been broken there lately. They were broken from floor pressure, and in some cases from the roof. He had done a good deal of timbering in No. 1 tunnel from the fall to the face. Some caps below the fall were broken. Pretty well all caps from the fall to the face were broken. The timber was iron-bark. He never measured the distance the sets were apart. He had since put new sets in, and they were about 15 inches from the broken sets. Two sets were put between each pair of broken sets. He never knew of any extensive fall in the colliery. He did know of rails being bent by floor pressure. He had been sent to do some timbering in broken places—slight falls—along the level. The falls extended from

from 1 foot to 3 feet into the roof. The stuff that fell in those places was conglomerate. Slight falls had occurred on the bottom level on the Scotch heading side. He had done no timbering in the bords, and had seen no falls when they were taking the top out. Scotch heading was on the right-hand side of No. 1 tunnel. He knew of other deputies, Mr. Jowitt and Mr. Higgison. He knew of no others.

To Mr. Millard: He had worked in no other colliery. None of the falls were very near to No. 1 tunnel. Armstrong's jig was near No. 2 tunnel. He had nothing to do with the timbering of No. 2 tunnel.

To the Jury: The tunnel was slabbed all round. He never looked down the tunnel when passing into the level. He timbered all through the jig with the other shifts.

[*Newcastle Herald*, 11 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieffe, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Messrs. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Edward Weller deposed that he worked at East Greta Colliery. He knew the deceased, Albert Moncrieffe, and was working in No. 1 tunnel on the 18th November in Lewis' shift. He left the tunnel at 11 p.m. on the night of the 17th November. He was timbering in the tunnel, fixing a set 5 feet from the face. He worked in the tunnel between four and five months. There was no fall of roof while he was working there. While timbering he had a good opportunity of noticing the roof, and had neither seen nor heard the roof working that night. He did hear the roof working at other times, but did not report it, as he did not believe it to be dangerous. He noticed caps bent about 100 feet from the face. There were cracks in them. He took no notice of it. Either the roof or the floor could have caused it. The roof was of conglomerate mixed with slaty stuff. The slaty stuff was soft to work. Sets were kept 5 feet apart right through, whether under conglomerate or under the slate. He had been in the tunnel since the fall, and the stuff that came out was a mixture of conglomerate and slaty stuff.

To Mr. Atkinson: He had no conversation with his mates about the bent caps. He did not remember mentioning it to any one. Some of the caps were cracked—split. They presented broken splinters on the bottom side of the caps. He had no idea of how much the caps were splintered through. The big fall took place where the caps were bent. He could not say how far the big fall was from the face. He had taken no means to find out whether the place where the timbers were bent coincided with the site of the fall. There were three or four bent caps. They were bent about 3 inches. The broken splinters were not of any great length. He noticed slaty stuff in the tunnel previous to the fall. There were spots or patches of it all the way down the tunnel. He could not say how much of the tunnel was made while he was there. He worked from the bottom of the sump. He had no conversation with his mates relative to the change of roof. He saw no danger in the bent caps. He remembered instructions being given for a manhole to be made. Gronow, Barnes, and Moncrieffe were given those instructions. His shift started the manhole. He knew it was his duty to report any defect in the roof or any danger of any kind.

To Mr. Curley: (*Witness showed by bending a pen handle how the caps were broken.*) He saw the caps bent six weeks before the accident. Lewis worked on his shift. He never saw a board placed at the tunnel mouth for notices, and never saw that any report was made on a board concerning those bent caps. He did not know how he located the bent caps with the seat of the fall. There were no distinctive marks to help him. David Lewis told him they were 100 feet from the face last Thursday. They were speaking about the case outside the court, and he asked Lewis what distance the bent caps were from the face. He noticed no other bent caps in the tunnel. Thompson also worked in his shift. Thompson did not mention the bent caps. He never saw Mr. Thomas down the tunnel. He did not see Mr. Cartwright there. Lewis went down with him to the face to work, and stayed the whole of the shift. They worked on the coal. Lewis never warned him to go out on account of danger. Neither Thomas, Cartwright, nor Lewis ever warned him. Lewis paid him his wages, 6s. 6d. per day. He worked in the mine just the time the tunnel was being driven, but worked on top before.

To Mr. Millard: The bent caps were above the water cask, but could be seen from it. David Lewis told him the big fall was 100 feet from the face; also that the bent caps were 100 feet from the face. That was how he knew the fall was at the place where the bent caps were. If the fall was 200 feet from the face the bent caps could not have been at the fall or in the position he said they were. He could see that the bent caps were 20 or 30 feet above the cask. He saw the soft stuff all the time they were driving the tunnel. The first 10 feet from the sump he thought was conglomerate. He could not say whether there was anything else but conglomerate in the first 50 or 100 feet. He only knew there were patches of the blue-stone right through the tunnel, but could not say where it began. He had to go up and down the tunnel very often to get timber. Lewis went with him for the big stuff.

To the Jury: He had experience in mining. He never noticed any danger in the roof. He worked in the Co-operative mine for three years previous to going to East Greta. Lewis never said anything to him about change or danger in the roof. He knew Lewis was appointed deputy to look after the tunnel, and depended upon him, if there was any danger, to withdraw witness from the tunnel. He never saw or heard of the inspector being down the tunnel. He was on the night-shift for a month before the accident. He would know the inspector if he saw him. He never saw a false set put in the tunnel. He did not know what a false set was. He never saw a set put in and removed. He did not consider himself a practical miner. The caps and posts were mortised and tenoned together.

To Mr. Millard: He would not have gone into the tunnel if he thought there was danger, even if Lewis said otherwise. The roof of the Co-operative Mine was of conglomerate and blue-stone.

To Mr. Curley: The water-cask was there to catch water coming down, and prevent it from going to the face. He used to go to the cask to empty it. He could not say how far the cask was from the face. It was down from the bent caps. The cask was, perhaps, about 80 feet from the face.

Josiah



Josiah Thompson, a miner, residing at East Greta, knew the deceased, Albert Moncrieff. He worked in No. 1 tunnel with Lewis and Weller, and went in to work from 3 p.m. to 11 p.m. on the 17th November, and was not timbering. They worked on the face that night. He was one of the four who took the job, and he was appointed a deputy for the shift by Mr. Thomas. As deputy, it was part of his duty to inspect the roof of the tunnel. The roof, so far as he knew, there was conglomerate all the way down. They found muck under the conglomerate. The muck was from an inch to 4 inches thick when it came down. They never took any stuff down that would stop up. He worked in the tunnel from the commencement to the time the fall occurred. He noticed three or four bent caps. They were not splintered. The bending was caused by side and bottom pressure. There was a spring in the sill, but not what one would notice, travelling up and down. He would expect to find side pressure in such a drive. The bent caps were about from 70 to 75 yards from the top level. He had been in the tunnel since the fall; but the fall occurred above where the caps were bent. He did not regard the bent caps as indicating any danger. He made no report after inspection of the tunnel.

To the Coroner: When the muck came away he considered they had a thickness of 60 feet of conglomerate.

To Mr. Atkinson: He understood when he commenced work in the tunnel that he was held responsible for the shift. He commenced from the bottom of the sump. He read the special rules several times. He also read General Rule 4 of the Mines Act. He made his inspections every time he went up and down the tunnel. He would go up and down three or four times in nearly every shift, and in each he made a careful inspection. The inspection was made from the alligator, or tub, they went up and down in. The alligator never went up and down slowly, but not particularly slow. Taking heavy timber down they went very slow. He never saw a drop of water in the roof. The props were set with the lay of the seam, at right angles with the dip of the seam. They had a square, a straight-edge, and a spirit level, and used them on every third or fourth set. Lewis never mentioned the bent caps in a special manner, but did in a casual manner. They expressed surprise at the new timber bending so soon, and he expressed the opinion that side pressure assisted a little by bottom pressure had bent the timber. There was no talk about strengthening the bent timber so far as he was aware. As deputy he did not consider it of sufficient importance to report to the manager. If he thought there was danger he would have reported through Lewis to the manager. The bent caps and the appearance of muck did not lead him to believe there was a change of roof. The slabs set behind the props were wedged tightly between the props and the coal. If there was side pressure the slabs need not necessarily bend the props. He never thought of side pressure bending the props. The caps were wedged end-tight with hardwood, and the props with ti-tree, which would bend.

To Mr. Curley: The ti-tree was put in with the bark on. The ti-tree was put between the slabs and the sides, roof, and bottom. The ti-tree was not dressed. It was used to pack the space between slabs and the sides. The ground was a bit live. There was no great weight on the coal. He had seen chips of coal burst off the side as they drove. If the pressure had been severe enough to break the caps the posts would have been affected. The roof was hard. The caps were bent in the centre from side pressure, and in his opinion there was no pressure on the roof, notwithstanding that the fall had taken place. He had been working two and a half years at the colliery. He worked in the sinking of No. 2 tunnel, in slippery jig, bottom jig, and in a bord in Armstrong's jig, and never saw a case of roof pressure. He never saw falls of stone, and heard of none. He heard of no men being hurt in the mine from fall of roof. In No. 2 tunnel the sets were put in 5-foot centres. In that case they were paid by the yard as in No. 1 tunnel. There were four in that party, Lewis, Griffiths, Gronow, and himself. He saw no caps bent there. They took up the bottom there, and did the packing in the same, just the same as in No. 1 tunnel.

At this stage there was an adjournment until 2:30 p.m.

On resuming, the witness, in reply to Mr. Curley, said tenders were called for the work to be carried on. A notice was posted at the office. He and his party tendered for the work. The price they tendered at was not accepted. Their tender was £4 7s. 6d. per yard. They later on had a consultation with the manager about it. He objected to the price they put in, and asked them if they would do it for a certain price, at which he thought they could make wages. They came to an understanding with him to work for £3 19s. per yard, and they were to get more if they did not make good wages. The conditions were that they were to drive a tunnel similar to No. 2. They were to take out coal, put timber in after lifting the floor. It was explained to them that sills had to be 16 feet long, caps 15 feet over all, props 10 feet 6 inches. Timber had to be ironbark sills, caps, and props, and common hardwood slabs, the same as in No. 2 tunnel. The sills were about 9 or 10 inches, and some were 15 inches in diameter. The caps were about the same as the sills, say, 9 inches through in diameter. Sills and caps were in round timber. The props were also about 9 inches in diameter. He never saw any defective timber sent down; in fact, they always took it down themselves. Sometimes the timber would be a fortnight lying on top before being used. When he saw the caps bent the idea never occurred to him that the roof was weighty. He never thought of putting in a set between the bent caps. The tunnel had about 45 feet, or nine sets, further to go. Mr. Heyes and Mr. Thomas were down the tunnel measuring to see how much further the tunnel had to go. That was two or three days before the accident. He had no conversation with the manager about pushing on to complete the work. They got as much out as they could every day. He never said to the manager, under-manager, or to Lewis that it was necessary to put in fresh timber where the caps were bent. He did recognise himself as a deputy to make a report. There was an understanding with Mr. Thomas that he (witness) was to see that all was safe on his shift. Mr. Thomas did not say he was not to report. He did not consider he was bound under General Rule 4 to report. Lewis made reports. They started to drive the tunnel some time in June. He (witness) kept the record of the number of yards driven per fortnight. He knew Weller, who had every opportunity of seeing the cap-pieces as he went up and down. They used the ordinary pit lamp for a light. As a rule they all went down the tunnel in the alligator together, Weller, Lewis, and himself. He never saw any other caps bent but those he had mentioned. There were two casks on the road-side in the tunnel. The water ran down out of the levels, bleeding out of the coal. He never saw any come from the roof. One cask was between the third and fourth manhole from the level, and the other was lower down, perhaps 30 yards. The manholes were 20 yards apart.

To Mr. Millard: The muck under the conglomerate was a band. There was sometimes bands in seam, not always the same. The presence of that band in no way would affect the safety of the roof. The soft stuff never appeared above the conglomerate, or mixed with it; only below it. He noticed the roof very carefully as he went down, and had there been any soft stuff there he would have noticed it. The timber supplied was good. He never saw better, and knew of no better than ironbark for that kind of work. He had experience of timbering. He knew the tunnel was intended to be a permanent work. The bent caps he saw were further down towards the face than the big fall. The big fall extended about 60 feet in length. The lower end of the fall would be 15 or 20 yards from the bent caps. If fresh timbers had been put in under where the caps were bent the accident would not have been prevented. So far as he could judge, the bent caps had nothing to do with the cause of the accident. He had experience in other collieries. The East Greta roof, a conglomerate roof, was a good one. It was not an uncommon thing to find a mine where there was no small fall to be found. It was a very common occurrence to find enough fall to fill a skip or a skip and a half in any colliery. That would not indicate any special danger. In abandoned workings it would not be unusual for the roof to come down.

To the Jury: He carefully inspected the tunnel when he went up and down. He said before that there were three or four caps bent. The slabs averaged 3 inches thick. The slabs were not bent. He considered the roof a good solid one, and that the pressure did not come from it. He never saw anything wrong with the timber where the fall took place. The caps were wedged at each end. The slabs were wedged against the roof by ti-tree. The pressure mostly came from the sides, and the posts were not bent. Fresh cut timber would be equally as good as timber three months old. All that he knew about the thickness of conglomerate was from information received.

To Mr. Millard: Had there been pressure from the roof he would have expected to have seen the slabs bent. The overcast showed a thickness of conglomerate showing 7 feet.

To the Jury: He had seen unbroken cap-pieces taken out after the fall. He heard that the inspector was down the tunnel three weeks before the accident. Gronow told him.

To Mr. Curley: The slabs were from 7 to 10 inches in width. He heard Mr. Thomas and Mr. Heyes say that the conglomerate was 50 or 60 feet thick. The overcast was cut right through conglomerate. The piece of conglomerate produced was from the overcast. The stuff that came down from the fall was a kind of muck. Ironstone came from the top end of the fall. The rock he saw on the table he termed a soft conglomerate; the blue or slaty stone he called muck; and the whiter stone he called a fine conglomerate. The blue or slaty stone examined by the jury was somewhat like what they had taken up in the floor of the tunnel—sometimes softer than the specimen on the table, and sometimes harder.

John Downie, recalled, said, in reply to Mr. Tillet, that the stone produced, three pieces, had been brought from East Greta Colliery. One piece came from the big fall, and was marked Exhibit C. The other two pieces came from a skipful of muck from the colliery, and were marked D. The skip of muck had not been exposed to the weather.

To Mr. Curley: He made the selection of the stones for no particular purpose. He got them that morning, at the request of Senior-constable Brown, at the colliery. He considered the stone produced a fair sample of the stuff that fell. He could not tell from what part of the fall it came.

At this stage the inquiry was adjourned until 10:30 a.m. to-day.

In reply to Sub-inspector Fowler, the Coroner said that the jurymen could please themselves about going out to see the mine. If they wished they could do so.

[*Newcastle Herald*, 13 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillet represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Mr. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

James Cantwell, a miner residing at East Greta Colliery, deposed, to Mr. Tillet, that he was in the colliery at the time of the accident, and went into the tunnel on the night before at 11 o'clock with the deceased. He was working in the new jig running parallel to the tunnel, and his son and John Jones were with him. He neither saw nor had communication with the deceased during the shift after going down. The accident occurred at 6:55 on the 18th November. The first intimation they had of an accident was a rumbling noise like thunder. He listened for a while, and then ran over to the tunnel. He thought it was old workings falling on the opposite side. He looked up the tunnel first and could see nothing; then he walked round the shoot into the middle of the tunnel, and looked down the tunnel and saw the fall. He and Jones called out to the deceased men below, but got no reply. He then went up the tunnel. He had worked for seven years in the colliery, but had never been down the new tunnel. He never noticed any defects in the new tunnel. On a clear day he could see a good distance down. He never took any particular notice. He never heard a complaint about the roof. He had a conversation two nights before the accident with Moncrieff about the tunnel. He was alone with Moncrieff, who said some of the bars were bent and broken about 100 feet from the level down towards the face, and spoke of them as dangerous, expressing a wish that he was out of the place, as he was frightened. He did not speak of that conversation or report it to anyone. Moncrieff said nothing else about it to him.

To Mr. Atkinson: He knew the roof of the East Greta mine. Parts of it were conglomerate, and parts soft stone. The stones produced resembled the soft stuff in the roof, but he saw softer patches. There was no conglomerate at all where he saw the soft stone. That was along the middle level, then called the bottom level. It commenced 40 yards from No. 1 tunnel, and extended in patches along the level for 500 yards. The soft stone was not on the tunnel side of where the dam was fixed. He first observed the soft stone fair over the dam while the level was coming in and out. The patches were about 3 feet up, where it used to drop out between the sets. He was working with a deputy, Higginson, who used

used to repair each fall that would come. The sets were about 5 feet apart. The weight of the pillar broke a good many sets there. The pressure came from the coal pillars. The coal fell off the pillar sides occasionally, about a skip or a couple of skips at a time. The cap-piece or bar of the set got broken. The bars were 9 feet long and 9 to 10 to 12 inches in diameter, and were ironbark. The sets were slabbed only in places where they thought the roof bad. The slabs did not often break. They sometimes put packing between the props and the rib side. The packing was of ti-tree or short slabs, or anything they could get. He saw soft stone in other parts of the mine, in bord No. 2 above the present level, when taking down top coal. That would be about 500 yards from No. 1 tunnel. He never saw it nearer No. 1 tunnel. Top coal was taken down to within 5 or 6 inches of the roof along the level, and falls sometimes displaced that coal. He considered the roof more dangerous where the soft stone was. He reported the change only to the deputy, but to no one else, because there was a deputy with him. Had he considered those places dangerous he would have no need to report, because he presumed the deputy would report.

To Mr. Curley: It was three years ago since he did that timbering. He saw the manager (Mr. Thomas) down the mine, and he would certainly have a knowledge of the change of roof also. No 1 tunnel was an extension of the East Greta workings, that have been working for years. He knew the back drive or jig that was 30 yards from No. 1 tunnel. It was going at the same dip as the No. 1 tunnel. No place had been driven between the tunnel and the jig. The jig was down 130 feet, and was at work at the time of the fall. He had done timbering in the Scotch heading, which was to the right 200 yards from No. 1 tunnel, travelling south. He was working in a level and in bords. He never saw any conglomerate fall in that level. He did see top coal fall, but not stone. Pressure from the old workings above caused the top coal to fall. After the coal was taken out a creep would take place, and then there would be a fall of roof. There was one very large fall in No. 3 bord of Scotch heading over three years ago. He visited the bord with the deputy, and tried to secure it by extra timbering. He saw some of the roof that came down, and it was soft stone. He had done timbering on the left side of No. 1 tunnel in the north district in the left-hand bottom level. He saw no stone fall in that level. He was timbering there to keep the roof up and secure it. There was timber there before, and it was 5 feet apart. He had occasionally to put more timber in between those sets. There were 5 or 6 inches of coal left in the roof there. There were caps bent and broken. They were broken here and there, and new ones were put in. In the level where he worked prior to the accident he saw the manager three times in one week. The under-manager he saw twice in one week. He (witness) was there on day-shift once in the three weeks he was working there. He was two weeks on the night-shift there. He heard Deputy Jowitt there one night. Jowitt called down to him. Jowitt may have been there before, but he never saw him. Had they gone down the jig he (witness) would have seen them. He was sure that he only saw Jowitt once on that night-shift, and he did not go into where witness was working.

To Mr. Millard: The conversation with Moncrieff took place as he and witness were going from the cricket-ground to the pick-shop. It was at 6 o'clock in the evening. No one else was there. As a practical miner, he would not go to work in a place he believed to be dangerous. In the level when he was putting in new timbering and packing where the falls occurred, he considered he was in danger. He made a remark to the deputy about it being dangerous. The deputy said they should be careful, and not go underneath it till it was fixed. He could not say how many patches of stone he saw in the 500 yards. In some places there would be patches in every second set, and then there might be none for five or six sets. He believed there would be 100 patches in the 500 yards. The roof came away in small parts. Where the conglomerate came away there was conglomerate left. The flakes of conglomerate that came away were about 9 inches thick. Where soft stuff came away soft stuff was left, but how much he could not say, nor whether there was conglomerate above it again. It was very soft. He could not account for the soft stuff not continuing to fall once it began. It came away like potholes in the level, 3 feet high, higher in the middle. It was retimbered and packed in overhead. He saw at a distance the stuff falling from the big fall, and continuing to fall, but in the places he was speaking of the stuff did not continue to fall. Where the caps were bent and broken in the level the pressure came from the rib. He saw one big fall in the Scotch heading, which was being worked at the time. The pillars had not been taken out to his knowledge, and had not been worked since. If the pillars are out they must have been taken out before the fall. He was positive the pillars were not taken out before the fall. In the East Greta it was not usual to take pillars out. The roof generally in East Greta was patched. He believed there was more conglomerate than soft stone. Where he had been in the colliery, except on the left-hand side for 500 yards, he had always seen patches of soft stuff. There was no soft stuff in the overcast. The overcast was at the level, 30 or 40 feet above where the extension started, and showed the roof to be hard conglomerate.

To Mr. Bowden: He had worked in no other colliery. He was never stinted for timber or any stuff for packing by the company. The falls he referred to occurred three years ago.

To the Jury: Parts of the roof of the mine were safe. Where there was soft stuff he believed the roof was dangerous. He believed that the manager and all officials had done their best to safeguard the lives of the men in the mine. He never heard anything from anyone except Moncrieff about the roof of No. 1 tunnel being dangerous. He never heard of anyone being discharged for saying that the mine was unsafe. If Mr. Thomas said the pillars in Scotch heading were removed he would not be speaking the truth. The pillars could not be removed without his knowledge. The broken caps were not in the tunnel. In the level where the caps broke the slabs came down, but there did not appear to be any roof pressure on them. He saw Government inspectors down the mine. He was working contract in the jig with Jones, Morrison, Downey, and Byrne. He knew of caps being bent, broken, and replaced in the old No. 1 tunnel. Moncrieff slept in on the night of the conversation, but was at work next night. On the left-hand level, 400 or 500 yards from No. 1 tunnel, there was a fall. Shuffler worked there. Witness saw what fell. At least 80 tons fell. They did not continue to take out pillars after the fall. When he went to the Scotch heading with the deputy, to see if they could do anything to repair the fall and prevent further falls, they found they could do nothing with it, because it was too high. The men were called out on account of the fall. That was near the surface. He could not say whether the men there lost their tools or cans. He would not call those falls extensive. As an experienced miner, he would not take bent caps always as an indication of roof pressure. Caps did not always break from roof pressure. If the props and the sills were intact, and the caps only bent, then that would indicate roof pressure. If the props were

were wedged tight, the sills intact, and caps bent, it would not, in his opinion, be indication of side pressure. If there was side pressure enough to bend the cap, then it should also show in the prop. With bottom and side pressure the centre of the sill would go first, then the sides. The fact of the packing being between the slabs and the side would keep the side pressure off for a time.

To Mr. Tillett: He would expect side pressure in No. 1 tunnel.

To Mr. Millard: The legs were mortised into the caps and the caps were wedged into coal. If the caps were so wedged tightly and the props only packed, the pressure would come on the leg. When ti-tree packing is put in with the bark on it would give very little. The ti-tree would give sooner than the hardwood wedge at the end of the caps. The ti-tree giving would ease the pressure on the props. If there was roof pressure he would expect to see an effect on the slabs, which would bend or give a little. The slabs were not so strong as the caps.

At this stage there was an adjournment until 2:30 p.m.

At 2:30 p.m. the inquiry was resumed, and James Cantwell was re-called.

To Mr. Curley: He repaired the timber in No. 1 tunnel midway between top level and the middle level. The caps were broke there. There were half a dozen removed by him. He passed in and out of the tunnel before he was sent to repair them, and could see they were broken. He noticed them like that for not more than a week. He did not notice the nature of the roof there, as the slabs were overhead. The cap-pieces were broken, and were from 9 to 10 inches in diameter. That was a little over three years ago.

To Mr. Millard: He had noticed sills bent up, but not broken right through in that tunnel.

To Mr. Bowden: When repairing timber he was under Deputy Higgison. None of the slabs above the broken caps were either bent or broken. He saw bent and broken slabs in a bord. Before he went to the colliery he was a fencer. He was employed on the surface for some little time before he went below—about six months, as near as he could think. He had of late had charge of a shift strengthening timber in No. 2 tunnel.

To the Jury: He and Mr. Thomas were on friendly terms. The bent caps he saw in the tunnel were not at the seat of the fall. He could not swear that there were bent caps under the fall before the accident. He had a contract to drive the jig. Roster was his partner. Tenders were called for the work; no distance was mentioned. Downey was one of his men, and was paid by him. When the fall took place he rang for the "alligator," but it was not sent down. When he rang for it, it should have been sent down. Jones rang for it after him. He knew a shift was coming down, and he ran up the tunnel calling out to them not to come down, as the tunnel was falling in. He never noticed any bent caps in the extension, but never looked at a time when he could see down well. At about 3 p.m. was the best time to see well down the tunnel. He never took the trouble to look down at that time.

To the Jury: He never saw falls from the sides. Falls took place where timbers had been strained, but not always. As a practical man, from seeing strained timbers, he would conclude a fall would take place.

To Mr. Millard: He put in whole sets in No. 2 tunnel, when sills were broken. He did that for 300 feet in No. 2 tunnel.

Henry Cartwright, under-manager at East Greta Colliery, deposed, to Mr. Tillett, that he knew the deceased, Albert Moncrieff. He was manager and under-manager since the inception of the colliery. He was manager before Mr. Thomas came, and under-manager since. He knew the extension of No. 1 tunnel. He was one of the first to enter the tunnel after the fall. Lewis and Heyes, the engineer, went down with him. That was at 7:10 a.m. on the 18th November. A fall had taken place, and they went right to the edge of the fall. He shouted out, and also knocked the rails, but got no reply. He could not say exactly when he was in the tunnel before the fall. As near as he could remember, it was a fortnight. He examined the roof all the way down then, and saw no indication of danger in the roof. He saw a couple of caps bent, but not broken. The bend was only just discernible, and was no indication of danger. Before the big fall took place he had not seen stone of the description of the exhibit in the colliery. The colliery roof was nothing but conglomerate for a good way. He had seen slight falls of roof in the colliery before the big fall after pillars were taken out. He had seen slight falls in the levels of half a yard thickness. The stuff that fell was a conglomerate. He went down to the bottom level every day since the level was driven, and did not remember having seen stone like the exhibit there.

To Mr. Atkinson: When he was called at the time of the accident he was at the top of No. 2 tunnel. He had not been down the mine that morning. The pit started to draw coal at 7 a.m. The usual time for him to go down was 8 to 8:30 a.m. He was not near the top of No. 1 tunnel that morning. He was under-manager for the whole mine. It would take him one day to examine in every working place in the mine. He read the rules concerning the under-manager's duties. [*The witness here read No. 3 of Special Rules.*] No. 1 tunnel was looked after by Mr. Thomas and Mr. Heyes (engineer) while it was being sunk. Mr. Thomas told him Lewis was put in charge as deputy, and Mr. Thomas was always there, and looked after No. 1 tunnel. He saw Mr. Thomas there. He did not look upon the extension of No. 1 tunnel as a particularly important place. He could not say when Lewis was given charge of the extension. Lewis was put in charge when they started to drive from the bottom of the sump. That was about July last. Jowitt, the night deputy, made the report at that time, for how long he could not say. It was until Lewis began to report—about a couple of months after they started. He did not think Jowitt continued to visit No. 1 tunnel after Lewis took charge. Pillars were taken out in the colliery; some of them on the north and south sides of No. 1, between the top level and the middle level. When those pillars were taken out there were falls of conglomerate, but he noticed no other stone. The fall would be up about 5 or 6 yards, and all the stone was conglomerate. He could not say how far No. 1 tunnel was to go. He knew a level was coming over from No. 2 tunnel to meet No. 1 when it got down to a certain point. He examined the roof in that level, and it was conglomerate. He remembered a drive being put from the bottom seam to the top seam. He could not say how far apart the seams were. The drive went through conglomerate and another stone. The latter was met just before they got to the top seam. There were distinct facings in the coal at East Greta. The facings ran east and west. He would expect coal to come off the side of a jig easier than in a level. There was not much evidence of side pressure at East Greta. They generally set timber in jigs. They always set timber in jigs. They generally wedged the cap-ends tight. In a mine subject to side pressure he would not consider it a good practice altogether to wedge the ends of the caps tight between the caps and the coal. He saw the big coal. He believed the cause of the fall was a leakage of water making its way into the mudstone, which swelled and broke

broke the cap-pieces. That was pressure from the roof. Side pressure had something to do with the fall. The sides of the coal were in good condition, and did not indicate much side pressure. The fall was influenced by floor pressure. They were troubled a lot with the floor, which was so soft. The bottom heaved up, forced the sill and the props up, and lifted the ends of the cap-pieces. The middle of the cap-pieces being wedged tight was some help towards breaking the caps. Generally the slabs were wedged tight right across. With pressure from the bottom he would certainly expect the sill to break first. Where he saw bent sills he noticed no props bent. He noticed no water dripping from the roof prior to the fall. During the work of exploration he noticed that a considerable number of caps were broken. He saw no broken slabs. That was a matter of surprise to him. He saw Moncrieff and Barnes recovered. Moncrieff's body was found about 20 or 25 feet from the face, and Barnes' between 5 and 10 feet from the face.

[*Newcastle Herald*, 18 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Mr. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Henry Cartwright, under-manager of East Greta Colliery, was recalled.

To the Jury: They never put jigs the same distance apart. They considered the thickness of the pillar between the No. 1 tunnel and the jig, but he did not remember the thickness. He considered it his duty to know the thickness of the pillar for the safety of the men on account of No. 1 being the main tunnel of the mine. They did not work tops and pillars from the first jig. He could not remember the distance they worked the pillars from the first jig. It was seven years ago. They drove a jig further in than that one. It was between the first and second jig that they took the tops and pillars out. They did not continue to work the tops and pillars further in the workings. They worked them on the south side—the opposite side—in a similar manner to those on the north side. They did not continue to work the tops and pillars further south. They worked all the pillars they could out in Scotch heading, except No 1 on each side. He knew some of the men who worked the pillars there. John Hallan, John, David, and William Adder were some of them. None of them were now at the mine. He knew of a place being driven at right angles between the two seams on the Scotch heading side. Something occurred to induce them to make that drive. It was a fall. He could not remember the distance, although he himself measured it. A Mr. Hughes, who worked in it, would be able to give more particulars than witness. The work changed hands two or three times if he remembered rightly, and he could not say how long Mr. Hughes worked there. He could not say who worked there when the drive was finished, but he thought it was Jim Allen. The sides in No. 1 tunnel looked the same as when they were driven through, but they sounded a little different. A skip or two in one or two places fell. If the side pressure was sufficient to break a 6 or 8 inches bar he did not think it was necessary that the sides should fall there. Where that side pressure was it was not necessary that the coal should show broken on the sides. At the seat of the fall he did not remember having seen any splintered caps. It was about four years since the tops and pillars were removed in the Scotch heading.

To Mr. Millard: When the floor raised by swelling in No. 1 tunnel they tried to get the additional height by cutting the roof, but did not succeed, because it was so hard that blasting would be necessary, and Mr. Thomas would not allow that. The roof was too hard for ordinary working. No pillars were taken out to the north of the extension of No. 1 tunnel. It was all virgin coal from No. 1 tunnel north to the workings of No. 2. The only work done south of the extension of No. 1 tunnel was the beginning of Cantwell's jig. On each side of the extension of No. 1 tunnel they had the unworked virgin coal.

To the Coroner: When they were timbering No. 2 tunnel the floor kept good and kept good till they had finished. The sets there were put in 5 feet apart all the way. From the very start in No. 1 tunnel the floor was found to be very troublesome and soft. In the extension of No. 1 tunnel the sets were 5 feet centres apart. They considered No. 1 to be as good as No. 2 tunnel. When they were driving No. 1 extension they had no more trouble than in No. 2. They did not consider the floor of No. 1 any worse than that of No. 2, and considered sets, 5 feet centres apart, sufficient to well support the roof.

To Mr. Millard: At the present time they were replacing timber in No. 2. The floor of No. 2 was good, also No. 1. Both were kept good by timbering. Age and time have the effect of lifting the floor. In about ten years or so the floor ought to settle. In a couple of years it would begin to settle. The old part of No. 1 tunnel has been driven fully seven years, and No. 2 tunnel about two years.

To Mr. Curley: The stone produced was hard conglomerate, but it was not so hard as Exhibit B. It was not the same class of stone as the fine conglomerate produced, but it was as hard. One was as hard as the other. Exhibit D was the same as the first stone, and was as hard as it, and also as hard as the fine conglomerate. He would not be surprised to know the first stone came out of No. 1 tunnel. The overcast was in the level. He knew a door not far away from the tunnel on the north side, and examined the roof there. It was a conglomerate roof. It was soft, but if a foot was taken off, what was left would be hard. The piece of stuff produced was a very fine conglomerate, and was soft. It was soft from exposure. He would not be surprised to know that it came from near the doorway. It might have come from within 3 feet of the hard stone. The stone in his hand was a fine blue conglomerate, and could possibly have come from East Greta mine. It could be seen very often intermixed with conglomerate. It could have come from the mine, and from the floor of No. 1, but he could not say. He knew the position of the dam in the level. It was about 40 yards on the south side of No. 1 tunnel. His attention was never drawn by Lewis or anyone else to soft stone in the tunnel. When he went into the tunnel on the morning of the fall the stone that had fallen had mostly gone down the tunnel. There might have been a shovelful or two left in between the sills. He noticed about six or seven sets of timber knocked out. He saw a good part of the timber after it was recovered from the bottom of the tunnel, and noticed broken cap-pieces. He noticed props broken—some splintered, others broken in two. The road was relaid from where

where the fall occurred. The rails were broken away by the fall, and partly went down the tunnel. Every pair of rails was put down fresh. Some of the sills went with the rails. The rails were laid on the sills, and were fastened with fishplates and bolts and dogs. He could not say how many sills went down. He saw some of the stuff brought out of the tunnel. It was pretty lumpy. It had to be broken up before it could be put into the skips. The largest piece was about 4 by 6 by 2 feet, looking down the tunnel. There were one or two others below that one, but he could not give dimensions. He could not say how much fine stuff there was in the fall. He thought there were many tons of it. The mudstone which had been referred to during the inquiry he would call soft blue shale. The stuff that was carried away in the fall was soft blue shale. He could not say what kind of stone the big one was. They had to break some of it to get deceased Barnes out. He considered that the stuff which fell in the big fall was conglomerate, like Exhibit D, but a little browner, soft blue shale, greyish shale, and ironstone.

To Mr. Millard: The action of water on the conglomerate would make it fret and crumble. The action of air would have the same effect.

To the Jury: If the hardstone produced were soaked in water for five years he believed it would soften. The fine conglomerate would go sooner.

To Mr. Curley: He could not say when the overcast was driven. It was driven since the extension had been commenced. It was driven more than a month before the fall. He had a record of it in the books, and could give the date. In driving the overcast the men had to blast all the way. The position of the drill-holes could still be seen. There had been no fretting there.

To the Jury: The No. 2 level, between No. 1 and 2 tunnel, was not in good repair. If anything happened there the men could get out on the Scotch heading side, or through the level.

At this stage the inquiry was adjourned until 2:30 p.m.

On resuming at 2:30 p.m.,—

Ernest Marsh, a hay-presser, residing at West Maitland, deposed, in reply to Mr. Tillett, that he was working in East Greta Colliery at the time of the accident. He had worked for about two years on the surface, and had been underground about ten weeks when the accident occurred. His shift left the tunnel at 3 p.m. on the day before the accident. Jack Griffiths and Ted Parsons were on his shift. They were getting coal in the extension of No. 1 tunnel. He noticed the roof, and saw some of the caps bent and cracked. He only saw the roof working in one place, about quarter-way down the extension. The bent and cracked caps were there when the roof was working. He spoke to Jack Griffiths, and asked him if it was not dangerous, and he said he did not think it was. Moncrieff said that if something was not done to the cracked timber they would not see him there much longer. That was said a few shifts before the tunnel fell in. Dick Barnes and Gronow, the two deceased, Ted Parsons, and Jack Griffiths were present when Moncrieff made that statement, at the bottom of the tunnel. None of the others present said anything. The roof was composed of conglomerate and slaty rock. The conglomerate was the same as the Exhibit F, and the fine piece of conglomerate. The slaty rock was the same as the bluish stone marked C. He saw a little rock come down in the tunnel at times. Both conglomerate and slaty stone came down. He knew where the fall took place. He believed it was about the place where he saw the bent timbers.

To Mr. Atkinson: The stone found usually over the top of the coal was conglomerate and slaty stone mixed. He could not measure the thickness of conglomerate. He could not say how much broke away above the coal. The conglomerate was about 18 inches thick. About 150 feet of the tunnel was driven while he was working there. He could not say whether the bent caps were at the top, middle, or bottom of the fall. Griffiths was chargeman of the shift, and used to inspect the roof from the commencement of the tunnel to the face. Griffiths did that both going down and coming up. Witness worked with Lewis and Thompson also. He never saw water dripping from the roof where he saw bent caps.

To Mr. Curley: The bent caps were quarter-way down from the beginning of the extension, and 100 feet from the bottom level. He noticed some bent and some cracked, and could see them quite plain and distinct. He never counted them, but believed there were about four or five. He saw Mr. Thomas once in the tunnel, on the Tuesday morning before the accident. He only spoke once to Lewis about the bent caps and the roof. He was working down at the face when he heard the roof working. He could hear the timber crack occasionally, and it was then that he drew Griffiths' attention to the matter. He never saw anyone at the top of the tunnel when he was going to work to tell him everything was right. When he saw conglomerate 18 inches thick he also saw the blue stone. They had sometimes to chip the roof to get the roof fixed, and that was how he came to see the blue stone. He went into work on the Saturday after the fall and saw where the fall had taken place. The rails on the left-hand side were bent out, but he did not see them disconnected. He did not see that some of the rails went down the tunnel. He never saw the under-manager down the tunnel before the fall. When he worked with Lewis and Thompson they all went down together. He did not know if Lewis went down the tunnel before they went in. When Lewis went down with them he appeared to be making an inspection of the tunnel. When Lewis was below he sometimes worked at the face getting coal and sometimes timbered. Where the fall had taken place the sills appeared to be in the same position as they were before the fall.

To Mr. Millard: He saw the bent caps when he was coming up the tunnel in the skip five or six weeks before the fall. He told Griffiths five or six weeks later. The caps were bent about a foot. When he first noticed them they were bent a few inches, and it took them 5 or 6 inches to show a foot. He noticed that they did progress daily. Still he never spoke about it until a few shifts before the fall. He used to bale the cask out into the "alligator." One could see the bent caps from the cask. They were about 140 or 150 feet from the cask up the tunnel. The cask was about 120 feet from the face. He did not count the sets from where the caps were bent, and had no means of fixing the distance, but his impression was that the distances he had given were correct. He had seen three or four bent caps further down the tunnel, half-way between the first lot of bent caps and the face. They were bent 3 or 4 inches. He spoke to no one about them. He noticed them about two or three weeks before the accident. They were bending slowly. They were a bit above the cask, and could be seen from the cask. When he said he heard the roof working he meant nothing more than the timber cracking. It was loud at times, and could be heard at times when they were working. He believed it was the roof, not the sides, that was working. That was his idea. He did not know that pressure from the sides could cause the top timber to bend, nor that pressure from the floor would have the same effect. When he was at the face he was  
from



from 250 to 300 feet from where the fall took place. The cracking might have come from other places than the seat of the fall. He saw the caps bent a foot under the fall, and the slabs were sinking down with the caps. He did not notice if the slabs had sagged down in the middle between the caps. There were distinct cracks in the bent caps. He asked Griffiths if there was any danger of the timber coming in. He thought himself that it was dangerous. He referred to the bent and cracked timber when he spoke to Griffiths, who said he did not think it was dangerous. It was on another occasion that Moncrieff spoke, and Moncrieff began the conversation. He knew the band on top of the coal. It was a black stuff, like the patch on Exhibit C, and was 2 or 3 inches thick, and as black as coal, but harder. The conglomerate was next to the hard black stuff. There was no band of grey stuff between the black stuff and the conglomerate. When he went down the tunnel ten weeks before the accident he had never been underground to work before. He only had ten weeks' experience in the mine.

To Mr. Bowden: He saw the timbers bent in two places, and believed other men saw them too. They never spoke about the two places to him. When he went to work with Lewis the latter met him at the tunnel mouth. Sometimes Lewis was there first, and sometimes he was before Lewis. When they were getting coal they sometimes sent up some of the floor. Two feet were taken out in his shift. He had discussed the case outside the Court; but had not said anything about the timber. He had spoken to different people—to men who had been working in the tunnel. There were men in the Court with whom he had been conversing—Jack Griffiths, Alick Cameron, and W. Kerr. He could not say that Moncrieff was anxious not to miss the shift after his conversation.

To the Jury: He had never spoken to any of the jury about the case. The slabs were sagged down on the bent caps when he drew Griffiths' attention to them. They were down at the face at the time. He was sure Griffiths understood what he meant at the time. During the five weeks he noticed the caps bending he thought they were dangerous; but he trusted in those who had more experience. He would not mind going back to work in the mine again. He never saw the Government inspector down the tunnel. He mentioned the bent timbers to the deputy, Lewis, who said he did not think it dangerous. He was not on bad terms with Mr. Thomas.

To the Coroner: Had he not been earning money he would not have remained when he heard the timber cracking.

To the Jury: He did not see any bent sills in the tunnel. He did not take notice of the legs or props, and could not say whether they were bent or not. He thought they were not.

To Mr. Millard: He mentioned to Lewis about bent and cracked caps at different times while they were on shift together. He mentioned it first a week or two after he saw the bent caps, while they were going up and down the tunnel, and also while they were at work at the face.

[*Newcastle Herald*, 19 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning, at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Mr. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Edward March was recalled.

To Mr. Millard: He mentioned the bent caps two or three times to Lewis. Thompson and Weller were on the shift, and went down on the alligator with him, and would hear him mention about the bent caps to Lewis as they went up and down the tunnel. At that time the caps were bent and cracked, and the others could have seen them as well as he. They spoke of the bent caps also, at times, when in the alligator. He heard the other men speak about them first, about a week or two after he saw them bent, but he did not hear them say they were dangerous. Lewis spoke about them, but he did not remember what he said. There was a good deal of talk about those caps—the upper lot.

To the Jury: He heard Mr. Thomas tell Griffiths that he was speaking to Lewis about renewing the timber at the end of the week. That was on the Tuesday morning before the fall. Mr. Thomas viewed the bent timber on the Tuesday.

To Mr. Curley: Moncrieff said the bent timbers were dangerous. From what Moncrieff said, if something was not done he would not stay in the mine. He believed Mr. Thomas inspected the bent timbers, because he saw him stop there some time on the Tuesday. Witness was at the face, and saw Mr. Thomas's light. He was about 250 feet from the face. Mr. Thomas's words to Griffiths were: "I was speaking to Lewis about the cracked timber, and we agreed to attend to them at the end of the week." Griffiths made some remark. Mr. Heyes, Ted Howard, Ted Parsons, Griffiths, and witness were present at the time. That was said down at the face. He believed Mr. Thomas was measuring and examining the tunnel. He could not say whether or not Mr. Thomas had an instrument. He did not remember asking Lewis the distance from the fall to the face.

To Mr. Tillett: The conversations in the alligator were about the mine, and were casual ones.

To Mr. Millard: Nobody seemed to attach much importance to the timber except Moncrieff.

To Mr. Curley: He believed they all thought the timber should have been repaired.

To the Jury: Ted Parsons and Ted Weller said they thought the bent timber was dangerous.

To Mr. Curley: He never saw a false set or a slab and a prop put in after the tunnel was finished. A slab and a prop were used at the face in places where the roof seemed bad. The slabs were let in the face to hold the roof up until the permanent set was put in, and then they were taken out. Lewis did that.

Edward Parsons, a labourer, residing at Morpeth, deposed, in reply to Mr. Tillett, that he knew deceased Moncrieff. He worked in East Greta Colliery, and was in the shift that came out of the tunnel on the day before the accident at 3 p.m. He was working in the mine from February. He had been down mines before with timber, but had no experience in mining. He was four months at work in the extension of the No. 1 tunnel. He noticed broken caps. They were about 100 feet or more from the lower level. He first noticed one six weeks before the fall. He was sitting down with Pike and Griffiths having tucker, when

when he heard something, which he took to be a cap-piece, crack. He asked Griffiths what it was, and they conversed about it. Griffiths said it could not be a sill, because when those sills went there would be something wrong. After that the caps went on working and breaking. He noticed them most while he was on the 11 p.m. shifts. There was a different kind of air, the damp air after midnight, which might have caused it. He heard Gronow and Moncrieff say that the roof was working. When one of them would notice a bad piece of roof he would tell the others of it. That would refer to the face all the way through. One morning they went down Gronow told them that they had spent the biggest part of the shift in the manhole, and were driven there by the timber above them working. He heard Moncrieff say that if something was not done to the timber he would not go into work any more. Witness often talked to Griffiths about the timber. March was with them sometimes, and sometimes Lewis, when a set of timber had to go in. The greater part of the roof was composed of soapstone and a conglomerate. The soapstone was like the bluish slaty stone on the table. The conglomerate there resembled the stones produced and marked D and E. Before a set was put in slabs were put from the last cap into a hole in the face, to prevent bits of roof coming down. When the set was put in those slabs were sometimes lowered down to the caps, and sometimes left up.

To Mr. Atkinson: He noticed five or six broken caps down a foot below their proper level. The slabs lowered with them, but were not broken. The sills were not bent or broken. He did not think the props were broken. He had been down the tunnel since the fall, working seven or eight shifts. The fall occurred where the caps were broken. Half an hour after the fall he could see that the broken caps were gone. He did not mention it to anyone, as the most of the time he was alone on the level at the rapper-wire. He came out at 6:30 p.m. that day. He did not remember mentioning it to anyone on the road home. He heard a conversation about renewing the bent caps on the Tuesday before the fall at the face where they were at work. March, Griffiths, Mr. Thomas, and a labourer, whose name he did not know, were present with witness. Mr. Thomas said to Griffiths that he was going to leave that timber up there [*pointing to the bent caps*] till the week end, so as it would not interfere with the contractors' work much. No more was said. His shift had never to retire to a manhole on account of timber cracking. They changed shifts about 20 feet from the face. The three, Griffiths, March, and witness, generally went down together. Griffiths was supposed to be charge-man of the shift. He made inspections of the tunnel going down mostly. Blasting was done in getting coal, powder being used. The shots never disturbed the roof to his knowledge, unless it was a shot in the top coal, when a bit of roof would come with the coal. Sometimes soft stone and sometimes a patch of conglomerate would fall away. The greatest distance he had seen into the roof before the fall was 6 inches.

To Mr. Curley: They did not fire many shots in working the coal. Sometimes in working the bottom coal no shot would be fired. They might fire two shots per shift. They all bored the holes for the shots. In the top coal the holes would not be a foot off the roof. He never saw any exceptionally soft roof there. The roof was fairly regular so far as he saw it. Whether shots were fired or not bits of the roof used to fall. He saw bent caps in the tunnel besides those that were broken. There were more than one. They were below the broken caps towards the face. On the Tuesday before the fall, when Mr. Thomas was speaking about the bent timber, he said he hoped that by the next time he was down the tunnel the cage would be run. Griffiths said he wished the tunnel was done then. Sometimes he heard cracks in the tunnel once or twice in the shift, and sometimes a dozen times. Griffiths would also be present each time. Lewis was on witness' shift occasionally when they had timber to put in. He would not swear Lewis was there when witness heard the timber crack, but he believed he was there. Half an hour after the fall he was down the tunnel as far as the last leg left standing. The rails were bent in all shapes. The first length of rails was not disconnected. The sills were the same as before the fall pretty well all through the tunnel as far as he went. Since the fall he had been right underneath the fall, no farther. He did not know what the sills and rails were like below the fall. He knew the band between the coal and the roof. It was sometimes a sort of a black stone, a dull black, not shining like coal. There was at times a very small grey band between the coal and the roof, sometimes like Exhibit H produced, and also like the piece of fine conglomerate. It would be up to an inch and a half thick, and sometimes would be in the coal. They called it out at the mine a fine conglomerate. It was not a very soft nor a hard roof, but a patchy roof. The bottom was mixed, too. They took a couple of feet out of the bottom to get the timber in. They had to dynamite the bottom sometimes to get it out.

To Mr. Bowden: The bent timbers were lower than the broken timbers. Three sound caps were between the bent and broken timbers. He saw several bent caps there—about four. They stood up after the big fall. When he went down after the big fall he thought there were about seven sets gone. The bent timbers below the broken ones were bent about 2 or 3 inches. Before the big fall he saw no bent timbers below the bent timbers already alluded to. A man had to look closely for bent caps.

At this stage the inquiry was adjourned for an hour and a half.

The inquiry was resumed at 2:30 p.m., and Edward Parsons was recalled.

To Mr. Bowden: When he heard the caps cracking he was at the face. He could not say the broken caps were cracking. It might have been other timber. He could have a good idea of where the cracking came from. His idea was that it came from the broken or from the bent timber. The cracking came from above the cask. The first crack he heard in the tunnel seemed about 20 feet above him in the tunnel. He reported that cracking to Mr. Griffiths. When he was at the face and heard cracking he could form a good idea of the place where it came from. He knew it came from a place up above him, but not near him, but how far up he could not say. He believed it came from the broken timber or from the bent timber.

To the Jury: He mentioned the first cap he heard go off to Griffiths, who said it was nonsense. Witness thought it was a sill. He was certain that Griffiths saw the slabs belled down on the bent caps. On the Thursday morning before the fall witness said they were looking bad. He said that on several mornings. In the big fall the legs and caps went down together. Some of the chocks used to wedge the caps were left in the ribs which stood. He was not down the tunnel since the bodies had been recovered, nor would he ever go down again. The reason he left the pit was because he was going to get better wages. He would work in any part of the mine except the tunnel. The air in the pit was good, and there was nothing to complain of about it. He noticed the sills in the extension before the fall, but never saw any bent. Had there been any bent the alligator could not have gone up and down.

Rudolph St. Vincent Heyes, engineer, residing at South Maitland, deposed that he knew deceased, Albert Moncrieff.

To

To Mr. Tillett: He was engineer at East Greta Colliery, and remembered the fall in No. 1 tunnel. He was in the tunnel 10 to 15 minutes after the fall, and went down to the edge of the fall. He was last in the tunnel on the Tuesday before the fall, measuring the distance from the second level down to the face. Mr. Thomas and Edward Howarth were with him. Griffiths, Parsons, and March were at the face at the time. He saw the timber as he was going down, and it was all sound. There were one or two bent caps about 130 feet from the face. He heard no conversation between Mr. Thomas and Griffiths about the timber. Mr. Atkinson, Chief Inspector, gave no directions since the fall about how the timbering had to be done nor about bigger timber, but he asked witness if he put any defective timber in, and he answered "No." He had not written to witness on the subject. The stone produced, called mud-stone, and marked J, came down in the big fall, and was given by witness to Senior-constable Brown. He gave him another piece, which he believed came out of the big fall.

At this stage Senior-constable Brown was called, and deposed that he received from Mr. Heyes the stones marked J and K, and he picked up two other pieces, now marked L, which Mr. Heyes said had been exposed to the weather.

Rudolph St. Vincent Heyes was recalled.

To Mr. Atkinson: They measured the tunnel, 565 links from the second level down to the last sill. That would be about 370 feet. His duties took him down the tunnel once a week to report on the general state of the tunnel. That included the condition of the timber and the timbering. The timber below the level was sound, except for the caps he had already mentioned and a few sills slightly bent. The sills were about 120 feet from the face, and the bent caps were a few feet off. He had been down the tunnel frequently since the fall, and had kept an account of the progress of the work as shown on the plan. He saw the timber which had been brought out since the fall. Two or three sills were knocked out by the fall. They were out of position altogether. The rails went down as well. The fall from the roof and the cap pieces coming away carried the sills and rails with it. He recognised the distance the bent caps were from the face by the position of the dam and the water-casks. He had not counted the number of broken caps that had come out of the tunnel. As an engineer, and from his knowledge of ironbark timber, he considered it a good timber for the purpose for which it was used. He made no experiment to see how much a bar would bend. They had electric signal bells in connection with their signal system. The signals were carried to within three or four sets of the face. When the accident happened the engineman was at his place. There were 4 ft. 6 in. from the back end of the cage to the under side of the caps. There was a clearance of 18 inches on each side.

To Mr. Curley: He examined the machinery, ropes, and everything in connection with the working of the tunnel and boilers. He made that examination once a day. They had safety valves on the boilers, also steam gauge. His examination of the tunnel included timber, and he made his examination once a week. He made no report about bent caps. The date of his last report prior to the fall was the 17th November, and that was the daily report. The report books were kept in the outer, or open office. He considered it his duty to report, and show any defects he saw in the timber. He made those examinations at all times during the day. The last one was made on the morning before the accident. The examination took two or three hours. He was quite sure he saw only two bent caps. They were bent about 3 inches. He saw no broken or splintered caps. He had examined the timber after the fall while rescue work was going on. He was down every day. A lot of the timbers were carried away. Of those left some were bent, and some were broken. He never counted them, nor did he regard it as part of his duty to do so. He kept a progress plan, but no report of the broken or bent caps. After the big fall they could get 127 feet down to the top end of the big fall, but there were no broken or bent caps in that 127 feet. They were all sound caps there. That was from the level to the top end of the fall. He went all the way inspecting the tunnel until the bodies were recovered. He did notice broken and bent caps below the fall during the work of retimbering. There were a number. It was no wonder to find a number of broken caps after the fall, because of the big fall hitting them and knocking them out of position. Some of the legs were also knocked out of position. He put nothing of that in his reports. The timber was mostly fresh from the bush. He had a fair knowledge of timber. He noticed sap circling the timber, and never saw green timber without sap. He had no idea of the thickness of the sap. He had examined it. He never suggested that stronger timber should be used for the tunnel. The Tuesday he was down the tunnel he was at the face the whole of the time the manager was there, and he never heard any conversation about timbering the tunnel at the weak end. Such a conversation might not have been carried on without his hearing it. Lewis never mentioned about any bent caps in the tunnel to him. None of the men did, nor the manager. If some of the men swore they saw four bent caps that would not make him see more than he did. It was possible that other men might see more than he would. Mr. Thomas gave the order for the supply of timber to the bushman. Witness looked upon it as his duty to see that the supply of timber was not defective. He had challenged and discarded timber, but only for being too small. There were no defects. They were props. The dimensions of the timber were given to him by Mr. Thomas. The tunnel timber was to be 8 inches in diameter at the small end. That was for legs, caps, and sills. He found one or two less than that, and rejected them.

To Mr. Millard: On the Tuesday before the fall he walked up and down the tunnel, and waited for the men some time. The spot where he waited was 132 feet from the tunnel. It was at the 2-chain mark, under the place where the big fall occurred. There were no broken caps over him. If there had been five or six broken caps sagging down a foot with the slabs down on them he would have seen them; and would not have stayed there. Had there been any broken caps further down the tunnel he would have seen them as he was inspecting the tunnel.

The inquiry was then adjourned until 10:30 a.m. on Monday.

The East Greta Colliery inquiry was adjourned from yesterday afternoon until Monday morning, at 10:30, at the request of Mr. Curley, whose duties as Miners' General Secretary will detain him in Newcastle to-day and on Friday. The jury, by a majority, consented to the adjournment.

[*Newcastle Herald*, 24 January, 1899.]

## THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Mr. A. A. Atkinson (Chief Examiner of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Rudolph St. Vincent Heyes, engineer at East Greta Colliery, was recalled.

To Mr. Millard: He saw one or two sills bent in the tunnel, not to any great extent. That bending would not prevent the cage from running. After the fall the road was disconnected, fourteen or fifteen pairs of rails being knocked down the tunnel from the top edge of the fall. A person at the top end could see that the rails were gone. Those rails were bent and twisted in all shapes, and some of them were still at the pit mouth. On the Tuesday before the fall the manager made a stay at the second level when he went down first. They both stayed there, and the manager fixed his instrument, and took the angle, after which witness went down to measure to the bottom, and then walked back to 2 chains from the manager, right under the site of the big fall. The manager did not leave the level while witness was measuring down the tunnel. The manager on his way up did not stop under the fall. Witness was with him all the time. It is not true that the manager stopped under the site of the fall to examine the timber. The men at the face stopped working from the time the manager got to the level. Griffiths held the light for the manager. The bent caps he saw before the accident did not indicate any danger. It is not an unusual thing to see timber bent like those he saw. He would attribute the bending to bottom and end pressure. He had seen caps bent from side pressure, but not in that mine. He saw them in old Greta Mine, and they remained bent for years, and were taken out eventually, but the roof did not come down. The sides also stood there. He had a general knowledge of the roof of East Greta Mine, and of tunnels in particular. The roof was conglomerate, and proved a good one to a great extent. The timber and the method of timbering, in his opinion, could not be better. No precaution that he could think of could have been taken that was not taken to prevent the accident. The bent caps he saw were 130 feet from the face and 70 feet below the lower edge of the big fall. There were several slight changes in the grade of the tunnel. There was a change at 130 feet from the face. Anyone not understanding it would think they all had come down owing to the change of grade.

To the Jury: To affect the cage running the sills would have to be bent up 8 or 10 inches. He attributed the accident to the action of the water on the soft mudstone above the roof, which proved to be not so good as they at first believed. The bent sills had nothing to do with the bent caps. He replaced the legs that had been knocked out. [*Witness here showed where legs and caps had been replaced after the fall.*] Sixty pieces went down in the fall. After the fall he saw a bent cap 120 feet below the fall. If fresh timbers had not been put in where bent timbers were found there would eventually have been another fall. He revised report books, but never saw that any shift had spent the greater part of the shift in the manhole through the dangerous state of the tunnel. Gronow had worked two years in the colliery, and had experience in other mines.

To Mr. Curley: Before the fall he had not suggested the strengthening of the sets. With skips on the cage there would be 8 inches clear between them and the lower end of the caps. The sides of the skips ran 18 inches from the sides of the legs. There would be no space to put supports from legs to caps in that 18 inches. He received orders from the manager, who never suggested at any time the bricking of any part of the tunnel. Witness had not suggested that bricking to the manager, not even where the fall took place. The rails were 5 yards long. Fifteen new ones were put in after the fall. The sixty pieces that went down the mine did not include slabs. There were about 1,000 slabs. There were four sills.

To the Jury: The cage was not running in the tunnel.

To Mr. Millard: If the caps were bent down 12 inches the tunnel would not have been of any use for the purposes for which it was intended.

John Griffiths, a miner at East Greta Colliery, deposed that he knew deceased Albert Moncrieff.

To Mr. Tillett: He was on the shift that came out of the tunnel at 3 p.m. on 17th November. March and Parsons were with him, and he had charge of the shift. He had been working in the tunnel since the end of June or the beginning of July. He knew where the big fall took place. He saw no bent caps where the fall took place. He saw some about 150 yards from the face. There were three or four. He heard timber cracking in the tunnel. It was a usual thing when new timber was put in to hear it cracking. He believed someone spoke to him about the cracking. The roof of the tunnel was conglomerate and a little band, running from 2 to 6 inches thick, of soft bluestone, sometimes, but not always, across the face. Exhibit C was what he called soft bluestone. He saw Mr. Thomas in the tunnel on the Tuesday before the accident, and they were speaking about the grade of the tunnel, but not about the timber, to his knowledge.

To Mr. Atkinson: He worked at East Greta a little over five years as a miner. He had not got coal from the bottom level of No. 1. He had not worked along the level at any time. He had seen no falls where he had been working. While working in No. 1 extension he had seen stone fall 6 or 8 inches above the coal occasionally. That was bluestone. The cracking he heard came from six or seven sets back from the face. He never heard cracking away from the face. He attributed the cracking to the timber setting in the joints. The timber was always set right into the joints before the sets were left. There would always be a little grinding in the joints from bottom and side pressure. He could not form any idea of the cause of the accident. He had charge of the shift, to see everything was right, by inspecting the tunnel every day. His attention was never drawn to dangerous timber in the tunnel.

To the Coroner: It never struck him that there was danger in the tunnel.

To Mr. Curley: He had nearly thirty years' experience as a miner. He had not seen very many falls in mines. Where a fall takes place where there was timber used it is the sign of a bad roof. Bent timbers were not always the sign of a bad roof. Sometimes they were, and sometimes they were an indication of side pressure. With side pressure in the tunnel he would expect to see its effect on the timber. He would not expect to see the props bent, unless the pressure was extraordinary. With bottom pressure

pressure he would not always expect to see it in the sills. Where the caps were bent he saw no signs of bottom or of side pressure, any more than that the caps were bending. He could not say when he noticed the first cap bending. Hearing the cracks did not lead him to make an examination. The men did not speak to him about the bent caps. He made careful inspections going up and down. After he first saw the bent caps he always saw them. He could not say how far they were bent. They were not splintered; not cracked. Nothing drew his attention to the bent caps, only that he was looking about him. He had no conversation with Lewis about them. About a fortnight or so before the accident he was off work, and Thompson was in his place. His mates were with Thompson. No man, so far as he knew, was put into the tunnel to take his place. They had a spare man, Ernest March, there at the time. They could not have been more bent timbers in the tunnel without his seeing them. He saw the bent timbers before Mr. Heyes was in the tunnel. If there were other bent timbers they must have been bent very lightly. He did not know that any timber had been replaced in the tunnel before the fall. When the manager was in the tunnel on the Tuesday witness asked him how far they had to go, and the manager said he could not tell him until he went to the office. He said he believed they would be finished by Christmas. Witness replied that he wished it was finished then. Mr. Thomas said, "Why, Griffiths?" and witness replied because the water did not agree with him. Mr. Thomas did not say anything about having spoken to Lewis about the timbering, or about going to do timbering at the week end. Witness had no talk with any one about the timbering. He was acquainted with the deputies of the colliery. He never spoke to Lewis about the timbering at any time, nor to Mr. Thomas, nor to Mr. Heyes, nor to the under-manager, nor to any of the deputies, all the time he was at the colliery. He was down the tunnel the day the fall took place, and went right down to where the fall took place. He might have stayed five or ten minutes at the time. Lewis, Thompson, and Mr. Thomas were with him. He noticed nine or ten sets of timber gone. He noticed the roof down, nothing else. He noticed the road and the sills. The road was bent in all shapes. Two or three sills were knocked out. The rails had become disconnected. How much he could not say, as he could see very little. He had fairly good sight. He could not say how far the rails had separated. He had sometimes to put a slab up in the face before he got his set up. That was done to keep the stone up. They had to do that pretty often. He had never to chip the conglomerate to get sets in, but the timber men, Lewis and Thompson, had to do so. He saw the stuff that came down when they did chip. It was very hard to get down sometimes. He did not see particularly soft patches of conglomerate, but had seen some a little softer than others. He would not say from that that the conglomerate varied in places. The bottom, as a rule, was soft. They had occasionally to put a shot into it when they met a hard patch. He did not work after the fall clearing the stuff out. Some of the men spoke to him about the timbers cracking, and asked him if there was any danger, and he said no, it was always the same where new timber was put in. He often heard those cracks. The men did not speak to him often about the cracks. It might have been twice. He never heard the men speak to one another about the bent caps. When he was going up and down with them they never at any time drew his attention to bent caps. Gronow never spoke to him about them. He never heard the men speak about a statement made by Moncrieff about the bent caps. He spoke to no one about the bent caps.

To Mr. Millard: He knew the colliery pretty well all over, and his experience of the roof was that it was a good one. No. 2 he saw from top to bottom, because he drove the tunnel, and the roof was a very good one, but the floor was soft. The extension of No. 1 appeared very much the same as far as they could see. There was nothing where the fall took place to indicate that it was a weak spot. The roof there appeared to be conglomerate, and appeared the same all the way down. Wherever the roof was cut into it always appeared to be conglomerate. The potholes he saw were small, and showed no break in the conglomerate which appeared above them. The potholes were something similar to the bands. There was nearly always a band between the coal and the conglomerate. Sometimes it went out just like a wedge. Where the fall took place there were no bent caps. If there had been bent caps down 12 inches with the slabs down on them he would have seen them. Nothing was ever said in the cage by the men about the caps being bent there. March never spoke to him about bent or broken timbers. Parsons did not. On the Tuesday before the accident when the manager was down the tunnel he went straight down from the bottom level. He did not notice him stop going up. He did not see him stop under where the fall afterwards took place to examine the timber. He had not much experience in timbering. The other men did the timbering. There was nothing in the tunnel before the accident to indicate to him any danger, or he would not have gone down. It was not unusual to see caps bent as he saw them. They were bent nothing out of the way. He saw timbers bent at old Greta Colliery. He saw caps there bent by side pressure. Those caps stood, and some of them were standing to-day, though the roof had come down and left them there. New timber cracked. It cracked all the way in No. 2. The fact that it was green timber would not make it crack more or less.

To Mr. Bowden: The sills were not put on the ground. A block of wood was put under each end, and from one leg to the other it was hollow under the sill. They used to put four or five sets in before they slabbed the bottom. Very often there would be 6 inches between the sill and the bottom when they left it. The bottom very often swelled up to the sills, and it was often necessary to use a pick or a drill to make the hole under the sills again. When the stuff had been removed from under the sill he had seen the sill spring back an inch. The slabs used at the face were only used to keep the loose stuff from falling. The loose stuff sometimes would be soft bluestone, and sometimes coal.

To the Jury: His mates were Edward Parsons and Ernest March. Nine men were working on the extension. A man named Pike worked on the extension. Pike was not working at the colliery at present. He left through sickness. The potholes of soft bluestone were not to him indications of danger. He would not call the roof of the tunnel a patchy one. It was regular. A live mine was one in which there was a good deal of cracking in the coal. That did not indicate danger. It was just what they liked to see. Mr. Thomas did not mention Lewis' name to witness on the Tuesday before the accident. He was present in Court when March and Parsons made statements about Mr. Thomas, saying that Mr. Thomas told him Lewis would repair the timber at the end of the week. Mr. Thomas did not tell him that. Mr. Thomas did not say the bent timbers were to be renewed at the end of the week. He was positive of that. One of those men did not call his attention to the caps being bent with the slabs sagging down on them. Before the fall they considered the timber strong enough to hold the roof. He saw the Government inspector down the mine. He saw him more than once.

The inquiry was at this stage adjourned until 2:30 p.m.

On

On resuming, John Griffiths was recalled.

To Mr. Curley: Some men besides those mentioned worked in the tunnel at odd times. He thought Gronow was away from work some time before the accident. Kelly took Gronow's place, so far as he knew. He did not know if Kelly was working at the colliery still. Witness was working five years at the colliery, and had no fall to speak of. He saw some little bits in the road on the level. They were generally coal. How much he could not say. He was never in places where they took tops out. He never had to go where falls had taken place to do any work. He never had to clear out of the mine in consequence of falls.

To the Jury: He was not a contractor. He was paid so much per yard, and did not consider that contract work. It was just an understanding between Mr. Thomas and them. He was not appointed a deputy, but was appointed by Mr. Thomas to take charge of the shift. He never heard Mr. Thomas make mention on the Tuesday about repairing timber. It could not have been said without his hearing it. Mr. Thomas might have stopped under the site of the fall without witness noticing him. When Mr. Thomas left the face they did not go on working. He saw Mr. Thomas going up the tunnel. They used a couple of shots of dynamite getting up the bottom. He had not been talking to anyone about the accident any more than mostly everybody else would be talking about it. Besides Kelly, March, and the nine men previously mentioned, other men worked odd times in the tunnel. He did not remember who they were. As boss of his shift, he had the power to withdraw his men if danger was reported to him, so as to remedy the danger. The late Daniel Gronow had the same power.

To Mr. Bowden: He had worked in other mines, and had heard cracking in them similar to that which he heard in the tunnel. That cracking did not indicate danger of a fall. He could not locate the timbers from whence the cracking proceeded. If Mr. Thomas stopped going up the tunnel he could not tell where he did stop. He could see his light; the reflection of his light, but not the light itself, unless it was held up a good bit, owing to the grade of the tunnel. When Mr. Thomas was taking the grade of the tunnel he held the light up on a stick, so as Mr. Thomas could see it.

To the Coroner: There was danger sometimes when timber cracked.

To the Jury: The tunnel was steeper in some places than in others. Grades were not shown in the plan.

To Mr. Bowden: The cracking of the timber would not make anything like the same noise as one of the 9-inch caps. The noise of breaking timber was much stronger than that caused by cracking. He never heard a 9-inch bar break.

To Mr. Curley: Timber was put in a mine to prevent it from breaking in.

David Lewis was recalled.

To Mr. Millard: He knew the seat of the fall. There were no bent caps there before the fall. It was not true that at that spot there were caps bent 12 inches, with the slabs sagging down on them. That was not the case in any part of the tunnel. Neither Parsons nor March drew his attention to broken or bent timbers. He heard none of the men speak of timber being bent or broken where the fall occurred. March asked him at the pit top how far it was from the level down to the fall, and he replied that he did not know exactly. Witness asked why he wanted to know, and March replied, "I should like to know, as there will likely be an inquiry after this." March said he did not know, and witness told him he ought to tell them he did not know. Witness also told him he did not know. March had been down the tunnel between the time the accident occurred and the time of the conversation. March was not down the tunnel after the conversation.

To Mr. Bowden: He heard Cantwell swear that Moncrieff slept in one night. Moncrieff slept at home on the Wednesday night. On the Tuesday night Gronow said he was a man short, and on top witness asked Morrison if he would call Moncrieff. Morrison said, "All right." Moncrieff called at witness' place as he was going to work. On Wednesday night he did not turn up, and witness spoke to Thompson, who said, "You had better leave him sleep to-night, and it will be a lesson for him." On Thursday night he did turn up, and witness said to him, "Hulloa, did you find yourself?" and Moncrieff said, "I made sure of it to-night. I came to the pit top at 7 o'clock, and had a sleep in the little skip on top." The skip was still at the tunnel mouth. Moncrieff slept there from 7 p.m. until 11 p.m., so as not to miss the shift.

To Mr. Tillett: He used to talk to the men about the mine going down in the cage. He did not pay particular attention to what was said at any time.

To Mr. Millard: Had anyone said that the timbers were dangerous or the caps were bent, he would remember that.

To Mr. Curley: If anyone said to him, "That timber has been cracking down there to-night," he would ask in a minute, "Where?" It would depend on the answer whether he put it in the report-book or not. He heard the timbers creaking, not cracking. He remembered being in the tunnel with the jury and being asked to get a sample of stone from the roof. The Exhibit F he got down below the fall. How far below the fall he could not say. The water had been over it. He did not know how far up the tunnel the water was. The Exhibit H was similar to that near the door in the level near the overcast. He did not hear Mr. Thomas say there was a soft patch there. The stone was a sort of a conglomerate. He had to fire three or four shots in the bottom. He never tested the roof by putting a hole up in it. He and Thompson set all the timber in the tunnel. If there was any defect in connection with the setting of the timber he would regard himself and Thompson responsible for it. The timbering was inspected by Mr. Heyes and Mr. Thomas. They sometimes found fault with some of the sets. Mr. Heyes would point out where a mistake had been made, and they would have to rectify it. Mr. Thomas on one occasion said some set was not at right angles to the seam. He said it was out, and witness said it was not out. Mr. Thomas said it was out a couple of inches. They got the square to see who was right, and neither was right. It was an inch out, and it was put right. He could not say the thickness of the cap on the timber. It was not possible for bent caps to be in that tunnel without his seeing them. When the jury were down the tunnel he saw bent and broken caps below the fall. He worked clearing out the fall from the time of the fall onward to the recovery of the bodies. The jury could not get to the face on account of water. There were 60 or 80 feet of water. He had been down below that when the water was not there. There were some bent and broken caps below the water. He noticed the bent and broken caps as soon as they took the dirt out as they went along. Before the fall he only saw four bent caps. He could not account for the bent and broken caps after the fall. The roof broke some of them. The  
roof



roof and the sides probably broke them. He did not know the names of all the men who took the stuff out with him. There were Dan, Frank, and Jack Genge, Jack Downie, Jim Hennie, Jack Leishman, Fred Cook, Ernest Nixon, and Gilson. He was there soon after the fall. The rails under the fall were gone, and could not be seen. The rails were hanging on to the top end of the fall. The dogs were sprung out. One of the sills was gone at the seat of the fall. Four sills went altogether. The first missing sill went from near the bottom end of the fall. All the rails from the fall to the face were gone. They were swept down the tunnel.

To Mr. Millard: The rails were found along the tunnel, some against the roof. They were not all in a heap.

Azariah Thomas, manager of East Greta Colliery, was recalled.

To Mr. Millard: He remembered being down the tunnel on the Tuesday before the accident surveying. He had a conversation with Lewis, but did not say a word about re-timbering or repairing. No reference was made to timber being broken or bent. He did not stop going down or coming up to look at bent timber. Timber could not be bent and broken as described by Parsons and March without his knowledge. He saw no timber bent except that already mentioned by him, near the cask.

To Mr. Bowden: He had heard timber crack in a mine. He heard it near him. The noise of timber setting could not be mistaken for the noise of cracking. The noise made by breaking caps 9 inches thick would be a very loud one.

The inquiry was adjourned until 10:30 a.m. to-day.

[*Newcastle Herald*, 25 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillett represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Mr. A. A. Atkinson (Chief Inspector of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Hugh Humphreys, manager of Dudley Colliery was recalled.

To Mr. Curley: The cause of the fall was the mudstone taking the place of the conglomerate. Under the fall the conglomerate showed a shell from 18 inches to 2 feet thick on one side to 5 inches thick on the other. Lower down the conditions were reversed. It was 4 or 5 inches on the right side for about 30 feet, when it began to thicken. On the left side it began to thin out down to 15 or 20 feet from the bottom of the fall. In the strata of mines there were vertical and horizontal layers, and the facings often ran upwards. If there was water trickling through the strata at the fall he did not think it would come through the conglomerate, though it would affect it. It would certainly have affected it if the caps were broken, the slabs lying on the caps and the roof lying on the slabs. In a case of that kind he would, under such conditions, have expected to see water coming through. If the water did not come through he would not expect water above, but that did not show there was no water above. He would call Exhibit J a soft shale-stone; Exhibit K a fine conglomerate; Exhibit F a conglomerate. If he saw timbers bending below 500 feet down the tunnel he would put the sets closer together, as was apparently done in this case.

To the Jury: Leaving aside the fall, he considered the roof of the tunnel an exceptionally good one. He had seen the conglomerate above the top slabs on the ribs down below the fall. There may or may not have been patches of mudstone above the slabs.

To Mr. Millard: He noticed no band between the coal and conglomerate. Such a band would not be a source of danger.

To Mr. Bowden: While travelling up and down in the alligator he could not detect mudstone between the slabs. He could if the alligator went slow or stopped. It would be too high to examine off the floor. A proper inspection of the timber could be made from the alligator. From what he saw of Lewis he considered him in every way a competent, skilled practical man.

Duncan McGeachie, manager, Waratah Colliery, was called.

To Mr. Millard: He had twenty-seven years' experience in coal-mining in all its branches in Scotland and New South Wales. He was also an engineer and surveyor. He had a fair knowledge of all the Greta Measures. The roof over the East Greta seam was a hard conglomerate up to a depth of 40 feet. After the accident he noticed the method of driving and timbering in No. 1 tunnel, and in his opinion it was on most approved principles. The work was good. The timber was all good ironbark. He knew the conditions that existed before the accident, and considered the place well timbered. He made an examination, not a minute one, of the cavity of the fall. He found a thin casing or shell of conglomerate from 18 inches on one side to a few inches on the other. Immediately above the shell was mudstone, and above the mudstone was sandstone. That was not a usual thing to find in conglomerate. As a geologist he would never have expected to have found it there. He was not below the fall. He observed David Lewis work. Lewis was a thorough practical man, and one who deserved great credit for the work he had done. He believed the cause of the accident was the mudstone in the roof, assisted by water or something else. He thought the fall gave very little if any warning. If the timbers once began to go, they would not last five minutes with the weight that came away.

To the Coroner: He was very much surprised when he saw the mudstone there. It was a thing he had never seen before.

To Mr. Tillett: It was the first mudstone he had seen in that roof. If he did see any there before it would indicate to him a change in roof. If the mudstone appeared in potholes he would not expect a change of roof. A patch right across the face would indicate a change of roof, and he would make provision. He did not think the fall would gradually settle on the timbers, because the hard conglomerate would not yield, but would crack like glass, and the stuff above would break through.

To Mr. Atkinson: He had experience in steep measures in Scotland. The dip was 43 to 47 degrees. They were worked by shafts. The roof was rather bad. They drove down a certain distance and worked up the rise, the same as at East Greta. He was nearly two years under-manager at Greta Colliery. He remembered

remembered the depth of conglomerate at about 40 feet. It was bare, not bricked. He did not think side or bottom pressure had anything to do with the fall at East Greta. It was roof pressure. He examined the roof along the lower level, and it appeared to be a very sound conglomerate. That was in the overcast. He had been in no other part of the mine. He had experience of iron-bark caps. If he saw five or six of them bent in a tunnel he would think there was something wrong, and would look for the cause. If he found it was due to pressure from the roof, he would replace them. He would not take much notice of one or two bent caps. In that tunnel, if a cap were bent 6 or 8 inches, it would be perfectly useless. With side pressure he would expect to see the effect first in the props.

To the Coroner: The floor above the seat of the fall was soft and yielding, and the sills there were well put in.

To Mr. Curley: He would take no notice of one or two caps bent in that tunnel. If a cap was bent 6 inches it would be past the point where it would have any resistance. He would take notice of four bent caps, and if the pressure was from the roof he would be guided by circumstances. If the timber was too light he would put it closer together, or put in stronger timber.

To Mr. Bowden: There was no appearance of water when he examined the fall. It was a surprise to him to see the conglomerate narrow out to 6 or 8 inches. The timber was good; could not have been better for the purpose. If the caps had been bent 12 inches they would not bear their own weight. He had seen timber bent by side pressure. It would not have alarmed him to have seen three or four sets bent from side pressure. He would expect to see side pressure at all times show itself first on the props. It would have been impossible to have seen patches of mudstone at the fall.

To Mr. Tillett: He would not say no patches had been seen. He could only speak of what he had seen.

To the Coroner: He was at the fall on the Monday, Wednesday, and Friday after the fall.

To the Jury: He was asked by Mr. Thomas to go to the tunnel and to inspect the fall, with a view of getting over the difficulty. He saw no change of roof in the overcast. It was good conglomerate. He never saw changes in that roof before the fall. He had seen faults coming in the coal, and they were of common occurrence. He had a fair knowledge of the Greta Measures. What he knew of the East Greta roof he had seen since the accident. He would prefer seasoned to unseasoned timber, but the timber put in the tunnel was good, whether seasoned or unseasoned. The fact of the caps being bent below the fall was proof that they were not strong enough to stand the pressure after the fall.

To Mr. Millard: If he saw bent timbers he would be guided by past experience. If he had previously found the roof intact further up the tunnel after the removal of bent timbers he would conclude that side pressure had existed. He was requested by Mr. Thomas to go to the mine to assist by advice in recovering the bodies of the dead men.

To Mr. Curley: If caps were bent or broken and the roof remained intact, the pressure would be from some place other than the roof.

To Mr. Millard: There was no great danger in the bord and pillar system.

To Mr. Bowden: Patches of mudstone underlying the conglomerate would not indicate a certain change. All roofs were to a certain extent patchy. The patches were not thick.

At this stage the inquiry was adjourned for luncheon.

The inquiry was resumed at 2:30 p.m.

Richard Thomas, manager of the Duckenfield Colliery, deposed:—

To Mr. Millard: He had twenty-eight years' experience in mining, fifteen at Home and thirteen in the Colony. He knew East Greta seam, and had experience of it. He studied geology. He went over the whole field with Professor David. The roof was a hard calcareous conglomerate, and was generally found over the Greta seam. He had traced it from South Greta Colliery to 5 miles south of Richmond Vale, a distance of about 16 miles. That conglomerate roof was the best for coal-mining purposes. It was proved from 50 to 80 feet thick. He visited East Greta Colliery when it was being opened up, and on the day of the disaster. He had been there several times since the disaster. He noticed that the timbering was well adapted to resist pressure from roof, floor, or sides. It was a modification of the Welsh system. The tunnel was driven on scientific principles. The class of timber was good. Under conditions existing before the accident the timber was all that could be desired. He visited the scene of the fall, and noticed the strata disclosed by the fall. He noticed overlying the slabs a thin layer of conglomerate 18 inches thick on the left-hand side, and a foot thick on the right. Above that he saw 5 feet of mudstone, then a grey pebbly sandstone, 10 inches or a foot thick; above that, 4 feet of mudstone, and above the latter, dark brown sandstone. He went to the lower end of the fall in another visit. The conglomerate on the left-hand side prevailed right through, and on the right-hand side thinned out to almost nothing. He had no particular knowledge of the roof other than what he saw in the fall. He saw the overcast driven right through the solid conglomerate. He did not go into the level. The erosion of mudstone into that conglomerate was a freak of nature. Conglomerate was formed by a swift current, and mudstone was carried by a slow current. It was the silt deposited by the slow current. [*The witness here drew a sketch showing how mudstone was deposited in the conglomerate.*] In his opinion, the accident was caused by the erosion of mudstone in the conglomerate. It could not be guarded against because it was quite unexpected. To find timbers bending to any small extent in mines was a usual thing. If he saw in a tunnel like No. 1 timber slightly bent, that would not indicate any danger. A bend of 2 or 3 inches would be a slight bend. If he noticed the caps bent in that way, and the slabs did not follow the caps, there would be no roof pressure. With regard to what he would do with bent caps, he would be guided by his past experience in the same mine. If the roof higher up the tunnel stood intact after the removal of bent caps, he would assume that the bending had been caused by side and floor pressure. He believed the conglomerate shell under the fall burst away suddenly. He thought the fall would be almost instantaneous after the breaking of the conglomerate. Mudstone would be a dead-weight on the timber once the conglomerate had broken. It would not be possible for the caps under the fall to be broken, to have the slabs down on the broken caps, and the mudstone visible through the slabs. Caps 5 feet centres apart would each stand 20 tons. After a cap had been cracked and broken through, it would not support itself. Once a cap began to crack it would weaken. A cap bent 8 inches and cracked would not support 20 tons.

To Mr. Tillett: Mudstone had no cohesion. Had the tunnel not been timbered, the thin band of conglomerate would have been broken by the weight of the mudstone above. The fall did not take place earlier because the timber was there to support it. Had they known there was dead-weight of mudstone there

there they would have strengthened the timber. Any movement in the conglomerate would have shown in the caps. He saw no evidence of water there, either in the mudstone or conglomerate. The timber was sufficient for the conditions apparent before the fall. The mudstone showing above the coal would indicate no danger.

To Mr. Atkinson: He would not expect much side pressure in that tunnel. Side or bottom pressure had not much to do with the fall. Conglomerate geologically was a rock that varied little in its character. In making calculations of the strength of a cap piece he assumed that the weight was distributed equally over the cap. If four or five caps together were bent 5 or 6 inches he would be guided by his previous experience in the mine. He would see if the roof was intact. If pressure came from the sides he would expect to see them fall when the roof was taken away. The sides of the fall were to all appearances what they were when driven.

To Mr. Curley: He was in the mine in its early stages, ten years or more ago. He was in No. 1 tunnel then. He saw a hard patch of conglomerate there where there was no timber. It was 75 or 80 feet long. He saw timber after that, and patches without timber. Below that he saw timber continuous after that. He attributed the continuous timbering to the increased depth. Prudence and precaution were observed there against possible accident by roof or sides. Danger would increase as they went down. When he was there ten years ago the tunnel was down 100 or 150 feet, and some bords were going at the time. He had not been in the colliery from that time to the accident. He would not consider any serious falls with the roof they had there. If there had been certain falls in the colliery he would want to know the conditions of the falls. He would not put his limited experience of that mine against the manager's experience. It would be unreasonable. He would not say his experience was a closed book. It was a fairly open one. If he had conglomerate breaking, and mudstone showing above, he would conclude a change of roof indicated. If the mudstone appeared above a broken crust of conglomerate it would show a want of uniformity. There was practically no cohesion about mudstone. Exhibit J was mudstone, and it had practically no cohesion. It would want close timbering; and knowing the conditions of the fall as he knew them after the fall he would have the timbers not less than 3 feet apart. If he knew the mudstone to be of unknown quantity he would treat it all as mudstone. He made the first measurement on the first or second day of the fall, and he made the other when he was there last. They were not made by rule, but by observation. At the top end of the fall the nearest cap to the edge was good, and the second one was bent 4 inches. There was no break in the roof at the side. He was not in the colliery generally. He went there to help the rescue parties. Inspectors Dixon and Bates, Mr. Ross, Mr. Thomas, and Deputy Lewis were with him when he made his first measurement. On the second occasion Chief-Inspector Atkinson, Inspector Bates, Mr. Jonathon Dixon, and Mr. Thomas were with him. East Greta Colliery required more attention than one running on an even grade.

To Mr. Tillet: The roof was a coarse conglomerate. He knew "Geikie's Geology," and looked upon it as a standard work. He could not agree with Geikie's theory about conglomerate. Geikie could not have had a knowledge of our marine beds when he wrote it.

To the Jury: The second fall ran into the sides 3 feet. He visited the tunnel in the first instance to see if they could get the men out alive. When that was hopeless he went to assist in getting the bodies out. He was quite satisfied with what he saw in the tunnel to judge as to the cause of the fall. He already knew the nature of the roof. If there was a soft patch in the level near the overcast that would be no indication of danger lower down the tunnel. Calcareous conglomerate would be affected by exposure to water and air.

To Mr. Bowden: He had seen caps bent by floor pressure at Home, but not at Newcastle. It would bring the sides away. A body of stone with little cohesion could not hang for a time if it was depending on itself. A roof with little cohesion would stand until the limit of resistance was reached. If he saw a patch of shale in the roof he would not come to the conclusion that it was all through the roof. The presence of such patches was not an indication of change of roof.

The inquiry was then adjourned until Friday, at 10:30 a.m.

[*Newcastle Herald*, 28 January, 1899.]

#### THE EAST GRETA DISASTER INQUIRY.

THE inquiry into the circumstances connected with the death of Albert Moncrieff, on the 18th November, 1898, in East Greta Colliery, was resumed yesterday morning at the West Maitland Court-house, before Mr. Martin. Mr. J. V. Tillet represented the Crown Law Department. Mr. Millard appeared for Mr. Thomas, manager of East Greta Colliery; Mr. F. A. S. Bowden for the East Greta Coal Company; Mr. James Curley for the relatives of the victims of the disaster; and Sub-inspector Fowler for the police. Mr. A. A. Atkinson (Chief Inspector of Coal-fields) and T. L. Bates (Colliery Inspector) represented the Mines Department.

Azariah Thomas, manager of East Greta Colliery, was recalled.

To Mr. Curley: The dip of No. 1 tunnel from the bottom level to the face was 47 degrees. He instructed the timber setters to set the timber at right angles to the pitch or the dip of the tunnel. He did not know the term "underset." He was in the tunnel on the Tuesday before the fall, but not afterwards before the fall. The caps now bent and broken in the tunnel below the fall were broken after the débris from the fall had run down, and after the water had affected the calcareous conglomerate roof. It was evident they were broken after the fall, because they rested on the débris. The water had not affected all the broken caps. The water and débris filled up the tunnel to 130 feet from the face. They saw the timber between the débris and the big fall bending and breaking while they were down. They heard them cracking while they were putting timber in where the big fall took place. The timber by the side of the fall was in good condition. The first set near the fall was good. The second was good.

To the Coroner: Water was running from the lower end of the fall. No water was seen at the top end of the fall. The mudstone from the top end of the fall was dry. The mudstone that came down the tunnel was like Exhibit J.

To the Jury: It would be impossible to get timber from the bush without sap. The small ends of the caps had to be 8 inches in diameter. He knew ironbark with sap to last seven and a half years, and be then in good condition. They used it on account of its durability. Directly or indirectly, it had never been hinted, suggested, or reported to him that there was a dangerous roof approaching.

To

To Mr. Curley: The tunnel was commenced some little time over seven years. There was another tunnel near it down as far as the top level. The tunnels were 135 yards apart on the surface. The little tunnel was 120 yards down by horizontal measure. Two places were opened out of the bottom of it when he took charge. It was very little timbered—just a stick in here and there. It did not occur to him to do anything in No. 1 tunnel that he had not done. There was no restriction on him whatever.

William Kerr, engine-driver at East Greta Colliery, was called.

To Mr. Curley: He was working the 3 p.m. shift at the tunnel. He was at the colliery a year and nine months. He had shift about. He went on at 11 p.m., or at 7 a.m. at other times. The 3 p.m. shift finished at 11 p.m. Sometimes he sent the shift down, and sometimes the other engine-drivers did so. He was on the 3 p.m. shift at the time of the disaster. Lewis went down that week at 3 p.m. When the men went down they did not at all times go straight down to the face. Sometimes they did, and sometimes they stopped at the level. They went all together. He could not see the men at all from his handles. The alligator went down with the men. He knew by the signals men were going down. The tunnel men went down in one batch. When the jig was started, sometimes the jig and tunnel men would go together, and sometimes in two lots. The alligator went at a fair speed for men. The men on the previous shift came up after the others had gone down. The cage used to take five minutes coming direct from the face to the top. He was never told by Lewis to go slowly, as he was going to make a thorough examination of the tunnel. Timber took a minute and a half or two minutes longer to send down. The men went down with the timber, which was placed in the alligator. Sometimes he went to work with the men working in the tunnel. He heard Dan Gronow remark about bent timbers down the street one Saturday, five or seven weeks before the accident. Gronow said there were two or three caps that were bending and splintering. He said no more than that. None of the other men said anything to him about it.

To Mr. Tillett: The conversation took place at the post-office. Gronow said there would be some timber to replace when the tunnel was finished, as two or three caps were bending and splintering. He did not speak of them as indicating danger.

To the Coroner: He never saw Lewis going down, but knew he must be there.

Thomas Lionel Bates, Inspector of Collieries, was called.

To Mr. Tillett: He inspected East Greta Colliery at various times, and made his last inspection on the 5th September before the accident. He was in the tunnel then, and went to the face. It was below where the first fall occurred. He inspected the timbering, which did not show the slightest indication of undue pressure. He had previous experience of the colliery, and was quite satisfied with what he saw of the timbering.

To the Coroner: He walked down the tunnel, and from where he stood examined the roof 50 or 60 yards below the level. He could see between the slabs, and as far as he could see it was conglomerate. Conglomerate was the predominating feature of the seam.

To Mr. Atkinson: He had been inspecting the colliery for nine years. He was at the colliery three times between the 5th September and the date of the disaster investigating accidents. During his inspections he had seen slight falls in various parts of the mine. What came down was an argillaceous or clay shale, and the conglomerate was above. It was 5 or 6 or 8 inches thick. He invariably saw the conglomerate above the shale. He had one complaint, an anonymous one, in the early part of 1897. It was from a wheeler, complaining that a bord he was working in was dangerous on account of the roof. He investigated it without delay—made an investigation. He found the floor swelling and troublesome to wheel along, but the roof was safe. It was on the left-hand side of the lower level of No. 1. That was between No. 1 and No. 2 tunnels on the lower level. The roof was coal. The bord was in 50 or 60 yards. There was no fall from where the bord was turned away to the face. He had been down the tunnel since the accident. He had no two opinions about the accident. It was caused through the conglomerate thinning out. As it could not expand above on account of the conglomerate it would burst away at the point of least resistance, which would be at the cavity caused by the excavation of the tunnel. Side or bottom pressure had little to do with the fall.

To the Coroner: Where the falls occurred he invariably found the conglomerate overhead and nothing else. The stuff that fell was 6 or 8 inches thick above the coal. He saw two kinds of conglomerate, the silicious conglomerate and the calcareous. The silicious was undoubtedly the harder of the two. The roof of the tunnel was composed of both. The silicious was at the overcast. The calcareous was below the big fall. There might have been some in the fall. He saw the roof between the slabs, and knew it to be conglomerate. He noticed no shale of any description. He examined the timber, and so long as it was sound and safe the men were safe. It was not an uncommon thing to see a fall in a mine. He had seen hundreds. When pillars were out he could quite understand the roof would come down. He heard that large falls had taken place where pillars had been taken out, not otherwise. He had not inspected the action of the falls on the sides. He had seen nothing of any importance showing weight on the timbers—nothing he deemed worth calling attention to. He saw several places on the levels where there had been small falls. That was not extraordinary. There was no element of danger in it. About 6 or 8 inches might have come down. He would pay attention to cavities caused by falls between the timbers on the levels. If other persons had seen falls up to 2 or 3 feet he had no recollection of them. He had been in the lower level and saw the roof there. There was a kind of mudstone above the coal similar to Exhibit J. The roof was not broken to a dangerous or alarming extent. He saw it when he was down with the jury. The conglomerate was above the mudstone; but he did not see any between the latter and the coal. He saw conglomerate there. He was in the overcast, and saw silicious conglomerate there, but nothing else.

To the Coroner: He saw no falls there more than in an ordinary mine. The timber was sufficient for the roof.

To Mr. Curley: He examined the report books at the colliery when he made his inspection, and at the time they were to his satisfaction. From the evidence he heard he was not satisfied. He was not satisfied with the person who made the inspections. The manager or the under-manager should have been down the tunnel oftener. If the under-manager was not down the tunnel for a fortnight, he did not comply with Special Rule 7. A mine of such a character as East Greta should be under strict supervision.

To

To Mr. Millard: He knew David Lewis since the disaster. He believed him to be a most competent man from what he had seen of him. He was a thoroughly practical man. He looked upon Lewis in the light of a contractor, who was therefore ineligible to make an inspection. He was quite satisfied Lewis was competent to make the inspection.

To Mr. Bowden: On the whole the colliery was a carefully and skilled managed one.

To the Jury: If there was conglomerate between the tunnel and the mudstone, at the seat of the fall, it was beyond human conception to have expected so large an amount of the mudstone there. It would be possible, but not expedient, to work the tunnel with double skips and props down the centre. He did not like the props in the middle of the tunnel. Almost invariably he visited every working place in the mine when he inspected it. It was not carelessness on the part of the men who timbered the tunnel that caused the accident.

To Mr. Curley: The last time he was in the tunnel he was not at the face. He was only once in the extension, and went close enough to see all he wanted to see.

To Mr. Millard: It would be reasonably practicable to put bores into the roof to test it. Something of the kind was done at Stockton to prove the roof. It was a question of expense. After what has occurred, he would like to see it done. If he thought it desirable he could have had it done.

To the Jury: When he visited the tunnel the face was below the big fall.

To Mr. Curley: He saw the fall on the day of the accident. Two of the caps at the edge of the fall showed signs of bending, and they were strengthened. He had a look at the strata. It was conglomerate, shale, and sandstone. The conglomerate was calcareous, and was thickest on the left-hand side at the top of the fall. The timber below the fall was more or less broken. At the bottom end of the fall two or three caps were standing. Below them was another fall. He took no record of the bent or broken caps.

To Mr. Millard: He saw water coming from the roof on the Monday, but not on the day of the accident. It came from the top. He saw it after the second fall in the big fall.

Edward Davis, colliery carpenter, was called.

To Mr. Millard: He had often been down the extension of No. 1 tunnel. Sometimes he was down once, and sometimes twice a day. For two or three days he might not be in it. The last time he was below the bottom level was a week ago. The timber was in a good state. He noticed none of the cap pieces bent. He knew about where the fall took place. If any timbers were bent they were bent very slightly. There were no broken ones. Had there been any bent or broken down a foot he would have seen them. He was fixing up the road and looking after the signals. He fixed a roller 60 or 70 feet from the bottom, and was there an hour or an hour and a half. He occasionally walked down.

To Mr. Tillet: His work was on the floor and sides.

To Mr. Curley: When he was fixing the roller 50 or 60 feet from the face he saw no five or six broken caps there. He saw none bent. He could see some little distance down the tunnel. He did not see four bent caps there. He had nothing to do with looking after the road.

Edward Howarth, labourer, at East Greta Colliery, was called.

To Mr. Millard: He knew the extension of No. 1 tunnel. He was down with Mr. Thomas and Mr. Heyes on the Tuesday or Wednesday before the accident. They got off at the level, and Mr. Thomas took the grade of the floor. Mr. Thomas called out to Griffiths at the face to give him a sight. He took the level. Witness described how he assisted Mr. Thomas. He saw two bent caps nine or ten sets above the face. He saw no others. He saw every set as he went down. Mr. Thomas was at the bottom level. Mr. Heyes went back up the tunnel, and he and Mr. Thomas went down to the face in the alligator. Griffiths, Parsons, and March were there also. Mr. Thomas asked how they were getting on, and Griffiths asked Mr. Thomas how much further they had to go. Mr. Thomas replied that he would let him know as near as he could. He said it was about 45 feet, and that would mean about nine more sets of timber. Griffiths said he wished it was his last shift, as he was sick of the water, which was not agreeing with him. Griffiths also said that it would be finished by the New Year. They (Mr. Thomas, Mr. Heyes, and witness) went up in the alligator to the level. Mr. Thomas did not stop going down in the alligator.

To Mr. Tillet: He was watching Mr. Thomas coming down in the alligator. His work was all along the floor. He could just notice the two bent caps he saw.

To Mr. Curley: He was told what he was going to do before he went down the tunnel. Mr. Heyes told him he was to go down and draw the chain. That was his only trip down to the face. He had often been down to the bottom level. He went one day nine or ten sets below the bottom level. He had been 100 yards along bottom level towards No. 2 tunnel. He saw no breaks in the roof there. He saw no bent timbers there.

Alfred A. Atkinson, Chief Inspector of Mines, was called.

To Mr. Curley: He had about twenty-four years' experience in coal mines, and during that time had to deal with various roofs in collieries. Conglomerate was a very unusual thing in coal-mines in the Old Country. He had given attention to the study of geology. Knowing that Geikie was a great geologist, he would take it that he would not be likely to write anything that was not correct. From his knowledge of managers he believed they tried to get a knowledge of the strata overlying the roof. They would go to some considerable trouble to get acquainted with the roof. The manager ought to have a fair knowledge of the roof after the falls described by Cartwright. If caps or other timbers were bent or broken that should make a manager look for the cause. He was in the colliery in October, 1897. The extension was not then commenced. The mine was idle. He went down No. 1 tunnel as far as the level and along the level to the face on the south side. He was down the tunnel since the fall twelve or fifteen times. He had gone through mostly all the principal working places. He saw the character of the roof at the big fall in No. 1 tunnel. He noticed the roof over the dam. Above the conglomerate was some shale. There were 2 feet of conglomerate. The shale was there. The hole was half the width of the tunnel, and the shale showed in the hole. Seeing that shale there he would think it possible for it to be found in other parts of the mine. In the overcast he saw one place on the left-hand side which showed a softer stone than the conglomerate. It was mudstone, mixed with sandstone. It was a small patch in the conglomerate itself. The conglomerate over the dam was a mixed one, silicious and calcareous. He saw the fall on the day of the fall. The conglomerate there was mostly calcareous, and was about 18 inches thick on the left-hand side, tapering down to 4 or 5 inches on the right-hand side. Shale or mudstone was above the conglomerate, and was several feet thick, and above that was hard

sandstone. The silicious was the stronger conglomerate, and would not suffer so much as the calcareous. It would carry more weight than calcareous. If Mr. Thomas visited the tunnel often he would know the nature of the two conglomerates. He noticed no water on the day of the accident, but he saw some dripping out of the top of the fall on the Monday afterwards. It was dripping. The sides appeared good, except where the caps had torn a little of the coal away at the top. He noticed no bending in the sills. The caps near the fall appeared right but it was decided to strengthen them in view of possible danger. He could not say the men would have a knowledge of the mudstone over the conglomerate. The timber setters would have a knowledge of it if the conglomerate had run out and mudstone had taken its place. If the conglomerate did run out Mr. Thomas should have known it. If conglomerate run out and mudstone took its place he considered the timbering should have been strengthened. The timber, as mining timber, was very good. He had seen larger timber put in mines. He had seen sets put closer. He had seen tunnels bricked. In his opinion Lewis was not eligible under General Rule 4 to make the inspection. The Special Rules were considered to be of equal force with the Act itself. Cartwright did not comply with Special Rule 3 when he remained away from the tunnel for a fortnight.

Mr. Millard and Mr. Bowden objected to Mr. Curley's questions about the rules, and asked for notes to be made of the objections.

Continuing his evidence, in reply to Mr. Curley, the witness said some of the roads wanted more timber on the bottom level of No. 2 tunnel. Conglomerate roofs did not run so regularly as the ordinary sandstone or shale roofs.

To the Jury: One could not say how far the mudstone would spread itself out.

Oliver Kay Young, auctioneer, was called.

To the Jury: The witness, Parsons, spoke about the accident to him in his office some few days after the accident, and asked if he wanted any men. Parsons said he was in the rescue work at No. 1 tunnel, and he was not going to work there any more, as Cartwright, the under-manager, had said he could not work at the mine unless it was in No. 1 tunnel. Parsons said no one forced him to go into No. 1 tunnel. Parsons said, "I've got the company under my foot, and I'm going to squeeze them."

To Mr. Curley: He was a director of East Greta Colliery Company. He did not know Parsons by name when the conversation took place. He had an animus against Parsons because he believed Parsons told untruths in the witness-box.

The Coroner declined Mr. Curley's request to be allowed to address the jury, as the other gentlemen present did not wish to do so.

The Coroner complimented Sub-Inspector Fowler upon the able manner in which he had collected the evidence and enabled the inquiry to run so smoothly. The thanks of the jury and the Coroner were due to the Sub-Inspector and to Senior-Constable Brown, also to Mr. Roberts, who had taken the evidence and saved the Coroner so much trouble.

The Coroner then reviewed the evidence in a brief address, and left the matter in the hands of the jury.

[*Newcastle Herald*, 30 January, 1899.]

#### THE EAST GRETA DISASTER.

THE conclusion of the Coroner's inquest into the circumstances of the death of Albert Moncrieff, one of the victims of the disaster at East Greta, is a lame and impotent one. Ample evidence was adduced in the case, and every care was taken by cross-examination and otherwise to throw light on the causes and circumstances of the deplorable fatality. The majority of people who had read the evidence had probably arrived at the conclusion that the deaths were accidentally caused, but that the catastrophe emphasised the necessity for taking the most stringent precautions in underground workings where the nature of the strata placed unusual strain on the timbering. It is understood that ten of the jury were desirous of bringing in an unconditional verdict of accidental death, but that two jurymen were determined on bringing in a stronger verdict. As matters stand, no verdict has been obtained. Nevertheless, it would be unjust to declare that the holding of the inquest has been absolutely resultless. One thing it emphasises, and that is the necessity for multiplying precautions in order to secure the lives of underground workers. What further is to be done in the matter remains to be seen. It is probable that the possibility of a Departmental inquiry being held may have contributed in some degree to the failure of the Coroner's jury to arrive at a verdict.

#### THE EAST GRETA DISASTER INQUIRY.

##### THE JURY DISAGREE.

THE jury, which had been in retirement for fifteen hours, returned into Court on Saturday morning at about 8 o'clock. The Foreman, Mr. F. W. Thursby, then announced to the Coroner, Mr. Martin, that the jury had disagreed, and that there was not the slightest hope of a verdict being returned.

The Coroner expressed his regret at the statement made by the Foreman, because it appeared as though there were something lacking. The evidence had been voluminous, and Sub-Inspector Fowler had done exceptionally well in bringing such an amount of evidence bearing on the case before them. All that was possible was done by the police to assist them in arriving at a verdict. Their confinement during the night was unavoidable under the circumstances, and he hoped they would not think he had acted harshly in the matter, as it was his duty, if possible, to obtain a verdict. He again expressed his regret that no decision was arrived at.

The Foreman said that on behalf of the jury, he desired to thank the police for the way in which the evidence had been collected, and for the way in which it had been put to the jury. It was also the desire of his colleagues that he should thank the Coroner for his kindness and courtesy to the jury, and to compliment him upon the conspicuous ability displayed by him throughout the inquiry.

The Coroner thanked the jury, and said it was a pleasure to a man to know that his efforts to do his duty were appreciated.

Sub-Inspector Fowler, on behalf of the police, thanked the jury for the references made to the work done by him and his officers.

The



The jury was placed in charge of Senior-constable Brown during Friday night, and that officer was assisted by Constable Kent. The evidence was freely discussed, and at times during the night it was evident that very heated arguments were in progress. The matter was viewed in every possible light, and ten jurors decided in favour of an unconditional verdict of accidental death, while the other two considered that some attention should be paid to what they considered as a non-compliance with the Special Rules of the colliery by some of the officials. It was this point which proved to be the stumbling block to a verdict being returned. The contradictory evidence concerning the existence or non-existence of broken cap-pieces under the seat of the fall had much to do with placing the jury on the horns of a dilemma. We have been informed by several of the jurymen that although the discussion throughout was of a very heated nature there was no display of ill-feeling. The evidence will now be forwarded to headquarters in Sydney, and it will rest with the Department to decide what action shall be taken in the matter.

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No. 17.

Telegram from Mr. Sub-Inspector Fowler to The Chief Inspector of Coal-mines.  
*Re Greta Colliery accident. Jury discharged—did not agree.* 28 January, 1899.  
 F. FOWLER.

Noted.—A.A.A., 28/1/99. Seen.—D. McL., 28/1/99. The Hon. Joseph Cook, Minister for Mines, Lithgow,—Greta Colliery accident. Jury discharged. They did not agree. Wire so to the Honorable Joseph Cook, M.P., 28/1/99.

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No. 18.

The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

*Subject :—East Greta Inquest.*

Coal-fields Office, Department of Mines and Agriculture,

Sir,

Sydney, 28 January, 1899.

I have the honor to inform you that the jury in the above inquest after having been locked up since 5 p.m. yesterday were discharged this morning without any verdict being recorded. The inquest occupied a period of thirteen days, during which a large number of witnesses were examined, and it is probable that but for the constitution of the jury a satisfactory verdict would have been given.

I venture to think, for the reasons set out hereunder, that it is not expedient that an inquiry should be held under section 23.

1. Every latitude was allowed in the calling of witnesses, and their cross-examination. The Crown as well as all other parties interested were represented, though they were not allowed to address the Court.

The course adopted by the Coroner in this case, though not acceptable to the miners' representative, is the one usually followed at such proceedings in England, and appears to me to be much preferable to allowing a number (some four or five) of long addresses, which very often only serve to confuse the minds of the jurymen.

2. So far as I am aware, all witnesses of any value who were procurable gave evidence, and it is not likely that any further light will be thrown upon the "causes and circumstances" of the accident by any further inquiry.

3. The expense of the inquest to the Government has been great, and that of an investigation under section 23 would be greater still.

4. In my opinion the best course to adopt at the present stage, having regard to the proper administration of the Act, is to prosecute the manager and under-manager—the manager for a breach of General Rule 4, for employing contractors in making the inspections, &c., under that rule; and the under-manager for breaches of Special Rules Nos. 3 and 7. [copy of rules herewith—*Appendix 1.*]

In this connection I would invite your attention to the opinion expressed by Mr. Wade at page 12 of his report on the Dudley Colliery explosion in the paragraph regarding "Prosecution." [*Appendix 2.*]

As the offences were committed in the month of November last, and the time (three months) allowed for commencing proceedings will shortly expire, no time should be lost if it is intended to proceed under the Act against the manager and under-manager.

I have, &c.,

A. A. ATKINSON,

Chief Inspector of Coal-mines.

Approved. To proceed against manager and under-manager as suggested.—J.C., 28. Minister might see Mr. Atkinson on Tuesday morning.—D.C. McL., 28/1/99. Mr. Atkinson to note and return.—D. McL., 30/1/99. Will the Crown Solicitor kindly arrange for the necessary steps to be taken in this matter?—D. C. McLACHLAN, B.C., 31/1/99.

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APPENDIX No. 1.

[To Report by Chief Inspector of Collieries, dated 28th January, 1899.]

SPECIAL RULES for the conduct and guidance of the persons acting in the management of the East Greta Colliery, in the district of Maitland, and all persons employed in or about the said colliery, framed in conformity with the provisions of the Coal-mines Regulation Act, 1896, 60 Victoria No. 12.

*Manager.*

1. The manager (or the under-manager when acting for him) shall have the daily supervision of the above colliery, and shall have full command over all other officers and workmen employed in or about the colliery, who are to receive their orders from him, and shall apply to him for instructions as often as may be necessary.

2. He shall comply with the requirements of the Coal-mines Regulation Act, 1896, and shall, to the best of his power, enforce the observation of the said Act, and enforce observation of the General and Special Rules.

*Under*

*Under-manager.*

3. The under-manager shall have the daily supervision and responsible charge of the mine under the direction of the manager, and shall give all necessary instructions to the men and boys in the mine respecting their work, and shall, to the best of his power, see that they comply with the rules and regulations of the colliery, as well as the orders of the manager, and shall visit every working-place in the mine daily, or as often as may be practicable, and see that the air courses and stoppings are kept in a good state of repair, and that an adequate quantity of fresh air is constantly supplied to the men.

4. He shall give immediate attention to any complaints, and shall inspect personally such portions of the mine as are reported to be unsafe or in any way to need his attention.

5. He shall see that a sufficient supply of timber is sent down the mine and into the different districts.

6. He shall see that each miner keeps his working-place sufficiently timbered, and shall suspend at once any miner refusing or neglecting to do so.

7. He shall examine every day the different main and district air currents, and shall see that the furnaces are kept in good repair and carefully attended to.

8. He shall, under the direction of the manager, cause safety-lamps to be used, and naked lights to be excluded where required by the Act.

9. He shall see that the deputies, miners, shifters, and all others under his charge in the mine, strictly and rigidly observe the rules applicable to them, and shall suspend immediately anyone infringing, or attempting to infringe, any rule, order him out of the mine, and report the same to the manager.

*Deputy.*

10. Each deputy shall be informed by the manager or under-manager as to what portion of the workings is to be under his charge; and all persons working in that portion of the mine will be under his direction, and he shall, in the absence of the manager or under-manager, direct the workmen how and where they shall work, and shall see that the rules applicable to them, as well as the orders of the manager or under-manager, are strictly attended to.

11. The deputy or other competent person appointed for that purpose shall be in the mine within four hours before the workmen commence, to enable him to examine the working-places, &c., carefully, and shall ascertain the condition thereof so far as the presence of gas, ventilation, roof and sides, and general safety are concerned, and shall record the result of such examination without delay in a book to be kept at the mine for the purpose.

12. He shall place cross timbers or rails thus, X, or a signal-board, as a signal of danger, at the entrance of every working-place which he may find unsafe, and on his return to the station shall state on his board all places so found unsafe.

13. In any place where there is a dangerous appearance of fire-damp, locked safety-lamps shall be used, and no workman shall be permitted to remain where fire-damp has accumulated in such a quantity as to show a permanent blue cap over the flame.

14. Before safety-lamps are taken into the workings the deputy, or some other competent person duly appointed for the purpose, shall examine the entire lamp, and if all is right, shall lock it for the miner.

15. Should there be any discharge of gas, or any condition of roof from which the deputy apprehends any danger, he shall instantly report the circumstances to the under-manager.

16. He shall report as soon as possible to the manager or under-manager all accidents, dangers, or defects which may occur in his district of the mine, and he shall also so report any accident, danger, or defect to or in any machinery or structure in the mine which may come to his knowledge.

*Wheelers.*

17. The wheelers shall report to the under-manager or deputies if any part of the road or roof has been deranged or is insecure or dangerous.

18. Any wheeler injuring a door or brattice-cloth door, and not immediately reporting the fact, shall be suspended. He shall also report to the under-manager or deputy every morning the quantity and different lengths of timber required for his miners.

19. He shall take in without delay any timber the miners may require, and shall at all times carry out the orders of the manager, under-manager, or deputy, in order to facilitate and promote the work of the mine.

20. Any person neglecting these rules will be liable to instant dismissal or prosecution according to law.

*Onsetter.*

21. The onsetter shall, subject to the directions of the manager or under-manager, have the sole control of the pit bottom and the command of the signal up the pit, and on no account shall he allow any person to interfere with the signals. He shall at all times, when sending up skips of coal, see that none of the coal projects beyond the side of the skip, and shall pay the greatest attention to the signals when men are going to ride, in order that accidents may be avoided. The signals shall be as given in Rule 87.

22. No timber, materials, stones, coal, or other things shall, under any circumstances, be lowered or lifted in a pit while men are being lowered or lifted in it, except such as may be necessary in repairing a pit while the repairs are going on.

23. The onsetter shall not, on any account, allow more than six persons in a single cage, or ten in a double cage at the same time.

24. Any person refusing to leave the cage when ordered to do so shall be immediately suspended.

*Miners.*

25. Any miner, after passing through a door, must instantly close it, and shall not injure a door or leave it open, break down a stopping or brattice, interfere with or obstruct or damage an air-crossing, or an air-pipe, or remove or go beyond a mark or "danger-signal," without orders from the manager, under-manager, or deputy.

26. Every miner shall securely sprag or uphold the coal whilst holing, and shall securely prop up the roof of his working-place so that accidents may be avoided; and should he not be provided with a sufficient quantity of timber he shall cease working and report the same to the manager, under-manager, or deputy.

27. The seam of coal must be wrought strictly in accordance with the orders of the manager or under-manager.

28. Every miner shall in all matters relating to the working of the mine or the safety of the men, obey strictly the orders of the manager, under-manager, or deputy; and no person shall go into any part of the mine other than where he is employed, except by the order of the manager, under-manager, or deputy.

*Door-keepers.*

29. A door-keeper must only open a door for the passage of persons, skips, or animals, and must instantly close the same when they have passed through. He must never allow a door to remain open, or to be propped or fastened back, unless authorised to do so by the manager, under-manager, or deputy.

30. A door-keeper must not leave any door or doors under his charge until the work of his shift is finished, or until another person appointed by the manager, under-manager, or deputy takes his place.

31. Any door-keeper becoming aware of any defect in, or damage to, any door, shall report the same as soon as practicable to the manager, under-manager, or deputy.

*Persons in charge of Ventilating Appliances.*

32. The persons in charge of any ventilating furnace or other ventilating appliance shall not leave the same without the permission of the manager, under-manager, or engine-wright.

33. Furnace-men must pay careful attention to the furnace under their charge; and shall maintain the fire in such a state as constantly to ensure efficient ventilation.

34. The fan and fan-engine shall be carefully attended to by the person or persons in charge thereof, who shall keep the same running at the speed ordered by the manager, so that effect may be given to the provisions of the Act as to ventilation.

35. All persons in charge of ventilating furnaces, fans, fan-engines, or other ventilating appliance, shall immediately report any damage, defect, or derangement therein to the manager, under-manager, or engine-wright.

*Lamp-keepers.*

*Lamp-keepers.*

36. No person, except a person authorised by the manager or under-manager, shall either take himself or give out for use in any mine any safety-lamp.

37. Lamp-keepers must see that every safety-lamp is thoroughly cleaned, properly put together, in safe working order, and securely locked when given out for use in the mine. If any lamp be not returned at the proper time they shall at once report the fact to the manager or under-manager.

38. All persons entrusted with the duty of cleaning any gauze, or other part of any safety-lamp, or with the duty of putting any safety-lamp or parts thereof together, shall at once report any defect therein to the lamp-keeper, or if there is more than one lamp-keeper, then to the head lamp-keeper.

39. Whenever any defective or damaged lamp is received from any person by any lamp-keeper he shall report the fact to the manager or under-manager, and shall cause such lamp to be kept in the state in which he received it until seen by one of them.

40. Every lamp-keeper shall see that all oil, spirit, and other inflammable articles under his charge are carefully and properly stored and used, and that no greasy waste or other refuse is allowed to accumulate in or near the lamp cabin.

*Engine-wright.*

41. The engine-wright, or other competent person appointed for the purpose, shall cause the ventilating fan or other mechanical ventilating apparatus, together with the engines, machinery, and boilers for driving the same, to be properly attended to.

42. The engine-wright, or other competent person or persons appointed for the purpose, shall have charge of all engines, machinery, and boilers used for raising or lowering persons or minerals, or for pumping water, and of all ropes, chains, appliances, or apparatus connected therewith; and of all guides, ropes, chains, conductors, or other appliances in the shafts, and of all other engines, machinery, and boilers in or about the mine. In case he shall discover any weakness, defect, or want of repair therein, he shall, as soon as practicable, cause the same to be repaired and made good, and shall at once report to the manager the fact of such defect, weakness, or want of repair, and also the steps taken to remedy the same.

43. The engine-wright, or other competent person or persons appointed for the purpose, shall make the examinations and report required by General Rule 5.

44. The engine-wright, or other competent person appointed for the purpose, shall cause every rope used for raising or lowering persons or minerals to be securely attached to the drum, so that when either cage is at the pit bottom, there shall be not less than two rounds of rope upon the drum.

45. The engine-wright, or other competent person, whenever a winding rope requires capping, coupling, or splicing, shall superintend the same, and shall see that no spliced rope is used for raising or lowering persons in a shaft.

46. The engine-wright, or other competent person or persons appointed for the purpose, shall see that the fences are fixed and maintained at the top of every shaft, and that the guides, signals, covers, flanges, or horns, appliances, brakes, indicators, fences, valves, gauges, and things required by General Rules 18, 20, 26, 27, 28, 29, 30, 31, 32, and 33, or any of them, are fixed and maintained as therein required; and that the provisions of General Rule 25 are carried out above ground.

47. The engine-wright shall cause bells or other signals to be fixed in every drawing engine-house, connected with the drawing pit bottom, and with every entrance for the time being in work between the surface and bottom of the shaft; and shall cause the board required by Special Rules 23 and 64 stating the number of persons authorised to descend or ascend the shaft at one time, to be fixed and maintained on the pit bank.

48. The engine-wright shall cause each working boiler to be cleaned and examined as often as the manager shall so order.

49. The engine-wright shall cause the code of shaft signals used in moving the cages to be fixed and maintained at the top and bottom of each winding shaft, and at every shaft to which the provisions of Special Rule 57 apply, he shall see that the point named in that rule is distinctly marked on the indicator.

*Engine-drivers.*

50. Every engineman shall attend at such time as the manager may appoint, and as required by General Rule 25.

51. An engineman shall not allow any person to interfere with the engine or machinery under his charge, or to remain in the engine-house unless authorised by those in authority above him. A winding engineman while winding must remain at the handle and must pay particular attention to the indicator and signals, and if he perceives anything wrong must instantly stop his engine and not start it again until the defect is put right or until he receives an order to go on.

52. Every winding engineman before commencing work in his shift, and before any person descends the shaft, shall carefully examine the engine, machinery, drums, ropes, brakes, indicators, and signal apparatus in the engine-house or under his charge, in order to ascertain whether they are safe and in good working order, and shall run the cages at least once up and down the shaft. Where shifts are worked continuously, it shall be sufficient if this rule is carried out at the commencement of the morning shift.

53. Every engineman, unless some other competent person is specially appointed for the purpose, shall keep the engines, machinery, and things connected therewith under his charge, properly cleaned and oiled, and shall see that they are in good and safe working condition. He shall see that the provisions of General Rules 27, 30, 31, and 32 are carried out and observed during his working shift, so far as they relate to engines or machinery under his charge.

54. Every engineman must diligently and carefully attend to the working of the engine and machinery under his charge. He must examine such engine and machinery before commencing work, and if he becomes aware of any weakness or defect, or apprehends any danger, he must, as soon as practicable, inform the manager, under-manager, deputy, or engine-wright. He shall not alter a safety-valve without leave from the manager, under-manager, or engine-wright.

55. Every engineman, in addition to the duty in this respect imposed on the engine-wright, shall see that any ropes attached to the drum of the engine under his charge are securely attached, and so that when either cage is at the bottom of the pit there shall not be less than two rounds of rope upon the drum.

56. Every winding engineman, whenever the engine under his charge ceases working, shall see that the cages are left so as not to impede the ventilation.

57. When men are being raised in shafts where the winding apparatus is not provided with some automatic contrivance to prevent overwinding, the cage shall not be wound up at a speed exceeding 3 miles an hour when and after it has reached a point 10 feet from the top of the shaft, as required by General Rule 27, and such point shall be marked on the indicator.

58. The signals given in Rule 87 shall be carefully observed by the engine-man.

*Banksman and Assistants.*

59. That the banksman shall, subject to the directions of the manager, under-manager, and engine-wright, have the control of the pit top, and the command of the signals down the pit and to the engineman.

60. That the banksman shall be responsible for the state of the pit top, and shall see that the frames and the surface near the pit mouth are kept free from coals, stones, or dirt.

61. That at least one banksman and one onsetter, or other person appointed by the manager, under-manager, or deputy for that purpose, shall be at their respective posts at the proper time every morning, to give the proper signals, and to see the men and boys carefully into and out of the cages at the top and bottom of the shaft.

62. The banksman must be at the drawing shaft at such times as the manager or under-manager may appoint. He shall not allow a person to descend or ascend until the cages have been once run up and down the shaft, but where continuous shifts are worked it shall be sufficient if this is done at the commencement of the morning shift.

63. That the banksman shall not permit strangers or persons not employed in the mine to descend the pit or remain upon the bank, unless authorised by the manager; and shall caution strangers descending to keep carefully within the cage until they are fairly landed. He shall not allow an intoxicated person to descend the pit.

64. That the banksman or onsetter shall not allow more than six persons in a single cage, or ten persons in a double cage; nor shall any person be allowed to ride with or against coals, slack, dirt, &c. Neither shall any person, unless specially

specially allowed by the manager, under-manager, or deputy, be permitted to carry any tools, implements, props, rails, or such like in his hands whilst so riding; but the same shall be securely placed in the cage, skip, or basket, so that no danger may exist of their falling out during their ascent or descent, or of their coming in contact with anything in the pit; and no person shall be allowed to get upon or off the cage at the pit top unless it be standing upon the catches or keeps, or at a mouthing, without the signal first being given and responded to.

65. The banksman must frequently observe the pit top pulleys, ropes, chains, cages, and landing apparatus during working hours, and whenever he becomes aware of any weakness or defect therein, or in anything belonging to the shaft, or any engine, machinery, or winding tackle, he must immediately inform the engineman, and the manager, under-manager, or engine-wright, so that it may be repaired.

66. The banksman must report to the manager or under-manager any disobedience on the part of the miners or others.

67. The signals given in Rule 87 shall be carefully observed by the banksman.

*Miners and all other persons employed.*

68. No person acting in a place of trust shall depute anyone to do his work without the sanction of the manager.

69. No swearing or fighting is allowed in or about the mine, and no intoxicating liquors shall be permitted in the mine without the consent of the manager.

70. Any person employed in the mine shall inform the person in charge of the workings of the existence of any choke or fire-damp, of any insecurity of the roof, shaft, or any other part of the workings, or of any air-door being damaged or left open, immediately on its being observed by him.

71. No person shall be permitted to carry a naked light attached to the cap or hat on his head whilst handling explosives, or in charging holes for blasting.

72. A safety-lamp must be frequently examined, and if a lamp shows a blue cap, the person using it must carefully draw down the wick with the pricker, cease working, leave the place, and report the same to the manager, under-manager, or deputy.

73. No person shall place a safety-lamp on its bottom unless it is necessary to do so for the safe performance of any particular work, or unless authorised by the manager, and in all cases the lamp shall be hung or placed at least 2 feet from the swing of the pick, hammer, or other tool.

74. No person shall leave a lighted candle or other light in any part of the mine when leaving his work.

75. No person shall try the wastes or workings for fire-damp with a naked light, and no person shall smoke or take a naked light, tobacco, pipe, cigar, cigarette, lucifer matches, or candle, where safety-lamps are ordered to be used.

76. No naked lights shall be allowed or taken beyond any danger signal where gas exists.

77. No person shall wilfully kindle a feeder of gas, or negligently have the gauze of his safety-lamp full of fire, or unlock the lamp, or unscrew the gauze, or blow out the flame, or light tobacco or other substance at the gauze, or damage or improperly use the lamp, or leave it in the works, when he has ceased using it.

78. Any person discovering any stoppage or derangement to ventilation, injury to an air-crossing, door, regulator, sheet stopping, brattice, or air-pipe, or observing any injury to or obstruction of an air-course, shall immediately give notice to the manager, under-manager, or deputy, and to any person or persons whose safety may be endangered thereby.

79. Any person passing through a door or sheet must instantly close the same, unless it is a door or sheet ordered to be kept open. No person shall, without authority, remove any caution board, notice, or danger signal, or pass any danger signal, caution board or fence.

80. In case of a shot missing fire the workman shall place a danger signal at the entrance to his working-place, and shall immediately report the same to the manager, under-manager, or deputy.

81. Every miner or other workman in charge of any working-place, before commencing work, and at intervals during his shift, shall examine his working-place, and in case any danger is observed shall at once report to the manager, under-manager, or deputy.

82. No person shall leave coal, slack, or other material so as to impede the ventilation; nor leave a skip or other obstruction in the air-current.

83. Every horsekeeper shall see that no animal under his care is allowed to go to work while in an unfit state, and shall report to the manager, under-manager, or deputy, any injury received by any animal.

84. No person shall wilfully injure any animal whilst in his charge, or permit it to receive injuries by his wilful act or negligence, and shall report immediately to the horsekeeper or a deputy any injury received by such animal while in his charge.

85. No person shall take a horse on to or travel along any incline or plane, either in the mine or on the surface, which is self-acting or worked by machinery, while it is in motion, without special instructions from an officer of the mine.

86. Every person in charge of any animal shall immediately report to the manager, under-manager, or deputy, in case he finds such animal cannot pass along any road without rubbing against the roof or timbering; and no person shall, unless otherwise authorised, give his horse into the charge of any other person than the horsekeeper at the stables.

*Shaft Signals.*

87. The following signals (with such additions as under special circumstances may be ordered by the manager) shall be carefully observed by the engineman, banksman, onsetter, and other persons employed at this Colliery:—

One knock—to go on.

One knock—to stop when the engine is in motion.

Two knocks—lower down.

Three knocks—When any person is going to ascend or descend.

One knock—in reply before any person is allowed to get into the cage.

Four knocks—to lower slowly.

Five knocks—to ascend slowly.

88. Every person, when on the pit bank, or while about to descend the shaft, shall obey the orders and directions of the banksman; and every person, while in or about the pit, or while about to ascend the shaft, shall obey the orders and directions of the onsetter.

89. No person shall improperly use any signal, signal wire, or signal apparatus.

90. No person shall get into the cage after the authorised number is in, or if forbidden to do so by the banksman or onsetter.

91. Every person who shall couple or fasten any skip to any other skip, or to any rope or chain shall see that such coupling or fastening is made secure.

92. Before any person moves a skip in a bord he must see that a safety-block is at or near the entrance of the bord, and in good order and set across the rail.

93. All persons employed in the mine shall be under the control of the manager, under-manager, and deputies, and shall at all times obey their lawful commands.

94. Any person committing a breach of any of the foregoing Special Rules is liable to be instantly dismissed.

END.

Name of the Mine—East Greta Colliery. Where situated—Near West Maitland. Name of the Owner—East Greta Coal Mining Company, Ltd. Name of the Manager—Azariah Thomas. Name of the Under-Manager—Henry Cartwright. Name and address of the Inspector of Mines of the District—J. Dixon, Newcastle.

CERTIFICATE OF SPECIAL RULES, EAST GRETA COLLIERY.

AZARIAH THOMAS, Manager.

I HEREBY certify that the above copy of Special Rules has been shown to my satisfaction to be a true copy of the Special Rules which at this date are established under the Coal Mines Regulation Act, 1896, for the above-named mine.

30th day of April, 1897.

(Signed) JOHN DIXON, Inspector of Collieries.

APPENDIX 2.

## APPENDIX 2.

[To report by Chief Inspector of Coal-mines, dated 28th January, 1899.

1898.

(Second Session.)

Legislative Assembly, New South Wales.

## DUDLEY COLLIERY EXPLOSION (REPORT OF THE COURT OF INVESTIGATION ON).

Printed under No. 4 Report from Printing Committee, 29 September, 1898.

## REPORT OF THE COURT OF INVESTIGATION.

Sir,

On the morning of the 21st March, at 9 a.m., an explosion took place at Dudley Colliery, in consequence of which fifteen men lost their lives. A Coroner's inquest was held subsequently on two of the bodies which had then been recovered. The taking of evidence extended over fourteen days, and fifty-one witnesses were examined. The verdict of the jury was to the effect that the two men, Thomas Dorrity and John Benson, met their death in the Dudley Colliery on the 21st March, 1898, from carbon mon-oxide poisoning, and that there was not sufficient evidence before them to determine the cause of the explosion. They added :—

“ We consider the natural ventilation insufficient and unreliable, and that the artificial ventilation of the Dudley Mine is quite sufficient to ventilate the said mine, providing air-courses are in thorough order and bratticing is carried up to each working face.

“ We consider that sufficient examination was exercised for the safety of the workmen, according to Rule 4 of Part 2 of the Coal Mines Regulation Bill (referring to the deputy's inspections); but we consider a greater margin should be allowed for a more thorough inspection of the whole mine at all times, and with station farther back from the working faces.

“ We consider the question as regards naked lights a matter between management and inspection.

“ We are of opinion, according to evidence, that all precautions necessary for the safety and comfort of the workmen were attended to by the Management, with the exception of Rule 1 of Clause 47, Part 2, of the Coal Mines Regulation Bill, referring to ventilation being constantly produced, of which we consider ourselves unable to interpret.

“ We consider that the Dudley disaster was quite unexpected, as not sufficient reports of danger were made to the Management prior to the explosion.”

Owing to a fire that manifested itself during the search for dead bodies, it was deemed necessary by those who undertook the management of exploring operations after the explosion to temporarily seal the pit down. This was done on 24th March, and it was unsealed on 17th June.

I received an appointment in June, under the hand of the late Secretary for Mines, Mr. Sydney Smith, to hold an investigation into the causes of the explosion, under the provisions of Section 23 of the Coal Mines Regulation Act of 1896. As the indications seen immediately after the unsealing of the pit pointed to a great confusion underground, and five bodies were not yet recovered, it was decided to postpone the opening of the inquiry until the hitherto unexplored districts had been opened up.

In the meantime, after the last body had been recovered, I spent the greater part of one day in the pit in company with Mr. Atkinson, Chief Inspector of Coal-mines; Mr. John Dixon, an Inspector of Collieries; Mr. Humphreys, Manager of the Dudley Colliery; and Mr. Turnbull, Manager of the A. A. Company's Colliery, who was then superintending the opening up of the mine; and I visited the chief points of interest in connection with the explosion.

The Court of Investigation was opened on Monday, 15th August; and sittings for the taking of evidence were held on thirteen days, when forty-five witnesses were examined orally. I used as exhibits the depositions of various persons who had been called at the Coroner's Inquiry, but whose evidence was not of sufficient importance to warrant the expense of bringing them to the Court by summons. [Appendix C.]

The following persons appeared before me representing various interests :—

Mr. W. H. Baker, Solicitor, appearing in the interests of Mr. Hugh Humphreys.

The Hon. Alexander Brown, M.L.C., appearing for the proprietors of the Dudley Colliery.

Mr. James Curley, Secretary of the Colliery Employees' Federation, appearing on behalf of that Federation, and also for some of the relatives of the deceased.

Mr. A. A. Atkinson, Chief Inspector of Coal-mines, appearing to watch proceedings in the interests of the Mines Department.

They were afforded the opportunity of cross-examining witnesses, and, at the conclusion of the evidence, of addressing me on any matter they might think pertinent to the inquiry.

No evidence was obtainable as to the circumstances leading up to the explosion, inasmuch as no person survived who was in the mine at the time of the disaster; but a number of witnesses gave evidence as to the general condition and management of the colliery; of its examination (immediately after the explosion, and also after the unsealing in June) as to the presence of fire-damp; the finding of the bodies of the men who were killed; and there is no reason to suppose that any evidence which is material to the inquiry has been withheld.

Upon the facts so disclosed, I have the honor to submit my Report, under the following heads :—

- (1.) Description of the Mine.
- (2.) The Management and Working of the Mine.
- (3.) The State of the Mine just before the Explosion.
- (4.) The Explosion and its Results.
- (5.) Cause of the Explosion.
- (6.) Conclusion.

## (1.) Description of the Mine.

The Dudley pit is situated some few miles south of Newcastle, in the locality known as Redhead. Sinking operations commenced somewhat more than nine years ago. There are now two shafts—the down-cast, 624 feet below the surface, and the up-cast or fan shaft, 553 feet deep. The coal is bituminous in character, and, as is general in the Newcastle district, it is the Borehole seam that is being worked. The height of the seam is 6 feet 3 inches, and it is worked to an extent of 5 feet 9 inches, 6 inches being left in the roof. Above the coal is a band, 2 feet 6 inches in thickness, consisting of rotten shale and ironstone. In places where the shale has not fallen the roof is supported by props; but falls have occurred from time to time in spite of these precautions. The mine as a whole is dry and dusty, more particularly so in Nigger's heading and the headings to the right of the second right main headings. The district to the left of the last-mentioned headings is wet. The main roads are watered, but it was admitted to be done more for the sake of convenience in travelling, and it is obvious that to water the roadway and to omit the sides where the fine dust collects, would be useless as a check upon the spread of an explosion. There is a rise, generally speaking, in the pit from the down-cast towards the up-cast shaft. The area that has been worked up to the present is acres. The plan appended hereto, and marked “A,” will show the main features of the mine; the crosses with figures denoting the places where the dead bodies were found; the pencil arrows showing the directions of force or flame as deposed to by different witnesses; the small ink arrows giving the direction of the air-current. The lines coloured blue are the intake airways, those in red the return.

## (2.) The Management and Working of the Mine.

The system of working is what is known as the “pillar and bord”; the wider oblong spaces on the plan indicate the pillars, and the narrow the bords. The mine, when working, has always given off fire-damp, more or less, especially in the winning places; and when the connection was being made between the two shafts, it was found advisable by the Management to introduce safety-lamps for that particular work. In recent years, however, naked lights have been used throughout the mine, except during the deputy's inspections, when safety-lamps are used. The working places have always been bratticed up to the face, even prior to the existing Coal Mines Regulations Act, and when it was not compulsory; but,

but, nevertheless, numerous instances were recorded by witnesses of the presence of fire-damp in an inflammable state manifesting itself by igniting at the naked lights of the men. The pit is ventilated by a fan situated at the mouth of the up-cast shaft, which usually runs when the mine is at work, at a speed of from forty to forty-five revolutions to the minute. There are five distinct ventilating districts, and the main intake current is distributed throughout the workings by means of splits. It has been the custom, when there were no men in the pit at the week end, to stop the fan on Saturday and Sunday, and, should all the men be going to work on Monday morning, to start it again on Sunday night. After the men had come out of the pit at 4 p.m., the fan would be idle daily until 9 p.m., when it would again be started—some hour and a half before the shiftmen went down.

**Ventilation.**

**Stoppage of fan**

**Inspection.** The method of inspection under Rule 4 was as follows:—

**Stations.** It appears that since 1896, in addition to the miners who were working on contract, shiftmen were employed on day-wages in getting coal at night-time. Rule 4 provides, for the purpose of inspection, that a station or stations shall be appointed at the entrance to the mine, or to different parts of the mine, and no workman shall pass beyond any such station until the part of the mine beyond that station has been examined in the prescribed manner.

Section 46 of the Coal Mines Regulation Act provides for the division of a mine into parts, but there is no evidence that the Dudley pit has been divided in accordance with that section. As a matter of fact, at Dudley a station has been established at the bottom of the down-cast shaft, and beyond this point the miners on contract may not pass in the daytime till they receive the deputy's permission. The shiftmen and water-bailers, on the other hand, were in the habit of passing this station before any inspection of the mine had been made, and travelling with an intake current of air would wait at a flat or station in their respective districts for the deputy's report. At night the deputy would go down the pit half an hour before the men, and examine the working places in each district where the men were to work, travelling with the air-current. If he found gas, his duty was to remove it before the men went in to that working-place; if all was safe, the practice was to mark the date in each bord or working-place. After this inspection he would meet his men at the station for that particular district, make a verbal report to them as to the condition of the district, and set them to work, and subsequently make the prescribed entry in the deputy's book. Thus the men would very often be at work at their places before the deputy had made his report in his book in accordance with the Act. Later on, in the early hours of the morning, he would make a second inspection, as provided for in Rule 4, and would meet the miners going down at 7.30 a.m. at the station near the bottom of the down-cast shaft. The old workings were not examined unless the ventilation going through them subsequently passed through a district where men were at work. The deputy's duty was further to replace immediately all brattice that was disarranged, and convey to the manager all information which he had with regard to the presence of gas and other sources of danger. There was a corresponding obligation imposed on all persons employed in the mine by the Special Rules of the colliery to report to the person in charge of the works the existence of fire-damp. In practice, it would appear from the evidence that the deputies recorded in their book the place and circumstances of their finding gas in the course of their inspections, but the books do not show any entry of an ignition of gas having taken place during the ordinary working hours. Many of the miners admitted that they made no report of the presence of gas which they experienced from time to time; some, indeed, stated that they did report such ignitions to the deputies, but the latter when so informed seem to have neglected to make these matters known to the manager. I shall have occasion to refer to these matters in detail later on.

**Reporting presence of gas**

### (3.) *State of the Mine just before the Explosion.*

The places had been balloted for by the miners on 17th March, and Monday, 21st, was to be the first day of working under the new arrangement. Operations had been suspended in Nigger's heading since the previous October. On the 18th March some men had been at work laying rails in that part, in pursuance of the intention to resume work there immediately. In the second left district, Bob's heading had recently been worked by night, and Star's heading by day. Work had also been carried on in the second right district. On various occasions since the beginning of the year fire-damp in a more or less inflammable state was proved to have been given off both in the face of the second right main headings and in the bords contiguous thereto; but in the previous ten days it had been detected in Bob's heading, in a bord opposite to the spot where the body of Hindmarch was subsequently found, and also in the last unholed bord, marked "AO" on the plan.

**19th March.** The men came out of the pit on Saturday morning, the 19th. Up to that hour nothing unusual was noticed, nor was there any indication of the subsequent explosion. The fan, according to the usual practice, remained idle from then until Monday morning; it was to start at 6 a.m. that day. There was, however, some uncertainty as to what hour it did commence to work, and I have come to the conclusion that the time was undoubtedly later than usual. However, by 6.30 its speed was somewhere about 42 revolutions to the minute, thereby providing for a current of air to the extent of 100,000 cubic feet entering the mine every minute. And it was stated by several witnesses that this volume of air was sufficient to dilute and render harmless all noxious gases with which it came directly in contact; that although there might possibly be some accumulation of gas that morning in consequence of the fan having been idle for forty-seven hours previously, yet that current of air was ample, assuming that the brattice and ventilating apparatus generally were in proper order, to clear the mine of all noxious gases in less than one hour.

**21st March.**

**Duties of workmen.** Young was the examining deputy for the day. His work would take him down the pit about 7 o'clock. Towards 7.30 the other men descended. Amongst them were Hetherington, the deputy, and Hindmarch, the underground manager. The two deputies carried safety-lamps when last seen at the pit-mouth that morning; the other men, including Hindmarch, had naked lights. Benson, the pumpman, had been engaged at the pump. Hetherington had charge of a gang of men in Nigger's heading. Young would be in charge of the three water-bailers, Rudge, Jones, and Cook, whose work was in the left of the second right-hand headings. In the second right return airway there was a fall of roof some four stentons in by of the up-cast shaft. Haddon and Mowbray would be employed there filling skips, which McDougal wheeled round to Price and Dunn, who, in their turn, disposed of the contents in the stow-bord behind the up-cast shaft. Hetherington would probably examine the district called Nigger's heading for his men. Young would first examine the district where the water-bailers were about to work, and according to practice place the date, in chalk, upon the working-faces. Having disposed of them he would probably proceed with the examination for the other men. After completing this preliminary inspection, Young had some work to do near where his body was ultimately found. There would be then, some hours later, a second inspection provided for by the Act. Hindmarch's duties took him nowhere in particular on that morning. In all fifteen men were in the pit at 9 o'clock, and as far as is known there was to be no shot fired that day, nor has any evidence been obtained since to suggest that a shot was fired before the explosion took place. Two youths, Croker and Parsons, were down below for a short time that day, returning to the surface just before 9 o'clock. About 8.45 Green was seen by Croker at the cross-cut end, and Dorrity in charge of a horse at the pit-bottom. None of these fifteen men were seen alive again.

### (4.) *The Explosion and its Results.*

**Effect of explosion.** At ten minutes past 9 there was a loud report, and quantities of dust and dirt were forced up both of the shafts. These indications were noticed to proceed from the up-cast shaft some few seconds earlier than from the down-cast. At the up-cast the result was that the covering of the shaft was blown away and a door of the fan chamber was broken, and the timber baulks, on which rest the pulley legs, were plastered with mud on the underside. At the down-cast the cage, weighing 22 cwt., which was at the pit-mouth at the time, was thrown upwards some 23 feet, the chain of the cage was broken, some sheets of iron were blown off the roof, and dust and small coal were emitted in large quantities. The cage at the shaft-bottom was wrecked, and the guide-ropes were broken. The exploring parties descended the pit in the course of that same day. At the shaft-bottom there was evidence of very great force travelling outby; the ventilation was everywhere disarranged. Up to the 24th ten dead bodies had been recovered, but owing to the presence of what was deemed to be a fire it was decided to seal the pit down.

**Up-cast shaft.**

**Down-cast shaft.**

Up to that point the evidence indicated that the force had proceeded chiefly from the left-hand side of the mine, and it was thought by some that Nigger's heading was the initial point of the explosion. Since the unsealing of the pit in June, most parts of the colliery have been carefully and minutely explored, and further investigation has led the majority of the witnesses who offered an opinion on the matter to locate the starting-point somewhere on the right-hand side of the mine. Indeed, not only is there a difference of opinion as to the inference to be drawn from the facts disclosed, but in more than one instance there is a conflict as to the evidences of force. Moreover, thousands of tons of fallen roof were found after the pit had been reopened, and it was proved that many of these falls had taken place after the shafts were unsealed. The displacement of air so occasioned would have the same effect upon stoppings as the explosion itself. Care is therefore required in endeavouring to trace the course of the explosion to avoid attributing to the original force damage which has been caused subsequently.

After



After due consideration, the following are the conclusions I have arrived at as to the indications of force :—

Proceeding first along the main narrow bords intake airway from the down-cast shaft, we find a set of full skips near the overman's cabin, which had evidently been blown along the road some distance by a force travelling outover. At the first over-cast the wall on the left-hand side was standing, that on the right bore evidence of having been acted upon by two forces, one travelling outby, the other proceeding from the back heading of the first right-hand heading. Of the stentons between the first over-cast and the cross-cut, three were standing, the stopping of the second going inby being blown into the return, that is from right to left. Opposite that stenton a set of loaded skips were standing; some of these had been blown against the right rib, indicating a force from left to right. Opposite the third stenton, which was standing, was another set of skips. Some of the skips in the middle of this train were forced against the right rib. Three skips at the rear, that is on the inby side and just opposite to the first cut-through, were spread out and partly turned round in the direction of the down-cast shaft. At the cross-cut the door marked "D" on the plan had been blown inover. Here again was a set of skips standing; those actually opposite to the cross-cut opening being moved against the right rib as if a force had come outby from the cross-cut. The first skip of this set was tipped on end and blown outby. Either the sixth or seventh stenton was standing, but with that exception all stoppings between the narrow bords from the cross-cut, and as far as the faces of the main narrow bords, were blown into the return. Standing opposite to the second cut-through was another set of skips, the rear skips being turned round from right to left, in a similar manner to those at the first cut-through. The second over-cast shows a force from left to right, the bricks being blown outby, and the timber from left to right. At the entrance to the second left headings there is a drift of dust driven from the heading into the main narrow bord. Yet again, Mr. Humphreys says that some of the timber has not yet been recovered, and the only part hitherto unexplored where it can possibly be found is the return airway of the second left-hand heading. The door of the first stenton inby of the second over-cast was blown towards the left, and its remains were found in the return of the second left-hand headings. The third over-cast affords no clear evidence. We find the bricks are blown into the return towards the left, and some of the timber was found in the intake of the second right-hand headings to the right. Still travelling inby of the third over-cast, the stoppings to the right of the narrow bords are blown to the right; the first stopping has been blown to the right with some force, inasmuch as some bricks were found 44 yards away in that direction. The stentons further inby are fallen, but as no part of the stoppings has been found in the intake it is fair to assume that the force which must have displaced them was from left to right. Travelling along the main narrow bords return inby from second over-cast, the first two stoppings on the left are blown from right to left; the third was fallen.

There are indications of flame in the stentons, both inby and outby of Star's heading.

Going along Star's heading there is a general indication of force and flame in the bords on either side of the heading, having travelled from the main narrow bords. In some bords the brattice has been blown up against the left rib, and has been subjected to great heat. The flame has travelled down the bords on the left towards the second left-hand headings. From the end of Star's heading to where Hindmarch's body was unearthed there is no evidence of flame, as the roof has fallen. In the bord to the right of Hindmarch the brattice-cloth is torn. Some props in the bord to the left show signs of flame having travelled towards the second left headings. From this point, generally speaking, there is evidence of flame, as seen by scorched props and coke-dust travelling towards the second left. In the going bord at the fourth pillar, down from Star's heading, a full skip has been driven some distance off the flat in the same direction. In the second left-hand return, the first stopping inby was standing, the second has fallen, and the third was blown into the intake.

In a bord directly opposite to the third stenton, and contiguous to the intake, some bricks were found which had been blown 20 yards from that stenton. Between the second and first left headings, coke-dust and other signs of flame are to be met with. The stoppings between the first left-hand headings have been blown from right to left with great force, the bricks of the first, second, and third being embedded to a depth of 3 or 4 inches in the opposite pillar.

Returning again to the junction of the second left headings with the main narrow bords, travelling outby, in each of the three cut-throughs there is evidence of flame, and in the first cut-through inby of the first over-cast the tram of a skip was found close to the main narrow bords, some 20 yards inby the skip itself was found. There are indications that it had been loaded, and coal was lying about in the vicinity. Just inside this heading were also found the bottom of some empty casks, the other portions lying on the inby side of this skip.

Taking the second right main headings, going inby, the stoppings between the two headings are all blown from right to left, with four exceptions—that is, the third, fourth, seventh, and ninth, which are standing. The fourteenth stenton shows very strong force from right to left, the bricks of the stopping being embedded in the opposite pillar. The stoppings on the left-hand side of the intake do not present a uniform appearance. As far inby as the fan-shaft they are blown from left to right, inby of the fan-shaft many are standing; those which have been displaced are blown from right to left. On the flat at the first going bord on the left side of these headings a skip has been blown inover. Of the stoppings in the first going bord to the left, the first on the left is standing, that on the right is blown to the right. The stoppings on either side of the next two headings are blown right and left respectively. Further on inby of the second going bord a skip has been blown out-over. In the going bord the stoppings of the first and second headings have all been blown to the left. In the third heading the left stopping is blown left, and the canvas stopping on the right is standing. From the main narrow bords the force has been towards the first going bord, and from the face of the second right headings the force is also towards that bord. In the whole of this district there is no evidence of flame, and the force is only slight.

Returning to the third over-cast, and traversing the second right-hand return, the first, second, and fourth stoppings on the right inby are blown into the return, and a door on the second pillar behind the up-cast shaft has been blown towards the return. The first stopping on the right inby of the up-cast and such others as can be traced have been blown into the return.

Taking next the bords off the second right-hand return, at the inner bord inby where Young's body was found, a skip has been forced inover. From this spot to the face of the heading there is no sign of force or flame, and there have been no falls. Travelling along the face, there are no indications between where Young's body was found and bord 21, as the roof has fallen. In the neighbourhood of the latter bord a skip has been tipped in the direction of the main narrow bords, and props in that vicinity indicate that flame has travelled outby. Between this point and the stow-bord the directions of force and flame are very conflicting—sometimes inby, at other times outby, and occasionally travelling opposite directions in two parallel bords. Going from the stow-bord towards the main narrow bords, the same conflicting evidences of flame are encountered.

The body of Cooke when discovered was lying a pillar's distance from his water-tub. Haddon, Rudge, and Jones were found nearly 70 yards away from their respective working-places, and Mowbray some 35 yards. The rest all died close to their work. The immediate cause of death of every man whose body was examined *post-mortem* was attributed to carbon mon-oxide. In some instances the bodies were burnt or injured by falls of roof, which injuries might in themselves have brought about the death of the individual in the course of a few days had not the effects of after-damp immediately supervened. A detailed account of the circumstances surrounding the death of each man will be found in Appendix "D."

#### (5.) Cause of the Explosion.

All the witnesses were in substantial agreement that the explosion has been caused by the ignition of fire-damp at a naked light; that the quantity of gas was probably not large; but that the explosion has been intensified and extended by the action of coal-dust. The initial explosion must have stirred up some fine dust, which in its turn has been inflamed and exploded, thus leading to a series of almost simultaneous explosions. As to the seat of the explosion, there is much difference of opinion. Messrs. Atkinson and Humble make Hindmarch's light the starting-point; Mr. Croudace agrees with them—that the mine fired on the left-hand side, but does not actually say where. The Brothers Dixon, and Messrs. Humphreys, Henwood, Ross, Brown, and Mason say it originated on the right-hand side, the witnesses varying in making Young or Haddon or Price the initial point of the disaster, or leaving the matter entirely at large. Messrs. Turnbull and Thomas declined to commit themselves to either side. So long as it is established that this was a fire-damp explosion, the fixing of the exact point of ignition becomes a matter of secondary importance; and although there are difficulties in the way of adopting either theory, the balance of probability to my mind is in favour of the explosion originating at Hindmarch's light. From Hindmarch the general direction of the explosion was across the second and first left-hand headings, through the pump-drift, and up the down-cast shaft. Portion of this force was diverted when meeting the second left headings, and after driving the stenton stoppings into the intake, it has travelled along the intake and blown the second over-cast into the main narrow bords. Here the force has again subdivided after striking against the fast wall of the main narrow bords, part of it travelling inby has blown the door in the first stenton into the return, as described, thus allowing a

portion of the explosion to travel along the return. As the force travelled along the main intake, it found a partial escape into the third cut-through. Continuing in by, it has distributed itself left and right through the stoppings on either side, thus reaching respectively Star's heading and the headings to the right of the main narrow bords. As it approached the face the force was gradually dying out, and in its last effort travelled against the air from the face of the main narrow bords to where the two air-currents met in that bord (No. 54). Returning now to the main narrow bords at the second over-cast. At this point the remainder of the force of the explosion took a direction out by, finding a partial escape at the second and first cut-throughs. In these headings to the right of the main narrow bords, the explosion has travelled in different directions, finding an outlet partly at the first right headings, partly at the up-cast shaft, and also through the stoppings off the return of the second right-hand headings, eventually crossing these last-mentioned headings somewhere near the spot where Rudge and Jones were found; then travelling with slight force against the air and along the working-faces as far as bord 54, and out by as far as the second going bord.

The fact of dust issuing from the up-cast shaft earlier than from the down-cast does not assist us, for that is equally consistent with either theory. Again, the evidences of force and flame in the second right district are so contradictory as to afford little help in themselves.

Right-hand  
side theory.  
Difficulties.

- The following seem to me strong objections to accepting the view that the mine fired on the right-hand side:—
- (i) The evidence of force having moved the second over-cast from left to right, and having carried a skip and casks along the first cut-through, is inconsistent with the idea that the explosion entered the main narrow bords from the right-hand side, and no explanation that has been offered has removed that difficulty from my mind.
  - (ii) If the explosion had originated on the right, one would expect a greater exhibition of force than the evidence affords, in the stoppings between the second right main headings; and some evidence of flame or force at the faces of the same headings.
  - (iii) The fact that all the men on the left-hand side were found close to their work, whilst on the right-hand at least five had travelled some distance from their places before they succumbed, suggest that those in the right heard the sound of the explosion, and, being alarmed, had dropped their lamps, and had had sufficient time to travel in three instances as much as 70 yards before they were overcome. Such an occurrence would not be probable if the explosion originated some 200 yards away, when the sound and force would reach them almost simultaneously.

On the other hand, the left-side theory presents a difficulty. If Hindmarch's light initiated the explosion, one would expect the flame to branch out in all directions when first seeking an outlet. It may be that Hindmarch, before being overcome by after-damp, travelled some short distance towards the second left headings, and that the explosion, after splitting at the second overcast, has returned almost to the starting-point. It was suggested that, although Hindmarch entered to the pit with a naked light, he would be carrying a safety-lamp at the time of his death. To settle this question, I adjourned the Court for a week to give the management an opportunity to make full search in the vicinity of his body and Young's, but up to the last day the Court sat no trace of any lamp or light in either spot had been found.

Cause of gas  
accumulating.

There was, undoubtedly, some accumulation of gas upon which the ventilating current was unable to properly act on that morning. This may have been brought about by a fall of the roof liberating a quantity of gas, or the fall may have disarranged the brattice, and thus caused an accumulation of gas shortly before the explosion, or the brattice may have been disarranged on the previous Saturday in some bord where gas was exuding, and the accumulation of those forty-seven hours may have been uninfluenced by the air-current on Monday morning up to the moment that the naked light came into contact with it. There is no evidence upon the matter, and I can only say, judging from the history of the mine, that the last alternative seems the most probable.

#### Conclusions.

I find that—

- (i) The explosion was caused by the ignition of fire-damp at a naked light.
- (ii) The explosion was intensified by the agency of coal-dust.
- (iii) Evidence did not show what was the approximate quantity of fire-damp, or what the circumstances were under which it assumed an explosive character.
- (iv) Ventilation was not "constantly" produced in accordance with the terms section 47, Rule I, of the Act.
- (v) Inspections were not conducted in accordance with General Rule 4.
- (vi) There was in the mine a quantity of fire-damp, which rendered the use of naked lights dangerous.
- (vii) Locked safety-lamps should have been used at the time of the explosion.

Ventilation

It is manifest, according to the decision of the English Courts in the case of Knowles v. Dickinson (2 E. and E., 705), that it is the duty of the management to keep the fan constantly at work each day in the week, and whether the men are actually in the mine or not, so long as it is being worked as a going concern. The circumstances of that case are very similar to the present one, and the decision seems to me to be directly in point. A prosecution for a breach of the Act in this respect is at the present date barred by statute. However, the following remarks are noteworthy in this connection:—

- (i) The evidence proved that the stoppage of the fan from Saturday till Monday was not the cause of the gas being in explosive state; on the contrary, that the volume of air was sufficient to dilute all noxious gases (assuming the brattice was in proper order so as to enable the current to reach all places where gas did exist).
- (ii) The practice of stopping the fan at the week-end has been common for years to Dudley and other pits without any protest on the part of the colliery inspectors; in fact, the wording of the report of Mr. Inspector Humble, of 31st October, 1896 [Appendix E], reads as if he was then under the impression that the fan need not be worked unless men were actually in the mine.
- (iii) A notice has been issued by the Chief Inspector of Coal-mines since the conclusion of the Coroner's inquest to Mr. Humphreys, drawing his attention to the duty of keeping the fan at work during any temporary suspension of work; and the manager, since that notification, has complied strictly with the terms of Rule I.

Inspection.

As to the method of inspection (Division V, page 24): A station with a deputy bord in accordance with Rule 4 and Special Rule 11, has been established at the bottom of the down-cast shaft. Beyond that no person may pass until the part of the mine beyond that station has been stated by the deputy to be safe (see Rule 4).

The practice with regard to inspection before the miners enter in the morning as above mentioned (see page 3), is strictly in accordance with the rule; but the system in connection with the night-shift is undoubtedly not only irregular, but a breach of the rules. The deputy precedes the night-shift men down the pit by some half-hour; they in their turn pass the station at the entrance to the mine and wait at different places or stations as they have been termed, till they see the deputy. My view of the provision as to stations is as follows:—

Station at  
entrance to the  
mine, or to  
different part  
of the mine.

Where a mine is worked as a whole with one system of ventilation, then one station only is allowable—that is, at the entrance to the mine. If, however, a mine is divided into parts, under the provisions of section 46 of the Coal Mines Regulation Act, so as to make each part a separate mine within the meaning of the Act, then a station may be established at the entrance to each different part. I find confirmation of this view in a passage of the judgment of Mr. Justice A. L. Smith, in *Wales v. Thomas* (16 Q.B.D. 340, page 348).

Therefore, to appoint stations in the various districts of Dudley, as deposed to in evidence, is a violation of the Act in two respects, for—

- (1) Only one station is permissible as the colliery is at present worked.
- (2) That station must be at the entrance to the mine.

With the removal of these various so-called stations from the various flats, the examining deputy will then make a complete inspection of the working-places, &c., and will meet the shiftmen at the entrance to the mine, and sign his report in the same manner as he now does when the miners on contract go to work.

Safety-lamps.

As to Division VII (page 9)—the use of safety-lamps: The evidence shows that from its earliest history the mine has always been giving off fire-damp, and to deal with it effectually it has been necessary to brattice the working-places. The history of the mine during the eleven months prior to the explosion shows that gas had been reported by deputies on sixteen different occasions in various parts of the mine. Miners had experienced ignitions of gas in the faces of the second right headings generally, in the first left, and, during the week previous to the explosion, in Bob's heading and in the bord next to where Hindmarch's body was found. After the explosion a quantity of fire-damp was discovered in the faces of the second right main heading. This might be due to the circumstances attending the explosion, yet since 21st March, we find that, though the faces of the coal have been undisturbed, gas was being still exuded as late as 20th August from the faces of the second right-hand main headings, and up to the end of the same month in the bords abovementioned in Bob's heading.

The

The deputies' books some years back, and after the fan was introduced, show that in different parts of the mine gas was found daily for periods extending over a fortnight [Appendix F]. From the evidence it is clear that it was necessary to have both the fan at work and the brattice erected in order to prevent accumulations of gas. On different occasions when the fan has been working and the brattice disarranged gas has been discovered, and *vice versa*. Some twenty witnesses gave evidence of ignitions of fire-damp which they had experienced. These ignitions may be divided into the following classes:—

- (1.) Those caused by the bratticing being damaged, or not being sufficiently close to the face.
- (2.) Those caused by the firing of a shot.
- (3.) Those caused by workmen going to the face with a naked light too soon after firing a shot.
- (4.) Those caused by a workman's light when drilling a hole.
- (5.) Cases of which no explanation is forthcoming.

Causes of gas lighting up.

Referring to these individually, the first may be dealt with by properly enforcing the provisions of Rule 1 as to ventilation. The means for detecting the presence of fire-damp require the constant attention of those in authority. In many instances the insufficiency of the brattice to carry off the gas should have been found out by the deputies, or, if discovered, should have been remedied. The necessity of strict attention to this part of their duty should be impressed upon the officials.

As to (2): Possibilities of that kind may be avoided by strictly adhering to the conditions of General Rule 12.

(3): May be obviated by more care on the part of the workmen, who, in more than one instance, admitted that they knew they were taking a risk in returning to the face with a naked light before the smoke had cleared away.

There remain, however, a number of instances where an ignition of gas has taken place which could not be accounted for by any temporary defect in an otherwise perfect system of bratticing. These ignitions occurred sometimes in the early morning when the miner first entered his working-place; on other occasions after a temporary absence during the shift. In these cases there was no shot-firing, and the brattice was well up to the face. In most cases the flame was of small extent, with the exception perhaps of Harrison's, the flame in his bord ran back along the broken roof a distance of 12 yards. Nobody hitherto had actually been burnt. Several witnesses treated these flares-up, as they were styled, with great contempt (the manager saying that 99 cases out of 100 there was no necessity to make a special report as the quantity was infinitesimal). The underground manager did not consider a flame 4 or 5 yards long dangerous to workmen. As illustrating the danger attending the lighting of a small quantity of fire-damp, I will refer to the report for 1892 of Mr. Stokes, one of Her Majesty's Inspectors of Mines for the Midland Counties. Referring to fire-damp, he says: "With regard to what quantity might be considered dangerous, a clear proof of what might be the result of igniting a very small quantity of gas is given in the lists of non-fatal explosions, in which is recorded the ignition of a very small quantity of fire-damp at a gate-end lip by a naked light held by a workman. The quantity was so small that the man who ignited the gas was in no way injured, but the flame from the ignited gas passed along a break in the roof and exploded other gas in the goaf and burnt two men working 56 feet away from the point of first ignition. This accident clearly shows that a quantity of gas so small in itself as when ignited not to injure the person igniting it, is yet sufficient to prove dangerous to the mine and persons working some distance from it, due to its flame being extended by gas lying unknown in breaks in the roof."

A number of cases unexplained.

Danger of fire-damp.

The above extract shows that a small quantity of inflammable gas may be a danger to workmen if there are surrounding circumstances of an aggravating nature.

Another element to be considered is the question of coal-dust. The manager says that the whole of the left side of the second right is damp, also Bob's heading and the lower portions of the second left and first left; but the remainder of the mine is both dry and dusty.

Coal-dust.

The Royal Commission on Explosions from Coal-dust in Mines, in their Report published in 1894, are of opinion that the danger of explosions in a mine in which gas exists, even in very small quantities, is greatly increased by the presence of coal-dust; that air and dust with a very small quantity of fire-damp, such as practical people perhaps could not find with the ordinary safety-lamp, would cause violent explosions. Thus what might be a local explosion of a simple character is transformed through the medium of coal-dust into a widespread disaster.

Increased danger from fire-damp.

Moreover, it appears that, from time to time, falls of roof may take place in the Dudley pit, which may either liberate some fire-damp or derange the brattice and cut off from the influence of the ventilating current those parts of the pit contiguous to the damaged brattice. The falls have not hitherto been frequent, yet, as Mr. Humphreys says in his evidence, "the falling of the roof on the brattice is a possibility that has to be reckoned with in the mine. The roof, as it is generally in the mine, is liable to fall at any time, in spite of precautions."

Falls of roof.

Up to the time of the explosion no measures had been taken by dumping the coal-dust to check the spread of a possible explosion.

The existence of these three sets of circumstances, namely,—

- (1.) The ignitions of gas in spite of proper and perfect ventilation;
- (2.) The liability of the roof to fall and derange the ventilation;
- (3.) The presence of coal-dust ready to transmit and intensify a fire-damp explosion,

suggests the question: Was the use of naked lights likely to be dangerous to workmen in the mine about the time of the explosion, and should safety-lamps have been used? My answer is, undoubtedly yes.

The Honorable A. Brown, on the question of safety-lamps, referred me to the Report of the Royal Commission on Accidents in Mines of 1886, where it appears, on page 117, they refrained from prohibiting the use of naked lights in mines giving off fire-damp. But it will be noticed that whilst the Commission do not advise safety-lamps merely because a mine gives off fire-damp, they assume that their adoption is essential when fire-damp is associated with coal-dust; and certainly the trend of expert opinion and legislation during the last ten years in England is to enforce the use of safety-lamps in every mine where fire-damp is found.

Royal Commission, 1886: opinion as to safety-lamps.

Mr. H. D. Greene, Q.C., in his Report in 1890 on the Llanerch Colliery Explosion, advocates legislative prohibition against allowing or using naked lights in a mine, where inflammable gas has been reported within a period of twelve months.

Opinion of Mr. H. D. Greene, Q.C. Mr. Robson.

Mr. Robson, Her Majesty's Inspector of Mines for the South Wales District, in his Annual Report of 1890, states that in his opinion all mines known to produce fire-damp should be worked with safety-lamps of the best description, and all other lights excluded.

Mr. Martin, another Imperial Inspector, holds equally strong views.

Our own local Act, The Coal Mines Regulation Act, 1896, makes it compulsory under Rule 4 to conduct all inspections of the working-places with a locked safety-lamp unless the mine has been absolutely free from inflammable gas for a period of twelve months.

Mr. Martin. Coal Mines Regulation Act, 1896.

The explosives in Coal Mines Order, 1898, supersedes the rule in England which corresponds to Rule 12 of the Coal Mines Regulation Act of this Colony, and indicates that in any mine in which inflammable gas has been found within three months in such a quantity as to be indicative of danger, or which is not naturally wet throughout, no explosive, other than those specially authorised by that order, shall be used. Statistics further show that whereas in Great Britain 1,561 persons lost their lives through explosions caused by a naked light between 1873 and 1893, during 1897 there were only fifteen deaths from the same cause, when 720,000 were engaged and the output of coal was 200,000,000 tons.

Explosives in Coal Mine. Order, 1898.

The Inspectors of Coal-mines, who up to the time of the explosion had not heard of these ignitions of gas detailed in evidence before me, stated that those facts demanded the use of safety-lamps throughout the Dudley Colliery. Mr. Turnbull says: "If you find gas and it lights up you ought to have safety-lamps." Mr. Croudace says: "If gas has given off and the ventilation working and the brattice well up, one should increase the ventilation or use safety-lamps." Mr. Henwood says: "If Harrison's evidence is true, the gas is a danger to workmen."

Opinions of witnesses called.

Mr. Humphreys swore that, with the exception of Harrison's experience, he had no knowledge of gas igniting at naked lamps when the ventilating appliances were in proper order. And in justice to himself, it should be mentioned that many of the men who gave evidence of these flares-up admitted that they failed to report them to the proper authority, and, further, when the matters were reported to a deputy, they were not recorded in any way. Thus the probabilities confirm the manager's testimony. However, I think that the incident Harrison spoke of, and the other circumstance peculiar to this colliery, should have put him upon inquiry and prompted him to use safety-lamps in compliance with Rule 8. Such a matter as a prosecution for breach of this rule is now out of the question, as it is Statute-barred after three months (*see* section 62).

Manager ignorant of the ignitions of gas.

Nor do I think I am justified in making any recommendation as to a prosecution for manslaughter, for the jury at the Coroner's Inquest had before them all the facts of the case, and decided that no responsibility was to be attached to the manager

Prosecution.

manager for the consequences of the disaster. In the first place I cannot say that such a finding was unreasonable, and secondly, I do not think it lies within the scope of this inquiry to suggest criminal proceedings for any offence other than what may be dealt with under the Coal Mines Regulation Act itself.

Future working  
of the mine.

For the future, the use of safety-lamps is entirely a matter for the discretion of the management; responsibility in this respect is removed by section 20 from the shoulders of the inspectors and transferred to the mine officials. And I have no doubt that they will show the same regard for the interests of all associated with the mine as has been exhibited in the past.

Coal-dust.

Side by side with the precautions taken to prevent the ignition of inflammable gas, strict measures should be adopted to prevent the possibility of a small local explosive becoming extensive through the agency of coal-dust, and some method either of removing the dust or of damping it, or both, is essential where the dust exists in any quantity.

Importance of  
reporting  
presence of fire  
damp.

However, the true interests of the mine cannot be effectually safe-guarded unless all concerned strictly comply with the requirements of the Act and the Special Rules. Special Rules 15 and 71 impose upon the deputy and the miners respectively, the duty of informing those in charge of the existence of fire-damp whenever found. The tendency seems to have been for the individual to constitute himself the judge of what should be reported and what not. Mr. Humphreys said that in 99 cases out of 100 there was no occasion to make a special report as the quantity of gas was insignificant. A manager should clearly understand and likewise impress upon those under his control, that every discovery of gas of any quantity must be reported in compliance with the Special Rules under pain of instant dismissal. Had this course been universally adopted throughout the mine, it is possible that we should never have heard of the Dudley explosion.

I have, &c.,

G. C. WADE,  
Sole Commissioner,  
19th September, 1898.

The Honorable Joseph Cook,  
Secretary for Mines and Agriculture.

#### No. 19.

The Crown Solicitor to The Under Secretary for Mines and Agriculture.

Sir, Crown Solicitor's Office, Sydney, 30 January, 1899.

I have the honor to return herewith the papers, numbered as in the margin (98/2,208), forwarded with your letter of the 28th ultimo requesting that one of my officers should represent your Department at the inquest upon the bodies of the men who were killed in the recent accident at East Greta Colliery.

One of my officers attended at West Maitland as requested, when, after a protracted hearing, the jury were unable to agree upon a verdict, and were discharged by the Coroner on the 28th instant.

I have, &c.,

GEO. COLQUHOUN,  
Crown Solicitor.

#### No. 20.

Mr. Inspector Bates to The Chief Inspector of Coal-mines.

Coal-fields Office, Department of Mines, Newcastle,  
31 January, 1899.

Sir,

I herewith enclose, for your information, the official notice of the fatal accident at East Greta Colliery on 18th November last.

I am preparing my annual report, and hope to post it to you to-morrow.

I have, &c.,

THOS. L. BATES,  
Inspector of Collieries.

Noted.—A.A.A., 1/2/99. Records.

Telegram from Mr. A. Thomas to Mr. Inspector Bates.

18 November, 1898.

THREE men entombed in No. 1 tunnel through a fall.

A. THOMAS.

Noted.—T.L.B., 18/11/98. The Chief Inspector of Coal-mines.

Telegram from Mr. A. Thomas to Mr. Inspector Bates.

24 December, 1898.

ONE body found last night. Inquest likely this afternoon.

A. THOMAS.

Noted.—T.L.B., 24/12/98. The Chief Inspector of Coal-mines.

Dear Sir,

East Greta Colliery, near West Maitland, 18 November, 1898.

A serious accident occurred at No. 1 tunnel of this mine this morning, at about 7 a.m. A fall of roof took place in the main tunnel, about 127 feet below the second or bottom level. The timber and rubbish from roof after falling ran down towards face of tunnel and entombed three men, names David Gronow, Bertie Moncrieff, and Stephen Hy. Barnes.

Yours, &c.,

T. L. Bates, Esq., Inspector of Collieries, Hamilton.

A. THOMAS.

Seen.—T. L. BATES, 18/11/98. The Chief Inspector of Coal-mines.

Dear

Dear Sir, East Greta Colliery, near West Maitland, Christmas, 1898.

Another body was found last night at 10.40 p.m., that of Gronow. It was on the right-hand side, about 3 feet from the side, between the sills, with his head inclined a little towards the middle of the tunnel.

The police doctor examined the two bodies this morning and found that no bones were broken in either.

It is thought that we are approaching another body.

T. L. Bates, Esq., Hamilton.

Yours, &c.,  
A. THOMAS.

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No. 21.

The Crown Solicitor to The Under Secretary for Mines and Agriculture.

*Re* Bates *v.* Thomas.

Sir, Crown Solicitor's Office, Sydney, 4 February, 1899.

I have the honor to forward herewith an information to be laid by Inspector Bates in the above matter, and to request that you will inform me of the return day of the summons, when the prosecuting officer will attend to conduct the prosecution. The witnesses required are Thomas L. Bates, David Lewis, Joseph Thompson, Edward Weller. The Under Secretary for Justice to produce depositions taken at inquest, and Sub-Inspector Fowler.

I have, &c.,  
GEO. COLQUHOUN,  
Crown Solicitor.

The information may perhaps be forwarded to Mr. Inspector Bates with instructions to lay the same, notifying me of the day of return of the summons, and summon the witnesses named herein.—A. A. ATKINSON, Chief Inspector of Coal-mines, 6/2/99. The Under Secretary.

Approved.—D.C.McL., 6/2/99. Mr. Inspector Bates.—A.A.A., B.C., 6/2/99. Report herewith.—T. L. BATES, 17/2/99. The Chief Inspector of Coal-mines.

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No. 22.

The Crown Solicitor to The Under Secretary for Mines and Agriculture.

*Re* Bates *v.* Cartwright.

Sir, Crown Solicitor's Office, Sydney, 4 February, 1899.

I have the honor to forward an information herein to be laid by Inspector Bates, and to request that you will inform me of the return day of the summons. The witnesses required are Thomas L. Bates, Azariah Thomas, to produce Special Rules signed by the Inspector of the District, and appointment of Cartwright as under-manager. The constable, to whom Cartwright made a statement of the evidence he could give at the inquest, to produce the statement. The Under Secretary for Justice to produce depositions taken at inquest, and Sub-Inspector Fowler.

I have, &c.,  
GEO. COLQUHOUN,  
Crown Solicitor.

Mr. Inspector Bates may be instructed to lay the two informations herein, notifying me of the return day of the summons; and summon the necessary witnesses indicated by the Crown Solicitor.—A. A. ATKINSON, Chief Inspector of Coal-mines, 6/2/99. The Under Secretary.

Approved.—D.C.McL., 6/2/99. Mr. Inspector Bates.—A.A.A., B.C. 6/2/99.

NOTE.—There are two informations to be laid against Mr. Cartwright, one in regard to Special Rule 3, and the other in regard to Special Rule 7.

Report herewith.—T. L. BATES, 17/2/99. The Chief Inspector of Coal-mines.

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No. 23.

Mr. Inspector Bates to Mr. H. D. Wood, Mines Department.

Sir, Coal-fields Office, Newcastle, 7 February, 1899.

I have been to West Maitland this morning laying information against Mr. A. Thomas and H. Cartwright, of East Greta Colliery, for breaches of the Coal Mines Regulation Act, 1896, and Colliery Special Rules.

The case is set down for hearing on Thursday, 16th February.

I enclose herewith two summonses, requiring the Under Secretary for Justice to produce the depositions taken at inquest held at West Maitland, before Mr. Coroner Martin, on 24th December, 1898, on the body of Albert Moncrieff.

Will you kindly take such steps as will ensure the documents reaching the proper quarter.

I have informed Mr. Atkinson when the case will be heard.

I have, &c.,  
THOS. L. BATES,  
Inspector of Collieries.

Inform Crown Solicitor that the cases are set down for hearing on the 16th instant.—H.B.S., for U.S., 8/2/99. Crown Solicitor informed, 9/2/99. Return the attached notice of service of summons to Mr. Inspector Bates.—Chief Inspector of Coal-mines, 11/2/99.

## No. 24.

## Mr. Inspector Bates to The Chief Inspector of Coal-mines.

East Greta Colliery Prosecutions.

Sir,

Coal-fields Office, Newcastle, 9 February, 1899.

Would it not be desirable for the Department to produce the letter from Mr. A. Thomas, dated 1st October, 1896, nominating himself as manager, and Henry Cartwright as under-manager of East Greta Colliery.

I have a copy of the Special Rules signed by Mr. Inspector Dixon, which can be produced as evidence.

I have, &amp;c.,

THOS. L. BATES,

Inspector of Collieries.

## No. 25.

## Mr. A. Thomas to Mr. Inspector Bates.

Dear Sir,

East Greta Colliery, near West Maitland, 1 October, 1896.

I herewith appoint myself as manager of the East Greta Colliery, and Mr. Henry Cartwright, as under-manager of the same colliery. We also (both) have made applications for certificates to the Minister of Mines, as we are entitled to, under the 1896 Act.

I remain, &amp;c.,

A. THOMAS,

Agent.

Will Mr. Winchester please note this letter in a book, and then forward this document to the Under Secretary, Department of Mines and Agriculture.—J. DIXON, 5/10/96. Noted.—H.W., 5/10/96. Records, 6/10/96.

I presume that Mr. Thomas means this to be the nomination of Mr. Cartwright. It may be pointed out to him that a person is required by section 3 (II) to be the holder of a certificate of competency or service before he can be nominated as an under-manager, qualified to exercise the supervision of the mine. If Mr. Thomas has appointed himself under clause *b* of subsection III, section 2, he should send notice to the Inspector of the district of the reason for the appointment. The issue of certificates of service to those entitled to them will be expedited. Mr. A. Thomas may, perhaps, be so informed.—H.R., 7/10/96. Under Secretary. Submitted.—H.B.S., 7/10/96.

## No. 26.

## Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

[Very Urgent.]

Coal-field's Office, Department of Mines,

Sir,

Newcastle, 14 February, 1899.

I understand from Mr. Inspector Bates that in the prosecution case against Mr. Thomas, manager of East Greta Colliery, that the defendant has secured the services of Mr. Edmunds, barrister, of Sydney. Under these circumstances, I think it would be desirable for the Department to be similarly fortified, and shall be glad if you will take the necessary steps to that effect.

Mr. Tillet, of the Crown Solicitor's Office, has the case in hand, and purposes coming up to Newcastle to-morrow night. If I might be permitted to suggest, Mr. George Wallace, barrister, who conducted the case against Mount Kembla Colliery, on the weighing question, would be a good man, as he has had experience in mining matters.

I have, &amp;c.,

A. A. ATKINSON,

Chief Inspector of Coal-mines.

For approval, to ask the Crown Solicitor to see that the Crown is represented by counsel.—H.B.S., 15/2/99. Approved.—J.C., 15.

The Crown Solicitor has arranged with counsel to leave for Maitland to-night with Mr. Tillet. A letter should now be written to the Crown Solicitor asking him to do what he verbally promised me to do this morning.—R. M. GIBSON, 15/2/99.

Yes. Write to the Crown Solicitor.—H.B.S., for U.S., 15/2/99. Mr. Atkinson informed by wire.—R.M.G., 15/2. The Crown Solicitor asked, 16/2/99.

## No. 27.

## Telegram from The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

15 February, 1899.

POSTED important letter to you last night *re* East Greta prosecution. Please ask Mr. Wood to ascertain from Justice Department if depositions taken at inquest have been forwarded, as they are required to-morrow.

A. A. ATKINSON.

Mr. Gibson. Ask Mr. Wood, by telephone, if depositions have been forwarded.—H.B.S., 15/2/99. The Chief Clerk, Justice Department, informed me by telephone this morning that the depositions had been forwarded some days ago to the C.P.S., Maitland, for production to-morrow.—R. M. GIBSON, 15/2/99. Inform Mr. Atkinson by wire.—H.B.S., 15/2/99. Chief Inspector Coal-mines informed by wire, 15/2/99. Noted.—A.A.A., 17/2/99.



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No. 28.

Telegram from The Chief Inspector of Coal-mines to The Under Secretary  
for Mines and Agriculture.

16 February, 1899.

BREACH of General Rule 4 against manager of East Greta is dismissed. Breach of Special Rule 7 against under-manager withdrawn. Same is fined 10s. and 6d. 8d. costs for breach of Special Rule 3.

A. A. ATKINSON,

Chief Inspector of Coal-mines.

For Minister's information.—D.C.McL., 16/2/99.  
D.C.McL., 16/2/99.

A farce.—J.C., 16.

Mr. Atkinson.—

No. 29.

Mr. Inspector Bates to The Chief Inspector of Coal-mines.

Bates v. Cartwright.

Sir,

Newcastle, 17 February, 1899.

I have the honor to report that the above case was heard at the West Maitland Police Court yesterday, 16th inst., before G. F. Scott, Esq., P.M., and H. Crothers, Esq., J.P.

The Department was represented by Mr. J. C. Gannon, barrister, Mr. J. V. Tillett, of the Crown Solicitor's Office, the Chief Inspector of Coal-mines, and myself.

Mr. Cartwright, under-manager of East Greta Colliery, was charged with a breach of Special Rule 3 and Special Rule 7 of East Greta Colliery. The two cases were tried together. He was defended by Mr. W. Edmunds, barrister, of Sydney, and Mr. G. W. Millard, solicitor, of Newcastle.

He at first pleaded "Not guilty" to both charges, and the cases were proceeded with, subsequently he pleaded "Guilty" to Rule 3, and the other charge against Rule 7 was withdrawn. The Bench imposed a fine of 10s. and 6s. 8d. costs.

I have, &amp;c.,

THOS. L. BATES,

Inspector of Collieries.

No. 30.

Mr. Inspector Bates to The Chief Inspector of Coal-mines.

Bates v. Thomas.

Sir,

Newcastle, 17 February, 1899.

I have the honor to report that the above case was heard at the West Maitland Police Court yesterday, 16th inst., before G. F. Scott, Esq., P.M., and H. Crothers, Esq., J.P.

The Department was represented by Mr. J. C. Gannon, barrister, Mr. J. V. Tillett, of the Crown Solicitor's Office, the Chief Inspector of Coal-mines, and myself.

Mr. Thomas was charged with a breach of section 47, General Rule 4 (1), of the Coal Mines Regulation Act, 1896. He was defended by Mr. W. Edmunds, barrister, of Sydney, and Mr. G. W. Millard, solicitor, of Newcastle.

He pleaded "Not guilty," and after evidence had been taken, the Bench dismissed the case on the ground that Lewis and the others were not contractors for getting coal.

I have, &amp;c.,

THOS. L. BATES,

Inspector of Collieries.

No. 31.

The Crown Solicitor to The Under Secretary for Mines and Agriculture.

Re Prosecution of the Manager and Under-manager of East Greta Colliery.

Sir,

Crown Solicitor's Office, Sydney, 17 February, 1899.

I have the honor to acknowledge the receipt of your letter of the 16th inst., this morning, asking me to arrange that your Department be represented by counsel in the above cases, and to inform that these cases were heard yesterday at West Maitland, when the under-manager was fined 10s. and 6s. 8d. costs for breach of Rule 3. The information for breach of Rule 7 was withdrawn. The case against the manager was dismissed. I am of opinion that the magistrate was right, and that no good would be done by appealing. Papers returned herewith.

I have, &amp;c.,

GEO. COLQUHOUN,

Crown Solicitor.

No. 32.

Extract from the *Newcastle Herald*, 17 February, 1899.

IMPORTANT COAL-MINING CASES.

EAST GRETA COLLIERY.

MR. G. F. SCOTT, P.M., and Mr. H. Crothers, J.P., occupied the Bench at the West Maitland Police Court yesterday, when three cases of unusual interest to the mining community were dealt with, the complainant in each being Mr. T. L. Bates, Government Inspector of Collieries.

Azariah Thomas was charged that on the 17th November, 1898, he, as the manager of a certain mine to which the Coal Mines Regulation Act of 1896 applies, called the East Greta Colliery, did contravene and fail to comply with General Rule 4, section 47, of the Act, in that in the course of the shift working from 3 p.m. to 11 p.m. on the 17th November, 1898, an inspection of all parts of the said mine in which workmen were to work or pass during that shift was not made by a competent person or competent persons

persons appointed by the owner, agent, or manager of the said mine, who was not a contractor or contractors for getting minerals in the said mine. Mr. J. C. Gannon, instructed by Mr. J. V. Tillett, of the Crown Solicitor's Office, appeared for the prosecution, and Mr. Walter Edmunds, instructed by Mr. Millard, for the defence. Mr. A. A. Atkinson was also present.

Thomas Lionel Bates, Inspector of Collieries, deposed that he had occupied the position of Inspector for twelve years. He believed the information to be true.

To Mr. Edmunds: Defendant held an Imperial as well as a colonial certificate. He knew David Lewis slightly, and from what he saw of him he considered him to be a competent miner, and one well qualified to make inspections under General Rule 4.

Frederick Fowler, Police Sub-inspector, identified the signature of Azariah Thomas to the depositions given by him as manager of East Greta Colliery at the East Greta Disaster Coronial Inquiry.

Mr. Dawson then tendered the depositions, and certain parts of Mr. Thomas' depositions were read by Mr. Black, C.P.S.

David Lewis deposed that he was a miner and knew East Greta Colliery, where he was working in charge of men. He was sinking a tunnel, and was engaged by Mr. Thomas, who arranged with Thomas, Griffiths, Gronow, and himself to sink a tunnel at £3 19s. per yard. If there was any trouble their wages would be made up. He had control of the men. He and his three mates received the wages and paid their assistants. In the course of their sinking they worked coal or anything else they met with. They were paid £3 19s. per yard no matter whether it was coal or dirt they met with and took out. He inspected the tunnel where they were working. Thompson also inspected it on the 17th November. Gronow and Griffiths also made inspections of the tunnel. Messrs. Thomas, Heyes, and Cartwright also inspected. Between 3 p.m. and 11 p.m. on the 17th November he made the inspection of the tunnel.

To Mr. Edmunds: His inspection covered the whole of the tunnel, which was intended as a main artery for the mine. They were paid for the amount of place opened up, but not for the amount of stuff received on top. They were all engaged as miners by Mr. Thomas. It was immaterial to them what the nature of the stuff they met with was. He had seventeen years' experience in coal-mining—ten in Wales and seven in the Colony. It was particularly his duty to attend to and do all the timbering.

This was the case for the prosecution.

Mr. Edmunds held that no case had been made out. The whole gist of the charge was that the person appointed to make the inspections was not eligible under the section. It was admitted by the prosecution that he was competent and that he had made inspections. They had failed to prove he was a contractor for getting minerals. The men were not contractors, but miners, and could have been taken away from the work at any time.

The P.M.: They were decidedly not contractors for getting coal.

Mr. Edmunds: Then that settles the case at once.

Mr. Gannon said the men were contractors, to do certain excavations, and incidentally to get coal or any material met with. Coal had been taken out, and consequently they were contractors for getting out coal. The Act aimed at protecting the men. He held the information was good, and that Lewis was ineligible.

The Bench expressed a desire to hear Mr. Thomas.

Azariah Thomas, manager, East Greta Colliery, deposed that Lewis, Griffiths, Thompson, and Gronow had to drive the tunnel. Whether they met with coal or dirt they were to be paid by the lineal yard. They were to receive a certain wage, not less, no matter what they took out. They had no interest in what came out, but would still be paid even if not an ounce of coal was recovered. It was in his power to stop the work, and take any one or all of the men out of the tunnel and put them in other parts of the mine.

To Mr. Gannon: He could have taken Lewis out of the tunnel and put him somewhere else in the mine. They started on coal, and followed the seam as near as possible. The grade was changed in order to land on the right spot. They worked on a varying seam of coal. The four men were appointed as inspectors. They were competent men.

To Mr. Edmunds: Their object was to make the best passage for the working of the mine. The men had no interest whatever in what was recovered.

To the Bench: The coal was not weighed when it was taken out, but an endeavour was made to make some of it marketable. If the stuff taken out was valueless, the men would have been paid all the same.

At 12 o'clock the magistrates retired to consider the case.

On returning, a few minutes later, the P.M. said: "We dismiss the case, as we do not consider Lewis and the others were contractors for getting coal."

Henry Cartwright was charged that he did unlawfully, in East Greta Colliery, contravene and fail to comply with Rule 17 of the Special Rules, in that he did not examine the air current of No. 1 tunnel, he being a person bound as under-manager to observe the Special Rules established for a mine called the East Greta Colliery, in pursuance of the Coal Mines Regulation Act of 1896.

The same defendant was also charged that he did unlawfully, in East Greta Colliery, contravene and fail to comply with Rule 3 of the Special Rules or the colliery, in that he did not visit every working-place in the mine. Defendant pleaded not guilty to each charge.

Mr. Edmunds suggested that the two cases should be tried together. Mr. Gannon consented, and the Bench agreed.

Thomas Lionel Bates, Inspector of Collieries, produced the Special Rules of East Greta Colliery, which were tendered in evidence. He knew the mine from the time it started. He would call the air current in the tunnel a district air current.

To Mr. Edmunds: Witness explained, by the aid of a rough plan produced, the system of ventilation in the colliery.

To Mr. Gannon: To inspect the air current a man would have to go down the whole tunnel.

To Mr. Edmunds: A man standing at the level could tell the quantity of air going down and coming up the tunnel.

At this stage Mr. Gannon tendered the depositions of defendant at the East Greta Disaster Inquiry. The depositions were read by Mr. Norman Black, C.P.S.

Mr. Gannon said he had other evidence to call, but in face of the sworn depositions of defendant he would not do so, and closed his case.

Henry Cartwright, under-manager of East Greta Colliery, deposed that he was at the level every day. On the 17th November he was down in the mouth of the tunnel, and was called down by Griffiths, who was complaining of some men letting the water down on them. He was down 20 or 30 feet. He did

did inspect the air current. When he said, in the depositions, that he had not been to the tunnel, he meant he had not been to the face of the tunnel. He did not go to the face daily, because Mr. Thomas and Mr. Heyes were inspecting there. On the 17th he could not go there, owing to a mishap in another part of the mine.

At this stage the Court was adjourned until 2.15 p.m.

On resuming at 2.15 p.m., Mr. Edmunds consulted with defendant, and subsequently announced that Cartwright wished to withdraw his plea of not guilty to the charge of neglecting to comply with Special Rule 3, if the other charge was withdrawn.

Mr. Gannon agreed to the suggestion.

Mr. Edmunds asked for a lenient fine, as the breach of the Act was a technical one, and no harm had been done. Besides, the men working there were quite as competent to inspect as defendant was.

The Bench imposed a fine of 10s., with 6s. 8d. costs.

Put with Mr. Atkinson's report on these cases.—D.C.McL., 20/2/99.

### No. 33.

#### The Chief Inspector of Coal-mines to The Under Secretary for Mines and Agriculture.

Sir,

Department of Mines and Agriculture, Sydney, 17 February, 1899.

I have the honor to state that, together with Mr. Gannon, barrister-at-law, Mr. J. V. Tillett, of the Crown Solicitor's Office, and Mr. Bates, Inspector of Collieries, I attended the West Maitland Court yesterday, with reference to the prosecution of the manager and under-manager of East Greta Colliery. The latter were represented by Mr. W. Edmunds, barrister-at-law, instructed by Mr. G. W. Millard, solicitor, of Newcastle. The magistrates present were Mr. G. F. Scott, Police Magistrate, and Mr. Crothers, J.P. The case against the manager, under General Rule 4, for employing, as the "competent persons" under that rule, men who were driving the tunnel at so much per yard (and deemed by the Crown Solicitor to be "contractors for getting minerals") was dismissed, for the following reasons:—

1st. The men doing this work were not, in any way, paid for the quantity of coal they got.

2nd. Although the tunnel was driven mostly in coal, it was partly stone, as some of the bottom was removed in order to get the required size.

The magistrates soon came to this conclusion, and expressed the opinion that the men were not "contractors for getting minerals" in an early stage of the case.

In view of their opinion being in opposition to that given by the Crown Solicitor, and the important principle which is involved, I beg to suggest that the Crown Solicitor may be asked to move the magistrates to state a case for the Supreme Court.

The under-manager was summoned for breaches of Special Rules 3 (not visiting No. 1 tunnel daily, or as often as practicable) and 7 (not examining the air currents of No. 1 tunnel daily), and for the former was fined 10s. and 6s. 8d. costs. It was thought by the counsel for the Crown that the case under Special Rule 7 (which was heard first) was likely to be lost, and the charge was therefore withdrawn.

I may state for the information of the Minister, that in June, 1898, the manager of South Greta Colliery was prosecuted for breaches of General Rules 1, 4, 5, and 32, the magistrate on that occasion being Mr. G. F. Scott, when the manager was fined 1s. and 4s. 10d. costs for each offence. This fine was, in my opinion, altogether inadequate for the offence committed; and it is, therefore, satisfactory to note that the fine in the present instance was made more severe. I understand that Mr. Scott has frequently fined workmen 1s. for offences under the Coal Mines Act.

Though the proceedings of yesterday may not be considered altogether satisfactory, I am still of opinion, and for the reasons stated in my letter of the 28th ult., that it is unnecessary to hold a formal investigation of the accident under section 23 of the Coal Mines Regulation Act.

I have, &c.,

A. A. ATKINSON,

Chief Inspector of Coal-mines.

Submitted. The causes and circumstances surrounding this accident have been fully ascertained by the prolonged inquiry which has already been held, and I do not see that anything further can be elicited by another inquiry.—D. C. McLACHLAN, 17/2/99. The suggestion that the Crown Solicitor should move the magistrates to state a case for the Supreme Court should, I think, be acted upon.—D.C.McL., 17/2/99.

Approved. To get the case to the Supreme Court, if possible.—J.C., 18/2/99. 99/3,051 M. The Crown Solicitor, who will perhaps be so good as to cause the necessary steps to be taken to give effect to the Minister's wish herein.—H. B. SULLIVAN (for U.S.), B.C., 20/2/99.

### No. 34.

#### The Chief Inspector of Coal-mines to The Minister for Mines and Agriculture.

REPORT to The Honorable Joseph Cook, Secretary for Mines, on the causes and circumstances of the Accident which occurred at the East Greta Colliery, on 18th November, 1898.

Sir,

Coal-fields Office, Department of Mines and Agriculture, Sydney, 17 February, 1899.

In pursuance of section 22 of the Coal Mines Regulation Act of 1896, I have the honor to make the following Special Report with respect to the accident, by fall of roof, which took place at the East Greta Colliery on 18th November, 1898:—

The following Appendices are attached to this Report:—

Appendix I.—Evidence of Witnesses.

„ II.—Special Rules of the Colliery.

„ III.—Plan showing the workings of the Colliery.

„ IV.—Section of No. 1 tunnel, showing position of fall, progress of rescue work, and method of timbering.

*Position of Colliery.*—East Greta Colliery is situated about 3 miles from West Maitland, and works two seams of coal in the Greta or Lower Coal Measures. The strata is lying at an angle of from 45 degrees to 47½ degrees, and dips towards the east. This is due to an upheaval between Maitland and Greta, the top of the anticline being found about Lochinvar, and the East Greta workings are lying on the eastern slope of this anticline.

*Winning and Working of the Coal.*—The top seam of coal is only worked to a small extent by means of two tunnels driven from the surface. The lower seam, which is about 11 feet thick, has been worked for about ten years, and the coal is won by means of two main tunnels (Nos. 1 and 2), which commence at the outcrop of the seam at the surface, and follow the full dip of the Measures. These tunnels are used for the haulage of the coal from the levels to the surface and the descent and ascent of workmen, and as intakes for air. At certain intervals, levels are driven at right angles to the main tunnels, and from these the coal is worked to the rise, on the bord and pillar system. The pillars have been made from 5 to 7 yards in thickness, and the bords usually 8 yards wide, but turned away narrow, are driven on the strike of the seam. When the bords are first driven, it is usual to leave between 3 and 4 feet of the seam next to the roof, which in many cases is afterwards taken down. The extraction of coal in the broken or pillar working has only been carried on to a limited extent, as indicated by hatching across the pillars on the plan.

*Haulage.*—The haulage of the coal from the bords to the levels is effected by means of self-acting "jigs," and on the levels by ponies to the tunnel, where the tubs are put on to the cage, which runs on rails 4 ft. 8½ in. apart, and thence hauled to the surface by means of a steam engine placed there.

*Roof of Seam.*—The roof of the seam in which the accident occurred is usually a hard conglomerate, sometimes calcareous and sometimes siliceous in its nature. This roof forms a sort of landmark or beacon by which the seam in many places has been found along the outcrop, and by which means it has been traced for a distance of 16 or 17 miles.

*Management, &c.*—The manager of the mine is Mr. A. Thomas, who holds an Imperial certificate, and gained his mining training in South Wales. He has also had experience of working steep measures in the United States of America. The under-manager is Mr. Henry Cartwright, who holds an under-manager's certificate. He has been at the mine since it was opened, at first as manager, until succeeded by Mr. Thomas about seven years ago, since which time he has acted as under-manager.

*Inspections under General Rules 4 and 5.*—No. 1 tunnel, in which the accident occurred, was inspected by the following four men, viz., David Lewis, Joseph Thompson, John Griffiths, and Daniel Gronow (killed by fall), in terms of General Rule 4. David Lewis made the daily report in writing. The engineer, Mr. R. St. Vincent Heyes, also made a weekly examination and report of the tunnel, in terms of General Rule 5.

*Work in No. 1 tunnel.*—At the time of the accident, No. 1 tunnel was being extended further into the dip, in order to win out more coal, and all other operations were temporarily suspended in this part of the colliery. The distance from the surface to the lowest levels is 546 feet, and when the accident happened the main tunnel had been driven to a point 387 feet below this, or 933 feet from the surface. From the lowest levels a place parallel to the main tunnel had also been driven 129 feet, but no communication between these places had been made. The work in connection with driving and timbering the main tunnel was carried out by nine men, including the four men who made the inspections, working in three continuous shifts of three men each, and the parallel or back place was driven by six men in three shifts of two each.

*Accident.*—The fall occurred about 7 a.m., on November 18th, and resulted in the death of the following three men, who were engaged at the time in extending No. 1 tunnel below the lowest levels:—

Daniel Gronow, aged 29, married, leaving a widow and four children.

Albert Moncrieffe, aged 25, married, leaving a widow and one child.

Stephen Richard Barnes, aged 23, unmarried.

The out end of the fall which occurred was 127 feet from the lowest levels, and extended for a distance of 60 feet. The top of the fall was about 15 feet above the top of the coal and probably about 300 tons of stone fell, which, in consequence of the high inclination of the seam, rolled down into the face, doubtless causing the almost instantaneous death of the three men, all of whom were afterwards found within 30 feet of the face. In consequence of the dangerous and difficult character of the work to be done in recovering the bodies of the deceased men, and the large quantity of timber which it was necessary to put in to secure the fall and strengthen the other timbers, in order to ensure safety to the rescue parties, it was not until December 23rd, or five weeks after the fall occurred, that the first body was recovered. The second was recovered on the 24th December, and the third on December 26th. Having regard to the uneasy state of the roof after the first fall, and further falls which subsequently occurred, I think that every reasonable endeavour was made to recover the bodies of the three men with as little delay as possible.

*Signals.*—When the extension of the tunnel was proceeding, electric signals were kept within a few yards of the face.

*Manholes or Places of Refuge.*—Manholes or places of refuge were made at intervals of 20 yards, in accordance with General Rule 14, and it was stated in evidence at the inquest that one was to be prepared close to the face during the night before the accident.

*Inspections.*—I reached the colliery about 4 p.m. on the day of the accident, and made an inspection of the seat of the fall. Subsequently I made several inspections as the work progressed at the fall, besides examining the workings of No. 2 tunnel, and some of the old workings of No. 1 tunnel.

As the result of these inspections, I deemed it advisable to address a letter to Mr. Thomas, the manager, of which the following is a copy:—

Sir,

With reference to recent underground inspections of the East Greta Colliery, and conversations with you on several matters in connection therewith, I respectfully desire to call your serious attention to the following points:—

1st. Having regard to the altered character of the roof of the seam proved by the fall of the 18th ultimo in No. 1 tunnel, and by a fall in the lowest north level of No. 2 tunnel, it is desirable to increase considerably the quantity of timber on all these lower levels to keep them secure.

2nd. It is desirable to prove the thickness of the conglomerate above the seam in the lowest level of No. 2 tunnel going towards No. 1 tunnel.

3rd. It is not advisable, having regard to altered nature of the roof, to allow the levels when going with the top coal left on to remain without being timbered near the face.

4th.

10 December, 1898.

4th. Under the conditions of increased depth and altered roof it is desirable to increase the size of the pillars considerably.

5th. The diameter of the props used by the miners in the bords would afford more security if increased in size, and this is necessary, having regard to the extra depth at which the workings are carried on, and also the altered character of the roof.

Trusting these matters will receive your serious consideration, and I shall be glad at any time to further discuss them with you.

I have, &c.,

A. A. ATKINSON,

Chief Inspector of Coal-mines.

A. Thomas, Esq., East Greta Colliery.

*Roof in No. 1 tunnel.*—As stated before, the seam of coal is about 11 feet thick, and usually overlaid by a hard conglomerate. From the lowest levels towards the face of the tunnel, a band of shale, a few inches in thickness, had made its appearance between the top of the coal and the conglomerate. Where the fall occurred the conglomerate had thinned down in places to 4 or 5 inches in thickness, and was very variable in thickness, although it did not altogether run out.

Above the conglomerate at the fall was a considerable thickness (5 or 6 feet at least) of rotten argillaceous shale or mudstone. This stone was not laminated, and presented many slippery facings and joints, as revealed in the fall. When immersed in water, it decrepitates very rapidly.

Between the surface and the lowest levels, there is about 180 feet of tunnel, driven about seven years ago, which is not timbered at all, the conglomerate being hard at that point.

From the lowest levels to the face the sets of timber were put in 5 feet apart from centre to centre.

These consisted of—

- A—One sill or floor piece of ironbark, 16 feet long, 8 inches diameter at the small end, let into each side.
- B—One cap piece of ironbark next to the roof, 15 feet long, 8 inches diameter at small end, let into each side 8 or 10 inches.
- C—Two legs or props of ironbark, 10½ feet long, 8 inches diameter at the small end. These were mortised into sill and cup about 4 inches deep.
- D—Slabs of hardwood 6 feet long, 6 to 8 inches wide, and 2 to 3 inches thick.
- E—Pieces of tea-tree for packing behind the slabs, in order to make all secure.
- F—Sole pieces of ironbark between the sills, near to the sides, and parallel with the tunnel.

The props were 12 feet apart at the top, and 13 feet at the bottom, measured between inside and inside. They were fixed at right angles to the dip of the strata, which is the correct method to resist the greatest pressure.

The ironbark timber was cut fresh before being used, and, when examined after the fall, by sawing it in two appeared to be quite sound, though containing a good deal of sap.

In his book of "Notes on the Commercial Timbers of New South Wales," Mr. J. H. Maiden, F.L.S., states, with reference to ironbark, "Ironbark is the king of New South Wales hardwoods; in fact, it is not excelled in any part of the continent for combined strength and durability."

Assuming that the pressure on the sets of timber in the tunnel at East Greta was equally distributed, the pressure which each set would bear before breaking works out to figures varying between 16·76 and 23 tons according to different authorities.

If the character of the roof in the extension of No. 1 tunnel had been the same as that exposed at the "overcast," or where the lowest levels are driven from the tunnel, I think that the sets of timbers would have been ample, and the fall would not have occurred.

In order to get sufficient height for sets of timbers some of the stone below the seam was removed. Occasionally, also, a little cutting had to be done in the stone above the coal, although much the greater portion was taken out of the floor, as it was much softer than the roof stone.

*Inquest.*—The inquest, at which a large number of witnesses were examined, was opened by Mr. G. C. Martin, Coroner for the Newcastle district, on December 24th, and resumed on January 4th, occupying altogether thirteen days, on one of which the jury made an underground examination of the tunnel.

The Crown was represented by Mr. J. V. Tillet, of the Crown Solicitor's Office; the owners, by Mr. F. S. Bowden, solicitor, Maitland; the manager, by Mr. G. W. Millard, solicitor, Newcastle; the miners and the relatives of the deceased, by Mr. James Curley, General Secretary to the Colliery Employees Federation; and Mr. T. L. Bates, Inspector, and myself watched the proceedings on behalf of the Department.

The jury retired to consider their verdict at 5 p.m. on January 27th, and, as they failed to agree, were discharged at 8 a.m. on January 28th.

The following were the most important points disclosed at the inquest:—

1. The four men, Davis Lewis, Joseph Thompson, John Griffiths, and Daniel Gronow, undertook to drive the tunnel for £3 19s. per yard, and, in my opinion, were therefore ineligible to be employed to make inspections under General Rule 4.
2. The under-manager, Henry Cartwright, admitted that he had not examined No. 1 tunnel for a fortnight before the accident, which was a breach of Special Rule 3.
3. He also admitted having committed a breach of Special Rule 7.
4. The evidence of several witnesses was to the effect that the roof above the coal, as disclosed by falls in different parts of the mine, was not invariably composed of conglomerate far above the coal.
5. The consensus of opinion was that the fall was caused by roof pressure, due to the thinning out of the conglomerate, the place of which was taken by mudstone; this being acted on by water in the roof, which was not seen until after the fall. Some of the witnesses, however, were of the opinion that the fall was due principally to bottom and side pressure.
6. Some of the witnesses considered that the fall had taken place suddenly, and without warning, by bending the caps, while others thought that the pressure had gradually bent the caps before the fall occurred.
7. It was stated by the witnesses Parsons and March, that a conversation had taken place between Mr. Thomas, manager, and John Griffiths, in the face of No. 1 tunnel, on Tuesday, 15th November, about replacing some bent caps during the next week end, and that these caps were situated where the fall afterwards took place. This was denied *in toto* by Messrs. Thomas, Griffiths, Heyes and Howarth.

8. On the morning of the accident Thomas Cantwell spoke to some of the deceased from the lower level about 6.30 a.m. (half an hour before the fall took place) at which time the deceased evidently did not think there was cause for alarm.

- 1, 2 and 3. With reference to the first three points, it has been decided to prosecute the manager and under-manager.
4. As to the fourth, I am of opinion that, having regard to the somewhat altered character of the roof in different parts of the mine, the manager would have exercised wise judgment if he had examined the roof in the extension of No. 1 tunnel by putting borcholes at intervals up through the conglomerate. The result would probably have been to induce him to put the timber sets closer together; but the omission to bore these holes, however, does not, in my opinion, amount to culpable negligence.
5. The cause of the accident, in my opinion, was due to roof pressure, consequent upon the conglomerate having been replaced by mudstone, which, by virtue of its jointy nature, and the presence of water, rested on the timbers, and caused the caps to break.
6. Although the fall might have occurred without much warning of timber breaking at the last, I am of opinion, some days before it actually took place, evidence of pressure would have been afforded by the bending of the caps.
7. I am unable to say, from the evidence, whether the conversation referred to took place.
8. This does not require any comment.

A good deal was said in evidence at the inquest about the unchangeable character of the conglomerates in the Greta Measures; in fact, one witness said that the intrusion of the mudstone might be considered as a "freak of nature." On this point I give a quotation from Professor Archibald Geikie, an acknowledged authority on geology, with reference to conglomerates: "Coarse conglomerates which represent ancient shingles and gravels, thicken and thin out rapidly, and do not usually cover a large area; they pass laterally and vertically into grits and sandstones which have a much wider distribution and these again shade off into clays and shales that range also over large areas."

This opinion, coming from such an authority, should have the effect of causing the managers, who have conglomerate roofs, for the future to place less reliance on their consistent character.

I have, &c.,

A. A. ATKINSON,

Chief Inspector of Coal-mines.

The Hon. Joseph Cook, M.P.,  
Secretary for Mines and Agriculture.

Submitted for Minister's information.—D.C. McL., 17/2/99.

Seen.—J.C., 22/2/99.

#### APPENDIX II.

SPECIAL RULES for the conduct and guidance of the persons acting in the management of the East Greta Colliery, in the district of Maitland, and all persons employed in or about the said colliery, framed in conformity with the provisions of the Coal Mines Regulation Act, 1896, 60 Victoria, No. 12.

##### *Manager.*

1. The manager (or the under-manager when acting for him) shall have the daily supervision of the above colliery, and shall have full command over all other officers and workmen employed in or about the colliery, who are to receive their orders from him, and shall apply to him for instructions as often as may be necessary.

2. He shall comply with the requirements of the Coal Mines Regulation Act, 1896, and shall, to the best of his power, enforce the observation of the said Act, and enforce observation of the General and Special Rules.

##### *Under-manager.*

3. The under-manager shall have the daily supervision and responsible charge of the mine under the direction of the manager, and shall give all necessary instructions to the men and boys in the mine respecting their work; and shall, to the best of his power, see that they comply with the rules and regulations of the colliery, as well as the orders of the manager, and shall visit every working-place in the mine daily, or as often as may be practicable, and see that the air courses and stoppings are kept in a good state of repair, and that an adequate quantity of fresh air is constantly supplied to the men.

4. He shall give immediate attention to any complaints, and shall inspect, personally, such portions of the mine as are reported to be unsafe or in any way to need his attention.

5. He shall see that a sufficient supply of timber is sent down the mine and into the different districts.

6. He shall see that each miner keeps his working place sufficiently timbered, and shall suspend at once any miner refusing or neglecting to do so.

7. He shall examine every day the different main and district air currents, and shall see that the furnaces are kept in good repair and carefully attended to.

8. He shall, under the direction of the manager, cause safety-lamps to be used, and naked lights to be excluded where required by the Act.

9. He shall see that the deputies, miners, shifters, and all others under his charge in the mine, strictly and rigidly observe the rules applicable to them, and shall suspend immediately anyone infringing or attempting to infringe any rule, order him out of the mine, and report the same to the manager.

##### *Deputy.*

10. Each deputy shall be informed by the manager or under-manager as to what portion of the workings is to be under his charge, and all persons working in that portion of the mine will be under his direction, and he shall, in the absence of the manager or under-manager, direct the workmen how and where they shall work, and shall see that the rules applicable to them, as well as the orders of the manager or under-manager, are strictly attended to.

11. The deputy or other competent person appointed for that purpose shall be in the mine within four hours before the workmen commence, to enable him to examine the working-places, &c., carefully, and shall ascertain the condition thereof so far as the presence of gas, ventilation, roof and sides, and general safety are concerned, and shall record the result of such examination without delay in a book to be kept at the mine for the purpose.

12. He shall place cross timbers, or rails, thus X, or a signal board, as a signal of danger at the entrance of every working-place which he may find unsafe, and on his return to the station shall state on his board all places so found unsafe.

13. In any place where there is a dangerous appearance of fire-damp, locked safety-lamps shall be used; and no workman shall be permitted to remain where fire-damp has accumulated in such a quantity as to show a permanent blue cap over the flame.

14. Before safety-lamps are taken into the workings the deputy, or some other competent persons duly appointed for the purpose, shall examine the entire lamp, and if all is right, shall lock it for the miner.

15. Should there be any discharge of gas, or any condition of roof from which the deputy apprehends any danger, he shall instantly report the circumstances to the under-manager.

16. He shall report as soon as possible to the manager or under-manager all accidents, dangers, or defects which may occur in his district of the mine, and he shall also so report any accident, danger, or defect to, or in any machinery or structure in, the mine which may come to his knowledge.

17.



*Wheelers.*

17. The wheelers shall report to the under-manager or deputies if any part of the road or roof has been deranged or is insecure or dangerous.

18. Any wheeler injuring a door or brattice-cloth door, and not immediately reporting the fact, shall be suspended. He shall also report to the under-manager or deputy every morning the quantity and different lengths of timber required for his miners.

19. He shall take in without delay any timber the miners may require, and shall at all times carry out the orders of the manager, under-manager, or deputy, in order to facilitate and promote the work of the mine.

20. Any person neglecting these rules will be liable to instant dismissal or prosecution according to law.

*Onsetter.*

21. The onsetter shall, subject to the directions of the manager or under-manager, have the sole control of the pit bottom, and the command of the signal up the pit, and on no account shall he allow any person to interfere with the signals. He shall at all times when sending up skips of coal see that none of the coal projects beyond the side of the skip, and shall pay the greatest attention to the signals when men are going to ride, in order that accidents may be avoided. The signals shall be as given in Rule 87.

22. No timber, materials, stones, coal, or other things shall, under any circumstances, be lowered or lifted in a pit while men are being lowered or lifted in it, except such as may be necessary in repairing a pit while the repairs are going on.

23. The onsetter shall not, on any account, allow more than six persons in a single cage, or ten in a double cage at the same time.

24. Any person refusing to leave the cage when ordered to do so shall be immediately suspended.

*Miners.*

25. Any miner after passing through a door must instantly close it; and shall not injure a door or leave it open, break down a stopping or brattice, interfere with or obstruct or damage an air-crossing, or an air-pipe, or remove or go beyond a mark or "danger-signal," without orders from the manager, under-manager, or deputy.

26. Every miner shall securely sprag or uphold the coal whilst holing, and shall securely prop up the roof of his working-place so that accidents may be avoided; and should he not be provided with a sufficient quantity of timber he shall cease working and report the same to the manager, under-manager, or deputy.

27. The seam of coal must be wrought strictly in accordance with the orders of the manager or under-manager.

28. Every miner shall, in all matters relating to the working of the mine or the safety of the men, obey strictly the orders of the manager, under-manager, or deputy; and no person shall go into any part of the mine other than where he is employed, except by the order of the manager, under-manager, or deputy.

*Door-keepers.*

29. A door-keeper must only open a door for the passage of persons, skips, or animals, and must instantly close the same when they have passed through. He must never allow a door to remain open, or to be propped or fastened back, unless authorised to do so by the manager, under-manager, or deputy.

30. A doorkeeper must not leave any door or doors under his charge until the work of his shift is finished, or until another person appointed by the manager, under-manager, or deputy takes his place.

31. Any doorkeeper becoming aware of any defect in, or damage to, any door, shall report the same as soon as practicable to the manager, under-manager, or deputy.

*Persons in charge of Ventilating Appliances.*

32. The persons in charge of any ventilating furnace, or other ventilating appliance, shall not leave the same without the permission of the manager, under-manager, or engine-wright.

33. Furnacemen must pay careful attention to the furnace under their charge; and shall maintain the fire in such a state as constantly to ensure efficient ventilation.

34. The fan and fan-engine shall be carefully attended to by the person or persons in charge thereof, who shall keep the same running at the speed ordered by the manager, so that effect may be given to the provisions of the Act as to ventilation.

35. All persons in charge of ventilating furnaces, fans, fan-engines, or other ventilating appliance, shall immediately report any damage, defect, or derangement therein to the manager, under-manager, or engine-wright.

*Lamp-keepers.*

36. No person except a person authorised by the manager or under-manager shall either take himself or give out for use in the mine any safety-lamp.

37. Lamp-keepers must see that every safety-lamp is thoroughly cleaned, properly put together, in safe working order, and securely locked when given out for use in the mine. If any lamp be not returned at the proper time they shall at once report the fact to the manager or under-manager.

38. All persons entrusted with the duty of cleaning any gauze, or other part of any safety-lamp, or with the duty of putting any safety-lamp or parts thereof together, shall at once report any defect therein to the lamp-keeper, or if there is more than one lamp-keeper, then to the head lamp-keeper.

39. Whenever any defective or damaged lamp is received from any person by any lamp-keeper he shall report the fact to the manager or under-manager, and shall cause such lamp to be kept in the state in which he received it until seen by one of them.

40. Every lamp-keeper shall see that all oil, spirits, and other inflammable articles under his charge are carefully and properly stored and used, and that no greasy waste or other refuse is allowed to accumulate in or near the lamp cabin.

*Engine-wright.*

41. The engine-wright, or other competent person appointed for the purpose, shall cause the ventilating fan or other mechanical ventilating apparatus, together with the engines, machinery, and boilers for driving the same, to be properly attended to.

42. The engine-wright, or other competent person or persons appointed for the purpose, shall have charge of all engines, machinery, and boilers used for raising or lowering persons or minerals, or for pumping water, and of all ropes, chains, appliances, or apparatus connected therewith; and of all guides, ropes, chains, conductors, or other appliances in the shafts, and of all other engines, machinery and boilers in or about the mine. In case he shall discover any weakness, defect, or want of repair therein, he shall, as soon as practicable, cause the same to be repaired and made good, and shall at once report to the manager the fact of such defect, weakness, or want of repair, and also the steps taken to remedy the same.

43. The engine-wright, or other competent person or persons appointed for the purpose, shall make the examinations and report required by General Rule 5.

44. The engine-wright, or other competent person appointed for the purpose, shall cause every rope used for raising or lowering persons or minerals to be securely attached to the drum, so that when either cage is at the pit bottom, there shall be not less than two rounds of rope upon the drum.

45. The engine-wright, or other competent person, whenever a winding rope requires capping, coupling, or splicing, shall superintend the same, and shall see that no spliced rope is used for raising or lowering persons in a shaft.

46. The engine-wright, or other competent person or persons appointed for the purpose, shall see that the fences are fixed and maintained at the top of every shaft, and that the guides, signals, covers, flanges, or horns, appliances, brakes, indicators, fences, valves, gauges, and things required by General Rules 18, 20, 26, 27, 28, 29, 30, 31, 32, and 33, or any of them, are fixed and maintained as therein required; and that the provisions of General Rule 25 are carried out above ground.

47. The engine-wright shall cause bells or other signals to be fixed in every drawing engine-house connected with the drawing pit bottom, and with every entrance for the time being in work between the surface and bottom of the shaft; and shall cause the board required by Special Rules 23 and 64, stating the number of persons authorised to descend or ascend the shaft at one time to be fixed and maintained on the pit bank.

48. The engine-wright shall cause each working boiler to be cleaned and examined as often as the manager shall so order.
49. The engine-wright shall cause the code of shaft signals used in moving the cages to be fixed and maintained at the top and bottom of each winding shaft, and at every shaft to which the provisions of Special Rule 57 apply, he shall see that the point named in that rule is distinctly marked on the indicator.

*Engine-drivers.*

50. Every engineman shall attend at such time as the manager may appoint, and as required by General Rule 25.
51. An engine-man shall not allow any person to interfere with the engine or machinery under his charge, or to remain in the engine-house unless authorised by those in authority above him. A winding engineman while winding must remain at the handle and must pay particular attention to the indicator and signals, and if he perceives anything wrong must instantly stop his engine and not start it again until the defect is put right or until he receives an order to go on.
52. Every winding engineman before commencing work in his shift, and before any person descends the shaft, shall carefully examine the engine, machinery, drums, ropes, brakes, indicators, and signal apparatus in the engine-house or under his charge, in order to ascertain whether they are safe and in good working order, and shall run the cages at least once up and down the shaft. Where shifts are worked continuously, it shall be sufficient if this rule is carried out at the commencement of the morning shift.
53. Every engineman, unless some other competent person is specially appointed for the purpose, shall keep the engines, machinery, and things connected therewith under his charge, properly cleaned and oiled, and shall see that they are in good and safe working condition. He shall see that the provisions of General Rules 27, 30, 31 and 32 are carried out and observed during his working shift, so far as they relate to engines or machinery under his charge.
54. Every engineman must diligently and carefully attend to the working of the engine and machinery under his charge. He must examine such engine and machinery before commencing work, and if he becomes aware of any weakness or defect, or apprehends any danger, he must, as soon as practicable, inform the manager, under-manager, deputy, or engine-wright. He shall not alter a safety-valve without leave from the manager, under-manager, or engine-wright.
55. Every engineman, in addition to the duty in this respect imposed on the engine-wright, shall see that any ropes attached to the drum of the engine under his charge are securely attached, and so that when either cage is at the bottom of the pit there shall not be less than two rounds of rope upon the drum.
56. Every winding engineman, whenever the engine under his charge ceases working, shall see that the cages are left so as not to impede the ventilation.
57. When men are being raised in shafts where the winding apparatus is not provided with some automatic contrivance to prevent overwinding, the cage shall not be wound up at a speed exceeding 3 miles an hour when and after it has reached a point 10 feet from the top of the shaft, as required by General Rule 27, and such point shall be marked on the indicator.
58. The signals given in Rule 87 shall be carefully observed by the engineman.

*Banksman and assistants.*

59. That the banksman shall, subject to the directions of the manager, under-manager, and engine-wright, have the control of the pit top, and the command of the signals down the pit and to the engineman.
60. That the banksman shall be responsible for the state of the pit top, and shall see that the frames and the surface near the pit mouth are kept free from coals, stones, or dirt.
61. That at least one banksman and one onsetter, or other person appointed by the manager, under-manager, or deputy for that purpose, shall be at their respective posts at the proper time every morning, to give the proper signals, and to see the men and boys carefully into and out of the cages at the top and bottom of the shaft.
62. The banksman must be at the drawing shaft at such times as the manager or under-manager may appoint. He shall not allow a person to descend or ascend until the cages have been once run up and down the shaft, but where continuous shifts are worked it shall be sufficient if this is done at the commencement of the morning shift.
63. That the banksman shall not permit strangers or persons not employed in the mine to descend the pit or remain upon the bank, unless authorised by the manager; and shall caution strangers descending to keep carefully within the cage until they are fairly landed. He shall not allow an intoxicated person to descend the pit.
64. That the banksman or onsetter shall not allow more than six persons in a single cage, or ten persons in a double cage; nor shall any person be allowed to ride with or against coals, slack, dirt, &c. Neither shall any person, unless specially allowed by the manager, under-manager, or deputy, be permitted to carry any tools, implements, props, rails, or such like in his hands whilst so riding; but the same shall be securely placed in the cage, skip, or basket, so that no danger may exist of their falling out during their ascent or descent, or of their coming in contact with anything in the pit; and no person shall be allowed to get upon or off the cage at the pit top unless it be standing upon the catches or keeps, or at a mouthing, without the signal first being given and responded to.
65. The banksman must frequently observe the pit top pulleys, ropes, chains, cages, and landing apparatus during working hours, and whenever he becomes aware of any weakness or defect therein, or in anything belonging to the shaft, or any engine, machinery, or winding tackle, he must immediately inform the engineman, and the manager, under-manager, or engine-wright, so that it may be repaired.
66. The banksman must report to the manager or under-manager any disobedience on the part of the miners or others.
67. The signals given in Rule 87 shall be carefully observed by the banksman.

*Miners and all other persons employed.*

68. No person acting in a place of trust shall depute anyone to do his work without the sanction of the manager.
69. No swearing or fighting is allowed in or about the mine, and no intoxicating liquors shall be permitted in the mine without the consent of the manager.
70. Any person employed in the mine shall inform the person in charge of the workings of the existence of any choke or fire-damp, of any insecurity of the roof, shaft, or any other part of the workings, or of any air-door being damaged or left open, immediately on its being observed by him,
71. No person shall be permitted to carry a naked light attached to the cap or hat on his head whilst handling explosives, or in charging holes for blasting.
72. A safety-lamp must be frequently examined, and if a lamp shows a blue cap, the person using it must carefully draw down the wick with the pricker, cease working, leave the place, and report the same to the manager, under-manager, or deputy.
73. No person shall place a safety-lamp on its bottom unless it is necessary to do so for the safe performance of any particular work, or unless authorised by the manager, and in all cases the lamp shall be hung or placed at least 2 feet from the swing of the pick, hammer, or other tool.
74. No person shall leave a lighted candle or other light in any part of the mine when leaving his work.
75. No person shall try the wastes or workings for fire-damp with a naked light, and no person shall smoke or take a naked light, tobacco pipe, cigar, cigarette, lucifer matches, or candle, where safety-lamps are ordered to be used.
76. No naked lights shall be allowed or taken beyond any danger signal where gas exists.
77. No person shall wilfully kindle a feeder of gas, or negligently have the gauze of his safety-lamp full of fire, or unlock the lamp, or unscrew the gauze, or blow out the flame, or light tobacco or other substance at the gauze, or damage or improperly use the lamp, or leave it in the works, when he has ceased using it.
78. Any person discovering any stoppage or derangement to ventilation, injury to an air-crossing, door, regulator, sheet stopping, brattice, or air-pipe, or observing any injury to or obstruction of an air-course, shall immediately give notice to the manager, under-manager, or deputy, and to any person or persons whose safety may be endangered thereby.
79. Any person passing through a door or sheet must instantly close the same, unless it is a door or sheet ordered to be kept open. No person shall, without authority, remove any caution-board, notice, or danger signal, or pass any danger signal, caution-board, or fence.
80. In case of a shot missing fire the workman shall place a danger signal at the entrance to his working-place, and shall immediately report the same to the manager, under-manager, or deputy.
81. Every miner or other workman in charge of any working-place, before commencing work, and at intervals during his shift, shall examine his working-place, and in case any danger is observed shall at once report to the manager, under-manager, or deputy.

82. No person shall leave coal, slack, or other material so as to impede the ventilation; nor leave a skip or other obstruction in the air-current.

83. Every horsekeeper shall see that no animal under his care is allowed to go to work while in an unfit state, and shall report to the manager, under-manager, or deputy, any injury received by any animal.

84. No person shall wilfully injure any animal whilst in his charge, or permit it to receive injuries by his wilful act or negligence, and shall report immediately to the horsekeeper or a deputy any injury received by such animal while in his charge.

85. No person shall take a horse on to or travel along any incline or plane, either in the mine or on the surface, which is self-acting or worked by machinery, while it is in motion, without special instructions from an officer of the mine.

86. Every person in charge of any animal shall immediately report to the manager, under-manager, or deputy, in case he finds such animal cannot pass along any road without rubbing against the roof or timbering; and no person shall, unless otherwise authorised, give his horse into the charge of any other person than the horsekeeper at the stables.

*Shaft Signals.*

87. The following signals (with such additions as under special circumstances may be ordered by the manager) shall be carefully observed by the engineman, banksman, onsetter, and other persons employed at this colliery:—

One knock—To go on.

One knock—To stop when the engine is in motion.

Two knocks—Lower down.

Three knocks—When any person is going to ascend or descend.

One knock—In reply before any person is allowed to get into the cage.

Four knocks—To lower slowly.

Five knocks—To ascend slowly.

88. Every person when on the pit bank, or while about to descend the shaft, shall obey the orders and directions of the banksman; and every person, while in or about the pit, or while about to ascend the shaft, shall obey the orders and directions of the onsetter.

89. No person shall improperly use any signal, signal wire, or signal apparatus.

90. No person shall get into the cage after the authorised number is in, or if forbidden to do so by the banksman or onsetter.

91. Every person who shall couple or fasten any skip to any other skip, or to any rope or chain, shall see that such coupling or fastening is made secure.

92. Before any person moves a skip in a bord he must see that a safety-block is at or near the entrance of the bord, and in good order and set across the rail.

93. All persons employed in the mine shall be under the control of the manager, under-manager, and deputies, and shall at all times obey their lawful commands.

94. Any person committing a breach of any of the foregoing Special Rules is liable to be instantly dismissed.

*End.*

Name of the Mine—East Greta Colliery. Where situated—Near West Maifland. Name of the Owner—East Greta Coal-mining Company (Limited). Name of the manager—Azariah Thomas. Name of the under-manager—Henry Cartwright. Name and address of the Inspector of Mines of the District—J. Dixon, Newcastle.

CERTIFICATE OF SPECIAL RULES, EAST GRETA COLLIERY.

AZARIAH THOMAS, Manager.

I HEREBY certify that the above copy of Special Rules has been shown to my satisfaction to be a true copy of the Special Rules which, at this date, are established under the Coal Mines Regulation Act, 1896, for the above-named mine.

(Signed) JOHN DIXON,

30th day of April, 1897.

Inspector of Collieries.

No. 35.

Extract from letter by Mr. W. N. Atkinson.

EXTRACT from a letter from Mr. W. N. Atkinson, Inspector of Mines in North Staffordshire, *re* interpretation of certain words in General Rule 4 of Coal Mines Act of 1896.

Barlaston, Stoke-on-Trent, 14 January, 1899.

"As to whether a person contracting to drive by the yard is a 'contractor for getting mineral,' opinions would probably differ, but I am inclined to think that the legal decision would be that he is not.

"The English Inspectors have proposed that when the Coal Mines Regulation Act is amended, General Rule 4 shall be altered in that respect, as follows:—

"Gen. Rule 4 (1). After the word 'contractors,' in line 2, delete the words 'for getting minerals' and substitute 'for any work in the mine, or in the employ of any such contractor.'"

For the information of the Minister.—A.A.A., 2/3/99. Under Secretary for Mines and Agriculture. Submitted.—H.B.S. (for U.S.), 3/3/99. Seen.—J.C., 3/3/99.

No. 36.

Extract.

Legislative Assembly, 22 February, 1899.

"THE Minister for Mines, in answer to Mr. Edden, said it was too late now to take any further legal action in regard to the Greta disaster inquiry."

Mr. Atkinson.—D.C.McL., 23/2/99. Noted.—A.A.A., 24/2/99. Put with East Greta papers. May be put away.—A.A.A., 17/7/99.

No. 37.

The Under Secretary for Mines and Agriculture to Mr. H. Wood.

East Greta Accident—Special case for Supreme Court.

WHAT has been done in this matter?

D.C.McL., 15/3/99.

The Crown Solicitor wrote to Mr. Bates on 21st ultimo, asking him to get a case stated, but has not heard from him since. He is now asking him if a case has been stated.—H.W., 15/3/99. In a week, 15/3/99. Do we require these papers any longer?—H.B.S., 16/3/99. Mr. Wood. No. Papers 9/4,978 returned to Justice, 16/3/99. Mr.

Mr. Bates saw Mr. Scott, P.M., on Friday, the 17th instant, who stated that the case was being prepared, and would be forwarded to him (Mr. Bates) soon, who will at once return the papers to the Crown Solicitor.—A.A.A., 20/3/99.

For the information of the Under Secretary, 21/3/99. Submitted.—H.B.S., 22/3/99. In two weeks, 23/3/99. Mr. Wood, 7/4/99.

No. 38.

Copy of Case stated by Magistrate.

[Copy.]

In the Supreme Court of New South Wales.

In the matter of an appeal from the determination of the undersigned, two of Her Majesty's Justices of the Peace in and for the Colony of New South Wales, in a proceeding before us at West Maitland, in the said Colony, between *Thomas Lionel Bates*, complainant, and *Azariah Thomas*, defendant.

The information alleged that on the 17th day of November, 1898, Azariah Thomas, of East Greta, was the manager of a certain mine to which the Coal Mines Regulation Act of 1896 applies, called the East Greta Colliery, and the said Azariah Thomas, unlawfully in the said mine, did contravene and fail to comply with General Rule No. 4, in section 47 of the said Act, in that in the course of the shift working from 3 o'clock to 11 o'clock in the afternoon of the said 17th day of November, 1898, an inspection of all parts of the said mine in which workmen were to work or pass during that shift, was not made by a competent person, or competent persons appointed by the owner, agent, or manager of the said mine, who was not a contractor or contractors for getting minerals in the said mine.

The defendant pleaded not guilty, and after hearing the parties and the evidence adduced by them, we did on the 16th day of February, 1899, dismiss the said information.

The complainant, alleging that he was aggrieved by the said determination as being erroneous in point of law, did within eight days thereafter apply in writing to us to state and sign a case setting forth the facts and the grounds of such determination for the opinion thereon of this honorable Court, and did, at the time of making such application, and before the stating of this case before a Justice of the Peace, enter into recognizance to Her Majesty in the sum of £20, with a condition to prosecute this appeal with effect and without delay, and to submit to the judgment of this honorable Court, and pay such costs as may be awarded by the same, and; thereupon, in pursuance of the Act in such case made and provided, we state and sign the following case:—

This deponent, *Thomas Lionel Bates*, on his oath, saith as follows:—I am an Inspector of Collieries, and reside at Hamilton; I have acted so for twelve years; my information as read is true.

*To Mr. Edmonds*: I have no personal knowledge of the causes of complaint on the 17th November, 1898; I know defendant, whom I believe to be a thoroughly competent colliery manager; I know David Lewis slightly; I had him under observation during the rescue work at the mine, and from what I saw believe him to be competent as to mining and timbering and the work generally going on, also a competent miner, and competent to make inspections under General Rule 4; it is admitted that defendant was the manager of the East Greta Colliery on the 17th November, 1898.

THOS. L. BATES.

Taken and sworn at West Maitland, the 16th }  
day of February, 1899, before us,—

GEO. F. SCOTT, P.M.  
HY. CROTHERS, J.P.

This deponent, *Frederick Fowler*, on his oath, saith as follows:—I am a Sub-inspector of Police, and reside at West Maitland; I was present at the inquest held on the body of Alfred Moncrieffe; I recollect the oath being administered to Mr. Thomas, the depositions being read over to Mr. Thomas, and his signing same; the signature attached to the depositions shown me is defendant's.

No questions.

F. FOWLER.

Taken and sworn at West Maitland, the 16th }  
day of February, 1899, before us,—

GEO. F. SCOTT, P.M.  
HY. CROTHERS, J.P.

This deponent, *David Lewis*, on his oath, saith as follows:—I am a miner, and reside at East Greta; I know the East Greta Colliery, and I know defendant; I was working at the colliery when the accident took place; I was engaged by defendant; the arrangement between us was that Thompson, Griffiths, Gronow, and I were to get £3 19s. per yard; we never looked upon it as a contract; payment was made to me, and the others with me, at £3 19s. per yard if the ground proved right; if we met anything unforeseen we were to get extra; I had control of the men working with me on behalf of defendant; I paid the assistants, but I received the money and shared with my partners; on the 17th November I was working down at the bottom; I had been on this work three or four months; during the course of this time we generally followed the seam; we worked coal and anything else that came in our way; we got a good deal of coal and other stuff; the coal we got was sent up on top; I do not know what became of this coal; we were paid £3 19s. per yard, irrespective of whether we got coal or anything else; I am an experienced miner; I cannot say how much coal I took out, but what I took out I was paid so much per yard for the length I drove the tunnel; on the 17th November, 1898, I inspected the parts of the mine where we were working; Thompson, who is one of my partners, also made an inspection; Gronow, who was in charge of the shift, inspected the working place as well; there were other workmen working in the same vicinity of where I was working on that day; Thompson, Griffiths, Gronow, and I were appointed by the manager to make inspections; I do not know whether anyone else made an inspection on the 17th November; I have a clear recollection of making an inspection for the shift working from 3 to 11; I only inspected the tunnel, which I did completely; I made the inspection for that shift. (Admitted, there is no part of the mine in question except the tunnel.)

To

*To Mr. Edmunds* : I made a careful inspection of all parts where the workmen were to work or pass in that shift; the tunnel was to be 10 feet 6 inches on the clear; this tunnel was to be the main artery for the further development of the mine; the work of the mine had been carried on through the upper part of the tunnel prior to my sinking the tunnel; I had to inspect the tunnel from top to bottom; my work was to open up this main passage, and I was paid for the exact amount of space opened up during the course of the work; I and the three others had all been miners in the colliery; all the men carrying on the work were engaged by defendant as miners in the colliery; in carrying on the work it was perfectly immaterial to us what stuff was got out, the softer the better for us; I have had seventeen years' experience as a coal-miner—seven years in this country and ten years in Wales, and my experience has been particularly directed to timbering all sorts of places; it was a particular part of my duty to look after the timber; my shift did all the timbering, and this occupied nearly the whole time of my shift; after the others had driven I would come along and do the timbering; defendant required me to look after the timbering; this was part of the understanding before we started.

*To Mr. Gannon* : The men with me worked at the coal face; I might have worked at the face a couple of times; the face we worked on was partly coal and partly country; Thompson, Griffiths, Gronow, and I were partners, and were appointed by the manager to make inspections.

*To Mr. Edmunds* : I would call them mates, and would also call the assistants mates.

Taken and sworn, at West Maitland, the 16th }  
day of February, 1899, before us,— }

DAVID LEWIS.

GEO. F. SCOTT, P.M.  
H. CROTHERS, J.P.

This deponent, *Azariah Thomas*, on his oath, saith as follows:—I am the manager of the East Greta Colliery, and reside at Mount Dee; I have a certificate under the Imperial Act and also under the Colonial Act, and I have had a large experience; it became necessary to drive the tunnel further into the field of coal at as uniform a grade as possible; I arranged for the driving of the tunnel at so much per lineal yard completed; it was possible that the seam would leave the tunnel and the stuff obtained be valueless, then the men were to be paid just the same; they were to be paid not less than usual wages, and more if the ground proved hard; the men had no interest in what they took out of the tunnel; they were paid so much per yard completed, and not for any coal obtained; I have heard portions of my depositions, taken before the Coroner's Court, read; they are correct; I thought I was responsible for the wages of the other men; I examined the work as it went on, and it was within my power to stop the work at any time, take the men away, and put them on to other work, or take any one man away and put him in any other part of the mine.

*To Mr. Gannon* : I could stop Lewis working in the tunnel and put him to any other work I liked; Lewis is a deputy and a colliery employee in the mine, though he was working under an arrangement—a contract, Mr. Gannon calls it; I laid out the work; the men did not altogether follow the seam; I slightly altered the course of the tunnel to follow the coal; in getting this coal out I was opening the mine up; the change in the course of the tunnel was to reach a certain point, and to have an even grade; the men were working on an uneven seam of coal; sometimes they left some coal on top; the men drove 355 feet, at £3 19s. per yard, and I paid about £460 for the work; Lewis got the money; Lewis and the others were appointed by me as competent persons to make inspections; the efficiency of the tunnel was to be a good passage for the development of the mine, not to get all the coal I could; I insisted on Lewis doing the timbering, on account of his qualifications.

*To the Bench* : The men were not paid anything at all for the coal got; the mine got the benefit of it all.

AZARIAH THOMAS.

Taken and sworn, at West Maitland, this 16th }  
day of February, 1899, before us,— }

GEO. F. SCOTT, P.M.  
H. CROTHERS, J.P.

It was not proved, upon the hearing, that the competent person or competent persons to make inspections, as required by the Coal-mines Regulation Act, was or were a contractor or contractors for getting minerals in the said mine.

We determine that the matter hereinbefore stated did not support the said information.

The question for the opinion of the said Court is whether our said determination was erroneous in point of law.

Dated at West Maitland, this 23rd day of March, A.D. 1899.

G. F. SCOTT, P.M.  
H. CROTHERS, J.P.

### No. 39.

The Crown Solicitor to The Under Secretary for Mines and Agriculture.

*Re Bates v. Thomas*.—Special case.

Sir,

Crown Solicitor's Office, Sydney, 7 June, 1899.

I have the honor to return herewith the papers sent me herein, and to state that the matter was decided by the Full Court on the 1st instant, when the appeal was dismissed with costs, the Court holding that the magistrates were right in determining that the Act does not apply to persons contracting to make a tunnel, though they may remove coal in so doing.

I have, &c.,  
GEO. COLQUHOUN,  
Crown Solicitor.

## No. 40.

## The Secretary to The Attorney-General to The Under Secretary for Mines and Agriculture.

Bates v. Thomas.

Sir,

Attorney-General's Department, Sydney, 15 July, 1899.

I have the honor to request that you will be good enough to cause the sum of £47 0s. 8d., amount of defendant's taxed costs herein, to be placed to the credit of my public account to enable me to pay same.

I have, &amp;c.,

HUGH POLLOCK,

Secretary.

For approval.—D.McL., 20/7/99. Approved.—J.C., 20. Accountant. Voucher herewith.—E.C.P., 21/7/99. The Examiner. Vou. 99/1900-1156. Secretary, Attorney-General. £47 0s. 8d., passed, 21/7/99.—G.P.L., Examiner, Department of Mines and Agriculture.

## APPENDIX X.

## REPORTS BY MR. INSPECTOR BATES ON EAST GRETA COLLIERY FROM OCTOBER, 1897, TO NOVEMBER, 1898.

Accident at East Greta Colliery.

Sir,

Newcastle, 25 November, 1898.

I beg to report an accident by a fall of coal, which occurred to two miners named William Henderson and George Rowley, at East Greta Colliery, on 7th November.

I visited the colliery on 8th November, and ascertained the following particulars:—

The accident occurred in the second jig on the second north level, in No. 2 tunnel. This jig had been driven 4 feet wide and 4 feet high in the coal, upwards from the second level to the first north level. It was then necessary to increase the size to allow the cage to be run in it, the finished size to be 8 feet wide and 7 ft. 6 in. high inside timbers. The angle of dip is 40 degrees.

The men commenced work at the top (No. 1 level), and the coal taken down was sent through the original opening into skips on the No. 2 level.

About 14 yards of the work had been completed, timber set every 5 to 6 feet, sill, side props, and caps with slabs at the sides.

Two sets of timber had been put in on the day of the accident, the last set being close to the face.

About 3:30 p.m. on the 7th instant, whilst the men standing at the mouth of the opening were engaged in shovelling coal down, some coal fell away at a slip at the sides and roof on to the men, who could not get away quick enough owing to the steepness of the measures. Henderson had two ribs fractured and Rowley a fractured thigh and serious internal injuries, which it is doubtful whether he will survive. Both men were experienced miners, and in my opinion this is a pure accident, and no blame attributable to anyone.

I have, &amp;c.,

THOS. L. BATES,

Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines.

Noted. Will Mr. Bates please say if injuries to either of these men was caused by falling on a pick, as I have heard.—A.A.A., 26/11/98.

I inquired at the Maitland Hospital yesterday, and was informed that the injuries to Rowley, in addition to a fractured thigh, are two wounds in the back caused by some sharp instrument, probably a pick; but neither Rowley nor Henderson can give me any information on the matter.—T.L.B., 2/12/98. The Chief Inspector of Coal-mines.

Noted.—A.A.A., 3/12/98. Under Secretary, Mines and Agriculture. For the information of the Minister.—H.B.S. (for U.S.), 6/12/98. Approved.—J.C., 6/12/98.

Dear Sir,

East Greta Colliery, near West Maitland, 7 November, 1898.

Two miners—William Henderson and George Rowley—were injured by a fall of coal this afternoon.

Yours, &amp;c.,

A. THOMAS.

T. L. Bates, Esq., Inspector of Collieries, Hamilton.

Report herewith.—T.L.B., 25/11/98. The Chief Inspector of Coal-mines. Noted.—A.A.A., 26/11/98.

Dear Mr. Winchester,

Hamilton, 7 November, 1898.

I have just received a wire of an accident to two men at East Greta Colliery by fall of coal, and that the place is waiting inspection, so must go there in the morning. Will endeavour to be at office on Thursday.

Yours, &amp;c.,

THOS. L. BATES,

Inspector of Collieries.

Mr. Atkinson.—H.W., 8/11/98. Noted.—A.A.A., 14/11/98. Records. Please furnish a copy of the report made on this accident. Urgent.—D.McL., 23/11/98. Inspector's report not yet received at Records.

## REPORT on accident to A. Whiteley at East Greta Colliery.

Accident at East Greta Colliery, West Maitland.

Sir,

Newcastle, 12 October, 1898.

I beg to report an accident by the slipping of a rope on the surface, which occurred to an assistant banksman named Albert Whiteley at East Greta Colliery on 27th September.

I visited the colliery on 3rd October, and ascertained the following particulars:—

Albert Whiteley and his brother Sydney are banksmen at the mouth of the No. 2 tunnel. Near the tunnel is a small coal-hopper, and a skip carries the small coal from underneath the screen up a slanting tramway into this hopper. The rope from the skip passes through a snatch block on the hopper, and passes over the pit-bank to a small engine worked by a boy named Martin Jensen, 17 years of age.

The distance the skip travels is 25 feet, and there is a mark on the rope to denote where to stop.

Between 8 and 9 o'clock in the evening of 27th September, the boy Jensen, by mistake, pulled the skip up too far, and the connecting chain got fast in the snatch-block. This was liberated by the two Whiteleys and another man, but, probably owing to the darkness, neither Albert Whiteley or any of the other men noticed that the side-iron of the snatch-block was slightly bent. They resumed work, and after the skip had been pulled up four or five times, the rope came out of the block, and becoming taut, broke some side-rails and struck Albert Whiteley (who was passing underneath on his way to get some skips to put on the cage) on the back, knocking him down on the rails. His right leg was fractured below the knee. He was removed to Maitland Hospital, where it was necessary to amputate the injured limb.

I have, &amp;c.,

THOS. L. BATES,

Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines, Sydney.

Noted. Will Mr. Bates kindly say if any one is to blame, or if he can suggest any means of preventing a recurrence of this.—A.A.A., 13/10/98.



I do not see my way to blame any one person for this accident. The accident is due primarily to the boy Jensen, who, by mistake, pulled the skip up too high and jammed the coupling of the rope in the snatch-block. This was liberated by several men, amongst whom was the injured man Albert Whitely, and no one appears to have noticed any injury to the block. Since the accident a more substantial mark has been made on the rope, and a similar accident should, therefore, be avoided.—T. L. B., 15/10/98. The Chief Inspector of Coal-mines.

Noted.—A. A. A., 20/10/98. Records. For the information of the Minister.—H. B. S. (for U. S.), 21/10/98.

Dear Sir,

East Greta Colliery, near West Maitland, 28 September, 1898.

A young man named Albert Whitely had his leg broken last night on the surface at the above colliery; he was assistant banksman.

Yours, &c.,

A. THOMAS.

Mr. Jno. Dixon, Senior Inspector of Collieries, Merewether, near Newcastle.

Report herewith.—T. L. BATES, 12/10/98. The Chief Inspector of Coal-mines.

REPORT ON EAST GRETA COLLIERY.  
East Greta Colliery Inspection, West Maitland.

Sir,

Newcastle, 20 September, 1898.

I have the honor to report having inspected the above colliery on 5th and 16th September.

All the workings, bords, of No. 1 tunnel are at present idle until the tunnel has been driven a further distance to the dip.

No. 2 Tunnel, Lower Seam, South Side.—There are 22 men and 2 boys employed underground in each shift, and supplied with 7,500 cubic feet of air per minute, giving each an average of 312 cubic feet. This is by natural ventilation. The air current descends the No. 2 tunnel, and returns up what is known as the steam jig.

North Side.—There are 25 men and 2 boys employed underground; total, 27 in each shift, and supplied with 15,000 cubic feet of air per minute, giving each an average of 555 cubic feet. The air-current descends the No. 2 tunnel, and returns to a furnace at the extreme north of the workings.

There are three shifts worked at this mine, each having the number of men and boys as stated above.

The wheeling and travelling roads were in good condition, and there was a plentiful supply of timber on hand.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines, Sydney.

Noted.—A. A. A., 24/9/98. Records. For the information of the Minister.—H. B. S. (for U. S.), 26/9/98. J. C., 27.

REPORT ON EAST GRETA COLLIERY.  
East Greta Colliery Inspection, West Maitland.

Sir,

Newcastle, 11 June, 1898.

I have the honor to report having inspected the above colliery on 17th May and 10th June.

No. 1 Tunnel, Lower Seam, South Side.—I inspected this portion of the mine on 17th May, and found 14 men, 4 boys, and 1 horse employed; total, 19,—and supplied with 10,070 cubic feet of air per minute, giving each an average of 530 cubic feet.

These workings are at present suspended until the main tunnel has been driven a further distance to the dip, when operations will be resumed.

North Side Workings.—The coal from the north side workings is drawn out of two tunnels. The No. 2 tunnel is filled up with cages, in which the men, &c., ride; the other tunnel, known as the steam jig, is used for hauling coal only. The mine is ventilated by means of a furnace on the surface, and a brick chimney connected with an opening to the surface north of the steam jig.

The current of air in circulation was 17,390 cubic feet per minute. The mine works three shifts, and in each of the shifts there are 57 men, 7 boys, and 1 horse; total, 65, which will give each an average of 267 cubic feet.

The wheeling and travelling roads were in good condition, and a plentiful supply of timber on hand.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines, Sydney.

Noted.—A. A. A., 13/6/98. Records. For the information of the Minister.—H. B. S. (for U. S.), 14/6/98. Seen.—S. SMITH.

REPORT ON EAST GRETA COLLIERY.  
East Greta Colliery Inspection, West Maitland.

Sir,

Newcastle, 11 February, 1898.

I have the honor to report having inspected the above colliery on 31st January and 8th February.

No. 1 Tunnel, Lower Seam.—Only the coal from the south workings of the mine is drawn up this tunnel. There are in this portion of the mine 24 men, 4 boys, and 1 horse employed; total, 29,—and supplied with 9,900 cubic feet of air per minute, giving each an average of 341 cubic feet.

No. 2 Tunnel, Lower Seam.—All the coal to the north of the No. 1 tunnel is drawn up this one. There are usually 41 men and 2 boys employed, but on the day of my inspection no miners were at work, and no coal being drawn. Four men working in one of the jigs fixing up a drum for the purpose of lowering the full skips of coal from the bords down to the main level, from which they are drawn in the cage to the surface.

The ventilation in this portion of the mine was satisfactory.

Two shifts are worked with the above number of men, &c., in each shift.

The wheeling and travelling roads were in good condition, and there was a plentiful supply of timber on hand.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines, Sydney.

Noted.—A. A. A., 14/2/98. Records. For the information of the Minister.—H. B. S. (for U. S.), 14/2/98. Seen.—S. SMITH.

REPORT ON EAST GRETA COLLIERY.  
East Greta Colliery Inspection, West Maitland.

Sir,

Newcastle, 18 October, 1897.

I have the honor to report having inspected the above colliery on 7th and 15th October.

No. 1 Tunnel, Lower Seam.—The only coal drawn up this tunnel is from the south side workings, where 23 men, 4 boys, and 1 horse are employed; total, 28,—and supplied with 9,800 cubic feet of air per minute, giving each an average of 350 cubic feet.

No. 2 Tunnel, Lower Seam.—All the coal from the north side workings is now hauled up this tunnel. There were only 4 men and 2 boys employed at the time of my inspection, no coal being drawn, but usually there are 31 men and 1 driver employed. There was a satisfactory amount of air circulating through the working-places.

Two shifts are worked, with the above number of men, &c., in each shift.

The wheeling and travelling roads were in good condition, and there was a plentiful supply of timber on the flats.

I have, &c.,

THOS. L. BATES,

Inspector of Collieries.

A. A. Atkinson, Esq., Chief Inspector of Coal-mines, Sydney.

Seen.—A. A. A., 27/10/97. Under Secretary, Mines and Agriculture. For the information of the Minister.—H. B. S. (for U. S.), 1/11/97. Seen.—S. SMITH.

## APPENDIX Y.

## ORIGINAL DEPOSITIONS TAKEN AT INQUEST ON BODY OF A. MONCRIEFFE.

## MINUTE.

*Subject* :—Inquest at East Greta and Court-house, West Maitland, upon the body of Albert Moncrieffe (letter from Coroner, Newcastle, 1/2/99).

SUBMITTED for the Minister's information.

Department of Justice, Sydney, 9 February, 1899.

A subpoena has been received for the production of these depositions at the hearing of a case, *Bates v. Thomas*, at the Court of Petty Sessions, West Maitland, on the 16th instant.

They might be forwarded to the Clerk of Petty Sessions, West Maitland, for production to the Court.

G.M.

Approved.—C.A.L., 10/2/99. Depositions and subpoena to C.P.S., West Maitland, 11/2/99. Forwarded to the Under Secretary for Mines and Agriculture, in accordance with request specially made to-day—G.W. (for U.S.), B.C., 17/10/99.

Sir,

Newcastle, 1 February, 1899.

I have the honor to inform you that I forwarded yesterday by post (registered) two packets of depositions of witnesses, taken during the inquest held before me touching the death of *Albert Moncrieffe*, in the East Greta Colliery.

The inquest was opened at East Greta on the 24th of December, 1898, and was continued for twelve days at the Court-house in West Maitland, and concluded on the 27th of January, 1899. I much regret that though the evidence covered every subject in connection with the disaster itself, and the state of the colliery, and that the context was nearly the same throughout, yet the jurors, after over fourteen hours continuous debate, could not agree upon a verdict, and without the least likelihood of doing so, as the foreman said, if they were locked up for a month. I therefore then discharged the jury.

I enclose application for an advance, and obligation receipt for the sum of £69, to pay the jurors' allowances.

The Exhibits and other papers connected with the inquest will be forwarded as soon as I receive part of them from West Maitland. There is a model of the tunnel, showing manner of timbering; it is very bulky, and would, perhaps, be better left at Court-house, in West Maitland, with the different samples of stone from the colliery.\* Kindly advise me respecting these.

Can I do anything more in the case, as the result was so bald?

I have, &c.,

GEO. C. MARTIN,

Coroner, District of Newcastle.

The Under Secretary, Department of Justice.

\*Submitted for approval of this suggestion—G.M., 9/2/99.

Sir,

Court-house, West Maitland, 18 February, 1899.

I have forwarded, under separate cover (registered), the depositions taken at the inquest held on the body of one Albert Moncrieffe, which were duly produced at this Court of Petty Sessions, in accordance with your instructions.

I have, &c.,

NORMAN BLACK,

Clerk of Petty Sessions.

The Under Secretary of Justice, Sydney.

Depositions to Under Secretary for Mines, 6/3/99.

[Coroner, Newcastle.]

Telegram from Geo. C. Martin, Coroner, Newcastle, to The Under Secretary for Justice, Sydney.

Newcastle, 3 January, 1899.

MR. ATKINSON, Chief Inspector of Collieries, was asking if a type-writing deposition clerk would attend at West Maitland on Wednesday next to take evidence. Kindly inform me early.

GEO. C. MARTIN,

Coroner.

Inform not intended send clerk, unless it appears that otherwise the proceedings will be lengthy. As to this Mr. Martin might report to-morrow.—G.M., 3/1/99. Wire sent, 3/1/99. File with inquest proceedings when received.—G.W., 10/1/99. Remind Mr. Martin that he has not furnished the report asked for in my telegram of 3rd instant, and ask how much longer he thinks the inquest will last.—16/1/99. Wire. Wired Coroner, Newcastle, 16/1/99.

[Coroner, Newcastle, that he has adjourned inquest on Albert Moncrieffe till 4th prox.]

Newcastle, 27 December, 1898.

Sir, I have the honor to acknowledge the receipt of your wire, and to inform you that I opened the inquest touching the death of Albert Moncrieffe last Saturday afternoon at East Greta; and, after taking evidence for identification, adjourned till Wednesday, the 4th of January, 1899. I considered the holidays would be over then, and also that it would give time for the mine to be opened and cleared up to where the fall commenced. About 25 feet of building up and supporting must be done to get there; 5 feet is done, as I have heard, each day.

The adjournment will be at the Court-house at West Maitland, to commence at 10-30 a.m. I expect the inquest will last some days.

I have, &c.,

GEO. C. MARTIN,

Coroner, District of Newcastle.

The Under Secretary, Department of Justice.

Seen.—J.L.W. (for U.S.), 29/12/98.

[Coroner, Newcastle.]

Telegram from Geo. C. Martin, Coroner, Newcastle, to The Under Secretary of Justice, Sydney.

Newcastle, 28 December, 1898.

AM leaving this afternoon for East Greta, to open inquest; wish your wire had reached me earlier.

GEO. C. MARTIN,

Coroner.

## MINUTE.

*Subject* :—Inquest at East Greta and Court-house, West Maitland, upon the body of Albert Moncrieffe,

Department of Justice, Sydney, 3 March, 1899.

THE proceedings in this case are forwarded for the information of the Department of Mines.

G.M.

Submitted for the information of the Minister.—A.A.A., B.C., 13/3/99. H.B.S. (for U.S.), 14/3/99. J.C., 15. The papers are now returned. The Under Secretary of Justice.—H. B. SULLIVAN (for U.S.), B.C., 16/3/99.

Sir,

Newcastle, 4 February, 1899.

I have the honor to forward herewith by post (registered) papers in connection with the East Greta Inquest,

viz. :—

Exhibit marked "A."

Do Tracing of Tunnel.

Do Special Rules of Colliery.

Affidavit of Jurors.

Death information, "Albert Moncrieffe."

Index to witnesses in Depositions.

Voucher in duplicate for the conveyance of jurors twice.

Voucher in duplicate for tea-meal for jurors on the evening of the 27th.

I have, &c.,

GEO. C. MARTIN,

Coroner, District of Newcastle.

The Under Secretary, Department of Justice.

[Exhibit

[*Exhibit at Inquest by Mr. Thomas. Geo. C. Martin, Coroner, 4th January, 1899.*]

SPECIAL RULES.—For the conduct and guidance of the persons acting in the management of the East Greta Colliery, in the district of Maitland, and all persons employed in or about the said colliery, framed in conformity with the provisions of the Coal-mines Regulation Act, 1896, 60 Victoria No. 12.

*Manager.*

1. The manager (or the under-manager when acting for him) shall have the daily supervision of the above colliery, and shall have full command over all other officers and workmen employed in or about the colliery, who are to receive their orders from him, and shall apply to him for instructions as often as may be necessary.

2. He shall comply with the requirements of the Coal-mines Regulation Act, 1896, and shall, to the best of his power, enforce the observation of the said Act, and enforce observation of the General and Special Rules.

*Under-manager.*

3. The under-manager shall have the daily supervision and responsible charge of the mine under the direction of the manager, and shall give all necessary instructions to the men and boys in the mine respecting their work; and shall, to the best of his power, see that they comply with the rules and regulations of the colliery, as well as the orders of the manager, and shall visit every working-place in the mine daily, or as often as may be practicable, and see that the air-courses and stoppings are kept in a good state of repair, and that an adequate quantity of fresh air is constantly supplied to the men.

4. He shall give immediate attention to any complaints, and shall inspect personally such portions of the mine as are reported to be unsafe or in any way to need his attention.

5. He shall see that a sufficient supply of timber is sent down the mine and into the different districts.

6. He shall see that each miner keeps his working-place sufficiently timbered, and shall suspend at once any miner refusing or neglecting to do so.

7. He shall examine every day the different main and district air-currents, and shall see that the furnaces are kept in good repair and carefully attended to.

8. He shall, under the direction of the manager, cause safety-lamps to be used, and naked lights to be excluded where required by the Act.

9. He shall see that the deputies, miners, shifters, and all others under his charge in the mine, strictly and rigidly observe the rules applicable to them, and shall suspend immediately anyone infringing or attempting to infringe any rule, order him out of the mine, and report the same to the manager.

*Deputy.*

10. Each deputy shall be informed by the manager or under-manager as to what portion of the workings is to be under his charge, and all persons working in that portion of the mine will be under his direction, and he shall, in the absence of the manager or under-manager, direct the workmen how and where they shall work, and shall see that the rules applicable to them, as well as the orders of the manager or under-manager, are strictly attended to.

11. The deputy or other competent person appointed for that purpose shall be in the mine within four hours before the workmen commence, to enable him to examine the working-places, &c., carefully, and shall ascertain the condition thereof so far as the presence of gas, ventilation, roof and sides, and general safety are concerned, and shall record the result of such examination without delay in a book to be kept at the mine for the purpose.

12. He shall place cross timbers, or rails, thus X, or a signal-board, as a signal of danger at the entrance of every working-place which he may find unsafe, and on his return to the station shall state on his board all places so found unsafe.

13. In any place where there is a dangerous appearance of fire-damp locked safety-lamps shall be used; and no workman shall be permitted to remain where fire-damp has accumulated in such a quantity as to show a permanent blue cap over the flame.

14. Before safety-lamps are taken into the workings, the deputy, or some other competent person duly appointed for the purpose, shall examine the entire lamp, and, if all is right, shall lock it for the miner.

15. Should there be any discharge of gas, or any condition of roof from which the deputy apprehends any danger, he shall instantly report the circumstances to the under-manager.

16. He shall report as soon as possible to the manager or under-manager all accidents, dangers, or defects which may occur in his district of the mine, and he shall also so report any accident, danger, or defect to or in any machinery or structure in the mine which may come to his knowledge.

*Wheelers.*

17. The wheelers shall report to the under-manager or deputies if any part of the road or roof has been deranged, or is insecure or dangerous.

18. Any wheeler injuring a door or brattice cloth door, and not immediately reporting the fact, shall be suspended. He shall also report to the under-manager or deputy every morning the quantity and different lengths of timber required for his miners.

19. He shall take in without delay any timber the miners may require, and shall at all times carry out the orders of the manager, under-manager, or deputy, in order to facilitate and promote the work of the mine.

20. Any person neglecting these rules will be liable to instant dismissal or prosecution according to law.

*On-setter.*

21. The on-setter shall, subject to the directions of the manager or under-manager, have the sole control of the pit bottom, and the command of the signal up the pit, and on no account shall he allow any person to interfere with the signals. He shall at all times when sending up skips of coal see that none of the coal projects beyond the side of the skip, and shall pay the greatest attention to the signals when men are going to ride, in order that accidents may be avoided. The signals shall be as given in rule 87.

22. No timber, materials, stones, coal, or other things shall, under any circumstances, be lowered or lifted in a pit while men are being lowered or lifted in it, except such as may be necessary in repairing a pit while the repairs are going on.

23. The on-setter shall not, on any account, allow more than six persons in a single cage, or ten in a double cage at the same time.

24. Any person refusing to leave the cage when ordered to do so shall be immediately suspended.

*Miners.*

25. Any miner after passing through a door must instantly close it; and shall not injure a door or leave it open, break down a stopping or brattice, interfere with or obstruct or damage an air-crossing, or an air-pipe, or remove or go beyond a mark or "danger-signal," without orders from the manager, under-manager, or deputy.

26. Every miner shall securely sprag or uphold the coal whilst holding, and shall securely prop up the roof of his working-place, so that accidents may be avoided; and should he not be provided with a sufficient quantity of timber he shall cease working and report the same to the manager, under-manager, or deputy.

27. The seam of coal must be wrought strictly in accordance with the orders of the manager or under-manager.

28. Every miner shall, in all matters relating to the working of the mine or the safety of the men, obey strictly the orders of the manager, under-manager, or deputy; and no person shall go into any part of the mine other than where he is employed, except by the order of the manager, under-manager, or deputy.

*Door-keepers.*

29. A door-keeper must only open a door for the passage of persons, skips, or animals, and must instantly close the same when they have passed through. He must never allow a door to remain open, or to be propped or fastened back, unless authorised to do so by the manager, under-manager, or deputy.

30. A door-keeper must not leave any door or doors under his charge until the work of his shift is finished, or until another person appointed by the manager, under-manager, or deputy takes his place.

31. Any door-keeper becoming aware of any defect in, or damage to, any door, shall report the same as soon as practicable to the manager, under-manager, or deputy.

*Persons*

*Persons in charge of Ventilating Appliances.*

32. The persons in charge of any ventilating furnace or other ventilating appliance shall not leave the same without the permission of the manager, under-manager, or engine-wright.

33. Furnace-men must pay careful attention to the furnace under their charge; and shall maintain the fire in such a state as constantly to ensure efficient ventilation.

34. The fan and fan-engine shall be carefully attended to by the person or persons in charge thereof, who shall keep the same running at the speed ordered by the manager, so that effect may be given to the provisions of the Act as to ventilation.

35. All persons in charge of ventilating furnaces, fans, fan-engines, or other ventilating appliance, shall immediately report any damage, defect, or derangement therein to the manager, under-manager, or engine-wright.

*Lamp-keepers.*

36. No person, except a person authorised by the manager or under-manager, shall either take himself or give out for use in the mine any safety-lamp.

37. Lamp-keepers must see that every safety-lamp is thoroughly cleaned, properly put together, in safe working order, and securely locked when given out for use in the mine. If any lamp be not returned at the proper time they shall at once report the fact to the manager or under-manager.

38. All persons entrusted with the duty of cleaning any gauze, or other part of any safety-lamp, or with the duty of putting any safety-lamp or parts thereof together, shall at once report any defect therein to the lamp-keeper, or if there is more than one lamp-keeper, then to the head lamp-keeper.

39. Whenever any defective or damaged lamp is received from any person by any lamp-keeper he shall report the fact to the manager or under-manager, and shall cause such lamp to be kept in the state in which he received it until seen by one of them.

40. Every lamp-keeper shall see that all oil, spirit, and other inflammable articles under his charge are carefully and properly stored and used, and that no greasy waste or other refuse is allowed to accumulate in or near the lamp cabin.

*Engine-wright.*

41. The engine-wright, or other competent person appointed for the purpose, shall cause the ventilating-fan or other mechanical ventilating apparatus, together with the engines, machinery, and boilers for driving the same, to be properly attended to.

42. The engine-wright, or other competent person or persons appointed for the purpose, shall have charge of all engines, machinery, and boilers used for raising or lowering persons or minerals, or for pumping water, and of all ropes, chains, appliances, or apparatus connected therewith; and of all guides, ropes, chains, conductors, or other appliances in the shafts, and of all other engines, machinery, and boilers in or about the mine. In case he shall discover any weakness, defect, or want of repair therein, he shall, as soon as practicable, cause the same to be repaired and made good, and shall at once report to the manager the fact of such defect, weakness, or want of repair, and also the steps taken to remedy the same.

43. The engine-wright, or other competent person or persons appointed for the purpose, shall make the examinations and report required by General Rule 5.

44. The engine-wright, or other competent person appointed for the purpose, shall cause every rope used for raising or lowering persons or minerals to be securely attached to the drum, so that when either cage is at the pit bottom there shall be not less than two rounds of rope upon the drum.

45. The engine-wright, or other competent person, whenever a winding rope requires capping, coupling, or splicing, shall superintend the same, and shall see that no spliced rope is used for raising or lowering persons in a shaft.

46. The engine-wright, or other competent person or persons appointed for the purpose, shall see that the fences are fixed and maintained at the top of every shaft, and that the guides, signals, covers, flanges, or horns, appliances, brakes, indicators, fences, valves, gauges, and things required by General Rules 18, 20, 26, 27, 28, 29, 30, 31, 32, and 33, or any of them, are fixed and maintained as therein required; and that the provisions of General Rule 25 are carried out above ground.

47. The engine-wright shall cause bells or other signals to be fixed in every drawing engine-house connected with the drawing pit bottom, and with every entrance for the time being in work between the surface and bottom of the shaft; and shall cause the board required by Special Rules 23 and 64, stating the number of persons authorised to descend or ascend the shaft at one time, to be fixed and maintained on the pit bank.

48. The engine-wright shall cause each working boiler to be cleaned and examined as often as the manager shall so order.

49. The engine-wright shall cause the code of shaft signals used in moving the cages to be fixed and maintained at the top and bottom of each winding shaft, and at every shaft to which the provisions of Special Rule 57 apply; he shall see that the point named in that rule is distinctly marked on the indicator.

*Engine-drivers.*

50. Every engine-man shall attend at such time as the manager may appoint, and as required by General Rule 25.

51. An engine-man shall not allow any person to interfere with the engine or machinery under his charge, or to remain in the engine-house unless authorised by those in authority above him. A winding engine-man while winding must remain at the handle and must pay particular attention to the indicator and signals, and if he perceives anything wrong must instantly stop his engine and not start it again until the defect is put right or until he receives an order to go on.

52. Every winding engine-man, before commencing work in his shift, and before any person descends the shaft, shall carefully examine the engine, machinery, drums, ropes, brakes, indicators, and signal apparatus in the engine-house or under his charge, in order to ascertain whether they are safe and in good working order, and shall run the cages at least once up and down the shaft. Where shifts are worked continuously, it shall be sufficient if this rule is carried out at the commencement of the morning shift.

53. Every engine-man, unless some other competent person is specially appointed for the purpose, shall keep the engines, machinery, and things connected therewith under his charge, properly cleaned and oiled, and shall see that they are in good and safe working condition. He shall see that the provisions of General Rules 27, 30, 31, and 32 are carried out and observed during his working shift, so far as they relate to engines or machinery under his charge.

54. Every engine-man must diligently and carefully attend to the working of the engine and machinery under his charge. He must examine such engine and machinery before commencing work, and if he becomes aware of any weakness or defect, or apprehends any danger, he must, as soon as practicable, inform the manager, under-manager, deputy, or engine-wright. He shall not alter a safety-valve without leave from the manager, under-manager, or engine-wright.

55. Every engine-man, in addition to the duty in this respect imposed on the engine-wright, shall see that any ropes attached to the drum of the engine under his charge are securely attached, and so that when either cage is at the bottom of the pit there shall not be less than two rounds of rope upon the drum.

56. Every winding engine-man, whenever the engine under his charge ceases working, shall see that the cages are left so as not to impede the ventilation.

57. When men are being raised in shafts where the winding apparatus is not provided with some automatic contrivance to prevent overwinding, the cage shall not be wound up at a speed exceeding 3 miles an hour when and after it has reached a point 10 feet from the top of the shaft, as required by General Rule 27, and such point shall be marked on the indicator.

58. The signals given in Rule 87 shall be carefully observed by the engine-man.

*Banksman and Assistants.*

59. That the banksman shall, subject to the directions of the manager, under-manager, and engine-wright, have the control of the pit top, and the command of the signals down the pit and to the engine-man.

60. That the banksman shall be responsible for the state of the pit top, and shall see that the frames and the surface near the pit mouth are kept free from coals, stones, or dirt.

61. That at least one banksman and one on-setter, or other person appointed by the manager, under-manager, or deputy for that purpose, shall be at their respective posts at the proper time every morning, to give the proper signals, and to see the men and boys carefully into and out of the cages at the top and bottom of the shaft.

62. The banksman must be at the drawing shaft at such times as the manager or under-manager may appoint. He shall not allow a person to descend or ascend until the cages have been once run up and down the shaft, but where continuous shifts are worked it shall be sufficient if this is done at the commencement of the morning shift.

63. That the banksman shall not permit strangers or persons not employed in the mine to descend the pit or remain upon the bank, unless authorised by the manager; and shall caution strangers descending to keep carefully within the cage until they are fairly landed. He shall not allow an intoxicated person to descend the pit.

64. That the banksman or on-setter shall not allow more than six persons in a single cage, or ten persons in a double cage; nor shall any person be allowed to ride with or against coals, slack, dirt, &c. Neither shall any person, unless specially allowed by the manager, under-manager, or deputy, be permitted to carry any tools, implements, props, rails, or such like in his hands whilst so riding; but the same shall be securely placed in the cage, skip, or basket, so that no danger may exist of their falling out during their ascent or descent, or of their coming in contact with anything in the pit; and no person shall be allowed to get upon or off the cage at the pit top unless it be standing upon the catches or keeps, or at a mouthing, without the signal first being given and responded to.

65. The banksman must frequently observe the pit top pulleys, ropes, chains, cages, and landing apparatus during working hours, and whenever he becomes aware of any weakness or defect therein, or in anything belonging to the shaft, or any engine, machinery, or winding tackle, he must immediately inform the engine-man, and the manager, under-manager, or engine-wright, so that it may be repaired.

66. The banksman must report to the manager or under-manager any disobedience on the part of the miners or others.

67. The signals given in Rule 87 shall be carefully observed by the banksman.

*Miners and all other Persons Employed.*

68. No person acting in a place of trust shall depute anyone to do his work without the sanction of the manager.

69. No swearing or fighting is allowed in or about the mine, and no intoxicating liquors shall be permitted in the mine without the consent of the manager.

70. Any person employed in the mine shall inform the person in charge of the workings of the existence of any choke or fire-damp, of any insecurity of the roof, shaft, or any other part of the workings, or of any air-door being damaged or left open, immediately on its being observed by him.

71. No person shall be permitted to carry a naked light attached to the cap or hat on his head whilst handling explosives, or in charging holes for blasting.

72. A safety-lamp must be frequently examined, and if a lamp shows a blue cap, the person using it must carefully draw down the wick with the pricker, cease working, leave the place, and report the same to the manager, under-manager, or deputy.

73. No person shall place a safety-lamp on its bottom unless it is necessary to do so for the safe performance of any particular work, or unless authorised by the manager, and in all cases the lamp shall be hung or placed at least 2 feet from the swing of the pick, hammer, or other tool.

74. No person shall leave a lighted candle or other light in any part of the mine when leaving his work.

75. No person shall try the wastes or workings for fire-damp with a naked light, and no person shall smoke or take a naked light, tobacco, pipe, cigar, cigarette, lucifer matches, or candle, where safety-lamps are ordered to be used.

76. No naked lights shall be allowed or taken beyond any danger signal where gas exists.

77. No person shall wilfully kindle a feeder of gas, or negligently have the gauze of his safety-lamp full of fire, or unlock the lamp, or unscrew the gauze, or blow out the flame, or light tobacco or other substance at the gauze, or damage or improperly use the lamp, or leave it in the works, when he has ceased using it.

78. Any person discovering any stoppage or derangement to ventilation, injury to an air-crossing, door, regulator, sheet stopping, brattice, or air-pipe, or observing any injury to or obstruction of an air-course, shall immediately give notice to the manager, under-manager, or deputy, and to any person or persons whose safety may be endangered thereby.

79. Any person passing through a door or sheet must instantly close the same, unless it is a door or sheet ordered to be kept open. No person shall, without authority, remove any caution-board, notice, or danger signal, or pass any danger signal, caution board, or fence.

80. In case of a shot missing fire the workman shall place a danger signal at the entrance to his working-place, and shall immediately report the same to the manager, under-manager, or deputy.

81. Every miner or other workman in charge of any working-place, before commencing work, and at intervals during his shift, shall examine his working-place, and in case any danger is observed shall at once report to the manager, under-manager, or deputy.

82. No person shall leave coal, slack, or other material so as to impede the ventilation; nor leave a skip or other obstruction in the air-current.

83. Every horse-keeper shall see that no animal under his care is allowed to go to work while in an unfit state, and shall report to the manager, under-manager, or deputy any injury received by any animal.

84. No person shall wilfully injure any animal whilst in his charge, or permit it to receive injuries by his wilful act or negligence, and shall report immediately to the horse-keeper or a deputy any injury received by such animal while in his charge.

85. No person shall take a horse on to or travel along any incline or plane, either in the mine or on the surface, which is self-acting or worked by machinery, while it is in motion, without special instructions from an officer of the mine.

86. Every person in charge of any animal shall immediately report to the manager, under-manager, or deputy in case he finds such animal cannot pass along any road without rubbing against the roof or timbering; and no person shall, unless otherwise authorised, give his horse into the charge of any other person than the horse-keeper at the stables.

*Shaft Signals.*

87. The following signals (with such additions as under special circumstances may be ordered by the manager) shall be carefully observed by the engineman, banksman, on-setter, and other persons employed at this colliery:—

One knock—to go on.

One knock—to stop when the engine is in motion.

Two knocks—lower down.

Three knocks—when any person is going to ascend or descend.

One knock—in reply before any person is allowed to get into the cage.

Four knocks—to lower slowly.

Five knocks—to ascend slowly.

88. Every person, when on the pit bank, or while about to descend the shaft, shall obey the orders and directions of the banksman; and every person, while in or about the pit, or while about to ascend the shaft, shall obey the orders and directions of the on-setter.

89. No person shall improperly use any signal, signal-wire, or signal apparatus.

90. No person shall get into the cage after the authorised number is in, or if forbidden to do so by the banksman or on-setter.

91. Every person who shall couple or fasten any skip to any other skip, or to any rope or chain shall see that such coupling or fastening is made secure.

92. Before any person moves a skip in a bord he must see that a safety-block is at or near the entrance of the bord, and in good order and set across the rail.

93. All persons employed in the mine shall be under the control of the manager, under-manager, and deputies, and shall at all times obey their lawful commands.

94. Any person committing a breach of any of the foregoing Special Rules is liable to be instantly dismissed.

END.

Name of the mine—East Greta Colliery. Where situated—Near West Maitland. Name of the owner—East Greta Coal-mining Company, Ltd. Name of the manager—Azariah Thomas. Name of the under-manager—Henry Cartwright. Name and address of the Inspector of Mines of the district—J. Dixon, Newcastle.

CERTIFICATE

## CERTIFICATE OF SPECIAL RULES.—EAST GRETA COLLIERY.

I HEREBY certify that the above copy of Special Rules has been shown to my satisfaction to be a true copy of the Special Rules which at this date are established under the Coal-mines Regulation Act, 1896, for the above-named mine.  
 Thirtieth day of April, 1897.

AZARIAH THOMAS, Manager.

JOHN DIXON, Inspector of Collieries.

*Exhibit A.—Put in by Mr. Thomas.*

NEW SOUTH WALES.

Sir, Coal-fields Office, Department of Mines and Agriculture, Sydney, 10 December, 1898.

With reference to recent underground inspections of the East Greta Colliery, and conversations with you on several matters in connection therewith, I respectfully desire to call your serious attention to the following points:—

1st. Having regard to the altered character to the roof of the seam, as proved by the fall of the 18th ultimo, in No. 1 tunnel, and by a fall in the lowest north level of No. 2 tunnel, it is desirable to increase considerably the quantity of timber on all lower levels to keep them secure.

2nd. It is desirable to prove the thickness of the conglomerate above the seam in the lowest level of No. 2 tunnel going towards No. 1 tunnel.

3rd. It is not advisable, having regard to altered nature of the roof, to allow the levels, when going with the top coal, left on to remain without being timbered near the face.

4th. Under the conditions of increased depth and altered roof it is desirable to increase the sizes of the pillars considerably.

5th. The diameter of the props used by the miners in the bords would afford more security if increased in size; and this is necessary having regard to the extra depth at which the workings are carried on, and also to the altered character of the roof.

Trusting these matters will receive your serious consideration, and I shall be glad at any time to further discuss them with you.

A. Thomas, Esq., East Greta Colliery, West Maitland.

I have, &amp;c.,

A. A. ATKINSON,

Chief Inspector of Coal-mines.

Copy of original.—3-1-99.—GEO. C. MARTIN, Coroner.

New South Wales, } County of Northumberland.  
to wit.

INFORMATION and depositions of witnesses, taken on oath, before me, George Cannon Martin, one of the coroners of our Sovereign Lady the Queen, for the Colony of New South Wales, this twenty-fourth day of December, one thousand eight hundred and ninety-eight, at the surgery, at East Greta, district of Maitland, in the said Colony, on view of the body of Albert Moncrieffe, then and there lying dead.

*Arthur Morrison*, having been sworn, states:—I am a wheeler, and am employed at East Greta Colliery, and I live in West Maitland; I have seen a body this day in the surgery at East Greta, in the presence of the coroner and jury; I cannot recognise the body from its appearance on account of the body being too decomposed; but I see a clasp knife now produced, and I know that it belonged to Albert Moncrieffe; I am sure that the knife was his; the point of it was blunted through he and others opening tins with it; I was told that this knife was found on the body we have now viewed; I am the brother-in-law of Albert Moncrieffe; I am almost sure that Moncrieffe was in the East Greta pit at the time of the late disaster; he was 25 years of age, and was born in Sydney, and he was married; his wife is alive; she lives in West Maitland; he leaves one child—a girl; he does not leave any property or invested money.

*By Jury*:—I was personally acquainted with the three men who were entombed in the pit. Dick Barnes was, I believe, the tallest of the three men, and Moncrieffe was, I think, the short one of the three.

Sworn and made at East Greta this 24th day }  
of December, 1898, before me—

ARTHUR MORRISON.

GEO. C. MARTIN, Coroner.

This Deponent, *William Thomas Doran*, on his oath saith as follows:—I am a constable in the Police Force, and reside at and am stationed at West Maitland; at 6:30 a.m. this day I received the body just now viewed by the jury, and also a tin, containing clothing, from Constable Townsend, at this surgery; shortly afterwards, I took the clothes out of the tin to wash them, and I then found in the trousers pocket the knife that is produced; this knife was identified in my presence by the last witness, Morrison, as the knife of Moncrieffe, and also by William Tiedeman as the property of Moncrieffe; the clothes were not identified; the body that I received was too decomposed to be recognised by the features; I have shown the clothes taken off the deceased to the relatives of the other two men entombed, and they positively say that they were not worn by either Gronow or Barnes.

*By Jury*:—The tin of clothes handed to me was said to have been removed from the body I received at the same time.

Sworn and made at East Greta this 24th day }  
of December, 1898, before me—

W. T. DORAN.

GEO. C. MARTIN, Coroner.

Inquest adjourned for the purpose of obtaining further evidence until 10:30 a.m. on Wednesday, the 4th day of January, 1899, at the Court-house at West Maitland, the jury being bound over and warned of time and place.

Dated at East Greta, this 24th December, 1898.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at half-past 10 o'clock on the 4th of January, 1899, at the Court-house at West Maitland, in the District of Maitland and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe; the jurors having answered to their recognizance the examination of witnesses was proceeded with.

Dated at West Maitland, this 4th January, 1899.

GEO. C. MARTIN, Coroner.

This Deponent, *Ada Emily Moncrieffe*, on her oath saith as follows:—I am the widow of Albert Moncrieffe, and reside at West Maitland; I was shown a singlet and a pair of trousers, those now produced, and I identify them as belonging to my late husband, Albert Moncrieffe; he leaves one girl, named Evelyn May, aged 7 months; the singlet and trousers were shown to me by Sub-inspector Fowler.

Sworn and made at West Maitland this 4th day }  
of January, 1899, before me—

ADA EMILY MONCRIEFFE.

GEO. C. MARTIN, Coroner.

This Deponent, *Azariah Thomas*, on his oath saith as follows:—I am the manager of the East Greta Mine, and reside at Mount Dee; I instructed certain work to be done in a part of the East Greta pit; it was let to David Lewis, Joseph Thompson, John Griffiths, and Daniel Gronow, on an understanding that they should make good wages at driving or sinking a tunnel—what we term extending No. 1 tunnel; I had to have it done to my satisfaction, and anything wrong that I objected to would have to be made good by those working; there were three shifts, of eight hours each, continuous working; and the five extra men were engaged by me for the mine and transferred to the work of the No. 1 tunnel as necessity occurred; I did not tell the men of what the strata was composed; I imagined that the men working knew of what it was composed; I always considered everything there was perfectly safe, and that all their work would be done in perfect safety; I did not go to see the tunnel every day; I cannot say how often, but I was satisfied with the work when I did go; I was deceived in the thickness of the conglomerate where the men had to tunnel; we had never found that the conglomerate was less than 50 to 60 feet, and I considered that 50 or 60 feet would be the average thickness of the conglomerate where the men had to go through in the tunnel; the men employed never referred to the place as being unsafe.

By



*By Mr. Tillett:* The driving of the tunnel was commenced—that is, the men commenced to clear the old sump out on the 22nd of June, last year; the men had nearly got as far as we intended to go at present, when the fall took place; the fall occurred 127 feet from the lower level, and about 260 feet from the face; the tunnel had been driven some distance beyond where the fall occurred; I was through the tunnel many times; I had not noticed any pressure on the timbers where the fall occurred; but I had noticed pressure in other parts of the tunnel; I noticed pressure on the timber about 40 yards from the face; the caps were bending; that did not indicate to me a change in the roof; the caps were not considered dangerous, so precaution was taken, but the timber was not strengthened; the same timbering has not been carried out from the surface to the face in the No. 1 tunnel, because we considered that stronger timbering should be put the greater depth we got; I was in the tunnel last on the Tuesday, the 15th of November, before the accident occurred on the 18th; this was one of the occasions on which I noticed pressure; no complaints had been made as to the roof by anybody, nor did I hear of any complaints; the men were not to earn less than miners, but if the work was to my satisfaction, they would be paid more; the men were to be paid by the yard; and also for anything extra that they did; there was no time fixed for the work; the men were to have assistance if required to be paid for out of the lump sum; I did not name the men who were to assist them; I had no written agreement whatever; In the Coal Mines Regulation Act, I know Rule 4; the four men, David Lewis, Thompson, Griffiths, and Gronow, were appointed as competent persons to inspect the work, or make the inspections in compliance with Rule 4; the work was measured up before these men were paid, and they were paid according to the measurement, and they were supposed to settle with the others, though I considered I was responsible to the men, these four men employed.

*By Mr. Tillett:* The model produced shows how the timbering was done in the tunnel, and I also produce a tracing of that portion of the No. 1 tunnel where the fall occurred; the props, sills, and caps were from 8 to 10 inches diameter, and with an 8-inch minimum; the sets were placed 5 feet centres apart, and slabbed over, and by the sides and underneath the sills, same as the model; the slabs were 6 feet long, and 2½ to 3 inches thick, and from 6 to 9 inches wide; the height of the tunnel from the top of the sill to the bottom of the cap was 10 ft. 6 in.; the mean width of the tunnel was 12 ft. 6 in., 12 feet to the cap, and 13 feet to the sill; we have taken out some of the timber that fell, and some of the caps are broken in pieces; I cannot say if they were bent before getting broken.

*By Mr. Atkinson:* The timber used for the sets was of ironbark—that is, the sills, cap-pieces, and props, and the slabs were of ordinary hardwood; the sills and caps were let into the side; the sills and caps were let in from 8 to 10 inches; the sills were 16 feet, and the caps 15 feet over all, that is their total length; they were set into the coal, and we avoided the roof; the sills were let into the bottom of the floor of the seam; the floor was moderately soft, and becoming softer as it got exposed.

*By Coroner:* The timber was new timber; the first lot of timber used was cut in June; the timber was not seasoned; the prop was mortised into both cap and sill about 4 inches deep; the timber from the lower level upward was much the same as that I have described, only it was set farther apart; I have had occasion to renew timber here, some years ago, but not recently; they were renewed on account of the sills breaking; the props seldom fractured, all pressure came from below; we supposed it was the floor expanding or swelling by the water and air that caused the sills to break; we have entirely used ironbark for all purposes until some little time ago; I cannot compare it with other timber on account of only using it; I have used ordinary hardwood for props in the bords recently; I had not had any fall previous to this one in the mine to indicate that the conglomerate had disappeared; the conglomerate has been proved at least at 7 feet at the lower levels, but how much more it may have been we could not tell; the station was on the surface under General Rule 4; the men commenced work on a Monday at 7 o'clock; David Lewis examined before the men went to work; Lewis came on the Monday morning to examine, and took the night shift; the night-shift went in at 11 o'clock, and Lewis stayed all that shift; I cannot say where he would meet the shift coming in; Lewis made a report in writing every day; none of the other four men made any report; the engineer made a report of the tunnel every week, under General Rule 5 of the Coal Mines Regulation Act; this inspection was made as to the condition of the timber and other things; no defects were mentioned in any of the reports; there are refuge holes in the No. 1 tunnel; I do not know how many there are, but I think that the plan shows six about 20 yards apart; we suppose that a refuge hole was made the night of the disaster within 10 feet of the face; general instructions were given to make these holes to be put in every 20 yards, and to be made immediately after securing the bottom corner of the intended man-hole; none of the deceased were found near man-holes; they were picked up in the tunnel; some of the fallen stuff had blocked up completely all the man-holes below the point we found the debris had filled the tunnel; the tail end of the debris was 130 feet from the completed face of the tunnel; the workmen did not make any inspection of the whole mine under General Rule 39; I cannot say how much the caps were bent, but I should say the worst may have been bent from 2 to 3 inches; I considered that they would require strengthening with others ultimately; I did not strengthen any at the lower levels, as they did not require it.

*By Mr. Curley:* I have a copy of the Special Rules of the East Greta Mine; before work took place in the tunnel I had an interview with David Lewis, and told him that I would like he and his party to take the work, as they had completed similar work satisfactorily; we conversed about terms; it was agreed that they should have a certain price, which I considered would be sufficient for them to make good wages, provided the ground proved the same as it did at the commencement; but should it alter and become worse, I should give them more, and to see that they would get as much wages as the miners; the price agreed upon was £3 19s. a yard, and nine men were to be employed, three in each shift; I engage all workmen at the colliery; I engaged all the nine men, but before going at the tunnel they were working in the East Greta Colliery; Moncrieffe and Barnes were two of the five assistants; these men asked me to transfer them to the work in the tunnel, and I did so; I considered them sufficiently practical men as assistants; they had worked in the colliery for some time; Moncrieffe was on-setter in No. 2 tunnel when he asked me; Barnes was engaged at, I think, filling coal for a miner before he went to the tunnel; I did not regard my arrangement as a contract; I would not call it a daily-wage payment; I call it an arrangement satisfactory to both parties; there was nothing in writing; the payment was made as arranged, and was satisfactory; I found the caps bent on a prior visit to that of the 15th of November, but I cannot say when; I did not make any note of the date of the caps being broken; I cannot say if I went into the tunnel once a week or once a month; the report books are kept at the colliery office; I either examine the report books daily or have the reports read to me; there was no mention of the caps being bent in the report book; I did not consider it of sufficient importance when I found that it was missing from the report book; there have been no extensive falls in the East Greta Pit until the present one, in no part of the colliery.

Sworn and made at West Maitland, this 4th day  
of January, 1899, before me,—

A. THOMAS.

GEO. C. MARTIN, Coroner.

Inquest adjourned, for the purpose of obtaining lunch, until 2:30 p.m. on Wednesday, the 4th day of January, 1899, at the Courthouse, West Maitland, the jurors having been bound over, and warned of time and place of adjournment.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 2:30 p.m. on the 4th of January, 1899, at the Courthouse, at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

GEO. C. MARTIN, Coroner.

This deponent, *Azariah Thomas*, recalled on his former oath, saith as follows (*By Mr. Curley*):—I believe David Lewis inspected the tunnel prior to these men going in to work—that is to say, the three men, Gronow, Moncrieffe, and Barnes; all these men worked at the coal that night except one that should be working at a manhole; even that would be working in the coal; Thompson and one of the assistants generally worked with Lewis on his shift; in the ordinary mode of working, when Lewis and his mates were not timbering, they would be at work at the coal-face; Lewis was not the only man in the ordinary way who inspected the tunnel; Griffiths and Gronow inspected it; Griffiths would be working in the face at coal or at anything else required; I consider that all this was in compliance with Rule 4 in the sense that is meant; I appointed them to inspect in the way I have mentioned; I have no record of the appointment; I had some knowledge of the stratification overhead at the East Greta Colliery; it can be seen on the surface, and some years ago we had a place driven from the lower to the upper seam off No. 1 level in this same tunnel; this gave me an idea of the thickness of the conglomerate; it was from 50 to 60 feet thick; this was 212 feet below the surface; I have never seen the conglomerate of less thickness than 50 to 60 feet anywhere; it was hard and strong; I have no knowledge of the Maitland Colliery or its strata; we have never had any slow or quick movements in the roof at the East Greta Colliery; we have had an upheaval of the floor; we have had some floor-upheaval in the No. 2 tunnel; we have not done much timbering in this

tunnel since the fall ; no extra work than usual ; the inspectors have been at the colliery, and have drawn my attention to timber and pillars in the deeper workings since the fall, and have advised the use of more timber, having regard to the altered state of the roof, as revealed by this fall ; it has been remarked that I should have larger pillars in the lower section ; I have had communication from the Inspector in respect to the workings ; I now produce the letter from the Chief Inspector of the 10th of December, 1898 ; this letter is made an Exhibit " A."

Sworn and made at West Maitland, this 4th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

A. THOMAS.

This deponent, *Robert George Alcorn*, on his oath, saith as follows :—I am a legally qualified medical practitioner, and reside at West Maitland ; I examined the body of Albert Moncrieffe on the 25th December last year ; I found no bones broken ; the body was in an advanced state of decomposition ; I came to the conclusion from examination and the information that I received, that death was caused primarily from shock and suffocation ; I am almost certain that death was almost instantaneous.

Sworn and made at West Maitland, this 4th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

ROBERT GEO. ALCORN, L.R.C.S.I.

This deponent, *Azariah Thomas*, recalled on his former oath, saith as follows (*by Mr. Curley*) :—The Government Inspector who usually inspects my colliery at East Greta is Mr. Bates ; Mr. Bates during his inspections has drawn my attention to fencing the machinery according to the Act, and fencing openings to the tunnel, to the ventilation in different parts, and methods of signalling, and to the security of roofs in different parts of mine ; this was some time ago ; this was on No. 1 level ; Mr. Bates did not suggest that more timber should be put in, and he pointed out some timber that was broken from the pressure from the floor ; this was, I think, about two months back or more ; I think that it was on the second level of No. 2 tunnel that Mr. Bates pointed out some timber showing evidence of some pressure ; this would be, I should say, some two or three months ago ; I cannot recollect any other place ; he did not suggest that more timber should be put in to strengthen these localities ; he did not forward me any written communication about the matter ; I have never had any written communication from Mr. Bates as regards any defects in the condition of the colliery ; I have had no objection to the workmen using the function mentioned in Rule 39 as regards examination, but I have not asked them to do it ; the face in this No. 1 tunnel would be 387 feet from any opening ; branching off this tunnel a parallel drive had been started recently, and was being worked at the time of the disaster by another gang of men ; I had no anxiety as to the safety of the men, though I knew they were so far away from any opening ; the fact of the tunnel being near its present destination did not in any way influence me in ordering additional timber being put into the level ; the fact of Mr. Bates pointing out to me the broken timber in other parts, did not influence me in attempting to get more timber into that tunnel, not before we considered it was required ; I cannot say how much coal came out of that tunnel.

*By Mr. Millard* : I could at any time I wished stop the sinking of the drive, showing that there was no agreement ; these same men—that is, the four men—had sunk No. 2 tunnel ; the men were satisfied with their payment for that work, and I was satisfied with their work, as I have previously said, and the payment I made for No. 2 assisted both sides in arriving at the right figure for No. 1 tunnel ; the four men were experienced, and particularly qualified for the work ; no regular miner, unless experienced in it, could be trusted to do the work in No. 1 tunnel ; I do not know of any other men anywhere better or as well qualified to do this class of work as Lewis and his three mates ; I produce a general plan of the workings of the East Greta Colliery, and point out the particular part of the seam referred to in evidence ; the seam at East Greta Colliery is inclined at an angle of 45 to 47 degrees at No. 1 tunnel ; No. 2 tunnel is driven a length of 1,132 feet, and coal has been worked on both sides of No. 2 tunnel ; both seams crop out at the surface, and, owing to the inclination of the seams, crop out close together, and the whole of the strata between the two seams is composed of conglomerate ; we found the conglomerate all the way of the 1,132 feet that we drove the No. 2 tunnel ; we never had any indications prior to the fall that this conglomerate had at all thinned out ; from indications in other places we have always associated this conglomerate as a roof for the seams ; in prospecting for the crop of the seam this conglomerate is the indicator as to where the seam lies, and it extends many miles from the East Greta Colliery, and it is a very hard conglomerate, and very expensive to remove by blasting ; it is an excellent roof for a coal-mine ; it has cohesion and strength on account of its being so thick ; we did not find any thinning out of the conglomerate roof in the No. 2 tunnel, but we saw the conglomerate in the roof all the way we went ; at the seat of the big fall the top end of the conglomerate showed only a few feet to paring down a few inches ; I may say to a mere shell, and above the conglomerate was a thickness of shale or mudstone ; the nature of mudstone is a soft, weak substance ; I believe, from what I have seen since the fall, that the roof came away suddenly, it being only mudstone with a thin shale of conglomerate next to the timber ; this is my firm opinion ; the caps that were bent that I spoke of are in the tunnel, and in position still, only more bent, and not very near the seat of the fall ; there was no timber bent near where the seat of the fall was ; the width of the seam was 10 feet 9 inches in the last place ; I measured it in No. 1 tunnel, and the height of the tunnel from roof to floor would be about or over 13 feet ; the bottom was taken out on account of the known hardness of the roof ; the timber being what I would call green, was in its favour ; I do not know of any better timber than I used that could be got for that purpose ; it is recognised as being the best timber for the purpose for durability and strength, and I know that the way that the tunnel was being timbered it was done in the best way that it could be done ; I go down the mine almost daily, and have been at the beginning at the extension of No. 1 several times in the week, and the tunnel is straight, and one could hold a conversation from one end of the tunnel to the other ; in my opinion the cause of the disaster was from the change in the roof not being apparent, and yet it had changed, from a thick conglomerate into the soft mudstone.

Sworn and made at West Maitland, this 4th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

A. THOMAS.

Inquest adjourned, for the purpose of obtaining further evidence, until 10:30 o'clock, on Thursday, the 5th day of January, 1899, at the Court-house, West Maitland, the jurors being bound over and warned of time and place of adjournment.

Dated at West Maitland, this 4th of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 10:30 o'clock, on the 5th day of January, 1899, at the Court-house at West Maitland, in the District of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 5th day of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *Azariah Thomas*, recalled on his former oath, saith as follows (*By Mr. Millard*) :—I do not know of any reasonable precaution that I could have taken, to prevent this accident, that was not taken ; the timber that Mr. Bates called my attention to as being bent, was on the other side of the tunnel, and over 28 chains from where the fall occurred ; I now point this part out to the Jury, as it is shown on the plan now in Court ; virgin coal being in No. 1 tunnel at the sides, and not being worked, and not having been worked, proved of great strength to the sinking ; it is impossible that the pressure, as noticed by Mr. Bates, had anything to do with the fall ; there is a part of No. 1 tunnel where the roof was without timbering for over seven years ; it is between the surface and the top level of No. 1 tunnel, and it is now good and strong ; I had no one in the colliery who could have made a better inspector than Lewis ; Lewis is skilled in that class of timber, and in the timbering ; I know this, as he worked for me in the Old Country in a mine, with about the worst roof of anyone I know, and with very deep workings ; I found on examining, after the fall, that the caps and props had all fallen ; the sills only remained ; I should say that probably 100 tons of rock and mudstone came away altogether I made every exertion to get to where the men had been at work, using all precautions in the way of securing and

and timbering to keep those attempting the rescue from being injured, and no expense was spared in connection with this work; the work was continuous for the twenty-four hours, and advice and assistance were tendered by managers of other collieries; the amount of timber to be put in is at my discretion; I hold a manager's certificate under the present Colonial Act, and also one under the Imperial Act; I also served my time as a mining engineer, and have had experience in working coal at an angle.

*By Mr. Bowden:* I have been with this company over seven years, and know all matters connected with the colliery. The Government Inspectors could see the timber that was put in, and, had they not been satisfied with it, would have mentioned it to me; the timber was in the best condition for its purpose; the timber taken out after the fall, except being broken, is in as good condition as being sound as when put in; I believe that the Government Inspector was down the tunnel while it was being constructed; whenever the Government Inspector pointed out anything to me I was careful to attend to what he would draw my attention to; when the tunnel was being sunk I had it heavily timbered, so as to make it as strong as possible, as this tunnel was intended as the main artery of the mine.

*By Mr. Thursby, Foreman of Jury:* After the tunnel, that I mentioned as being on a parallel, had got finished, it would be of great advantage to the men in going in and out, and also to their safety; the place was well ventilated; the Coal Mines Act does not compel me to have a parallel tunnel cut; the parallel tunnel is down about 40 yards; this tunnel is not as large as the main tunnel.

*By Mr. Curley:* I have seen, when top coal was worked, that the top coal came down with the conglomerate, sometimes 1 foot, 18 inches, and perhaps 2 feet, but I never saw any mudstone come down with the top coal, but this was of seldom occurrence.

*By Mr. Millard:* When top coal was taken down, the props were first removed; this was only done when abandoning a certain portion.

Sworn and made in West Maitland, this 5th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

A. THOMAS.

This deponent, *John Jones*, on his oath, saith as follows:—I am a wheeler at the East Greta Colliery, and reside at East Greta; I knew all the three deceased; and I know that this inquest is being held on the body of "Albert Moncrieffe."

*By Mr. Tillet:* I was in the mine working at the time of the disaster in the jig just off No. 1 tunnel, on the lower level; Mr. Cantwell and his son Thomas were at work with me; I saw the light of "Albert Moncrieffe" in the distance in the bottom of No. 1 tunnel, at about 25 minutes to 7 a.m.; I sung out to Moncrieffe, and he replied "Hullo"; I went down the jig where I was working, and filled a skip of coal, and I heard something that sounded like rolls of thunder; I ran towards the tunnel, as it frightened me a little; I heard the fall when I got to the end of the level; I sung out to the man at the top that the tunnel had fallen in, and to sent the alligator down; I called out "Moncrieffe" first, and then "Gronow," and then "Barnes"; I called out loud, and got no answer; I stopped at the end of the level, and the Cantwells went up the tunnel; I engaged in the search party, and found "Moncrieffe," and Gronow; I found Moncrieffe's body lying face towards the slabs at the side of the tunnel, and Gronow's body was on its side; I have been at work at East Greta Colliery for about two years; I have not been further down the No. 1 tunnel before the fall than I was at the time I called to the men; I know that the roof where I have worked is composed of coal and conglomerate; I have seen the roof work just a little in places; I have seen timber bent where I have worked; I should say that the roof was a safe one, otherwise I should not have worked there; I have never heard any of the men at work say that the roof was unsafe; but I have heard the roof creep occasionally, now and again.

*By Mr. Atkinson:* I commenced my work on the occasion of the fall at 11 p.m. on the Thursday night, the deceased went down at the same time as I did; I did not have any conversation about his work; I have seen where the tops have been taken down, that the conglomerate came through, and also brought some other soft stone that was behind the conglomerate with it; this occurred in the seam jig in one of the bords off No. 2 tunnel; this would be a long way from where the present fall occurred; I do not remember any similar falls to this last large one; I worked in the model jig, just off No. 1 tunnel; it was only at bottom coal I worked there; I did not see any falls of roof there; the place I was at work in on the day of the fall was about 40 yards from the No. 1 tunnel; I did not examine the roof thoroughly where I was at work; it seemed a hard roof of coal; I was at work down about 30 yards from the level; I cannot say how much coal was left next the roof in this part; I do not know how thick the seam is, but I should say about 8 or 9 feet; I was driving this jig parallel to No. 1 tunnel about 6 feet; the props were about 6 feet long; I never heard any of the deceased express themselves as being unsafe where they worked; I have got a copy of the Special Rules of the East Greta Colliery, but as I cannot read I have not read them.

*By Mr. Curley:* The timber I saw broken was a cap-piece; it was broken from the centre; I saw several caps broken; I do not know how many; I was working nearly the whole time with those who were at work after the fall in No. 1 tunnel; I did not see Barnes's body recovered; I cannot say how far the other bodies were recovered from the mouth of the tunnel; I have heard the cracks or shakes in the levels and bords in No. 2 tunnel; I cannot say it was the timber that cracked, or what, or it might have come from the coal; I mean by shakes, a shaking noise; I did not expect that the mine was likely to tumble in; I have noticed the coal on the pillar sides a bit loose in some places; this was in the bords; this would be about three months ago; I never took notice if the timbers were broken; I have noticed caps bent but not broken in tunnels and bords, and in different parts of the mine; I believe I have been with the other men when they went into work; I cannot remember that they made any remarks about the work or the timber in the tunnel.

Sworn and made at West Maitland, this 5th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

Witness to mark,—

F. FOWLER, S.-Insp.

Inquest adjourned, for the purpose of obtaining lunch, until 2:30 o'clock on Thursday, the 5th day of January, 1899, at the Court-house, West Maitland, the jurors being bound over, and warned of time and place of adjournment.

Dated at West Maitland, this 5th day of January, 1898,—

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 2:30 o'clock p.m., on the 5th January, 1899, at the Court-house, at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 5th day of January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *John Jones*, recalled on his former oath, saith as follows (*by Mr. Millard*):—I know conglomerate when I see it; I know that in the last fall there was some stuff that was not conglomerate, it was ironstone, as well as soft stuff; I call the soft stuff conglomerate; I have seen this stuff that I call soft in other parts of the mine; I have seen it lying along the roads and the levels on the side; it might have come from the roof; it was the same as the most of the roof above the coal, it was of a whitish colour; I know the difference between conglomerate and clay; I have never noticed the soft stuff that I saw there in other parts of the mine; I do not know what it is called; I never saw this same stuff come away from the roof where I have seen roof come away with top coal; everything seemed all right, when I heard Moncrieffe say, "Hullo"; I never made any report to anyone about the cracks and shakes that I heard; I have about two years' experience in the East Greta Mine; I did not think that these cracks or shakes indicated any danger; they might have been caused by weight coming on the timber.

Sworn and made at West Maitland, this 5th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

Witness to mark,—

F. FOWLER, S.-Insp.

his  
JOHN x JONES.  
mark,

This

This deponent, *David Lewis*, on his oath, saith as follows:—I am a miner, and reside at East Greta; I know that this inquest is being held on the body of Albert Moncrieffe.

*By Mr. Tillet*: I have been working in the East Greta Mine about four years, and at the date of the accident I was engaged sinking No. 1 tunnel from the lower level; I was on the previous shift to the deceased men; I had with me Thompson and Weller; it was understood between us and the manager that we were to sink this tunnel; no distance was mentioned; the manager could at any time stop us; we were paid by the yard, and if we could not make fair wages we were to be compensated, or if the manager wanted us to do anything else, we were to do it; we had to do the timbering as well as the driving; Mr. Thomas employed nine of us—three on each shift; four of us took the job, and the other five assisted; the party of four paid the daily wage; I was appointed a deputy by Mr. Thomas; I made my last inspection at 10:30, and after 11 p.m. on the Thursday night I made a report of that inspection, and entered it in the report-book at the office at after 12 o'clock that night; the three deceased men were then at work; the result of my inspection was that I considered it was all safe; I inspected the roof right through the tunnel, and saw no indications of danger except a few sets bent in the caps, about 40 or 42 yards from the face, but these did not make me think there was danger; I had seen these caps slightly bent on previous inspections; I did not think it anything unusual to see these caps bent; the sills might have rose a little and caused the caps to bend; I did not report that the caps were bent; none of the other men drew my attention to these bent caps; I never saw a movement in the roof of that tunnel; I have not seen any falls in any other part of the mine or any movement of the roof in any part of the mine.

*By Mr. Atkinson*: I was appointed a deputy about the latter end of June or the beginning of July, at about the time the continuation of No. 1 tunnel was commenced; I had a copy of the Special Rules, and have read that part referring to the deputy's duties; I have had no occasion since acting as deputy to report any danger or defect; there was nothing that I saw of a dangerous nature; my district was No. 1 tunnel, as far as the dam; it did not include the back place or the parallel jig; I went to work on the Monday previous to the accident, at 4:30 a.m.; I stopped until the men came in, and remained with them, and before they came in I thoroughly examined the No. 1 tunnel; I made a report in the book at the office; none of the men working ever asked to be allowed to see the report-book, had they done so I would have allowed them; there is no space left between the slabs and the roof; I have not had occasion to renew any of the sills either in this tunnel or anywhere else, the caps were bent back about 3 inches; I never noticed much, but the sills were bent a little at the same part where the caps were bent; the pressure that bent the caps and sills came from the floor, perhaps a little from the sides; I would not expect to get much side pressure in a single drive; I have not seen any evidence of coal peeling off the side of this tunnel; I had no conversation with the manager about these bent caps and sills; I did not consider the matter of sufficient importance; I looked upon this tunnel more in the light of a sinking shaft than a level drive; if I had seen similar bendings in a shaft I should have thought it of sufficient importance to report to the manager, but not in this case; the reason was that I did not think there was the least danger or that the timbers would give way; I cannot tell the distance the body of Moncrieffe was found from the face; I was prevented by illness from knowing this; I cannot say if the other men can tell this; I have never had occasion to ask to have stronger or more timber put in; it requires about three men to fix one of the sets; it would not be inconvenient to put in stronger timber; I was at the tunnel about seven, eight, or ten minutes after the fall; I went down the tunnel and got down to the beginning of the fall; I called out the names of the three men, but got no reply.

*By Mr. Curley*: I returned to make another inspection on the same Monday night; I went in at 11 p.m. and I remained for eight hours; I made the inspection before the working-men went in; sometimes I went in at 3 p.m. to start work some weeks; another shift had been in before I started at 3 o'clock; I inspected for this shift in the morning at 4:30; the men went in with me at 3 p.m. to go to their work; my next inspection would be before the 11 p.m. shift; I would be along with the men for one or two hours afterwards, so that I would be there until 1 or 2 a.m. on the Tuesday; this inspection would be sufficient on my part for the working shift coming in at 7 a.m., the leader of the incoming shift would also inspect for his shift; these men did not report that I know of; the first entry I made in the report-books was at the latter end of June or the beginning of July; Mr. Thomas appointed me to be deputy in the tunnel, and report in the book, and if I saw anything wrong after carefully examining the places, to withdraw the men, and report to him to that effect; Mr. Thomas meant that I was to make my reports in the book at the office of the colliery; I cannot see the report I mention in the report-book; my first report there is on the 1st of September last year; the shift that I went down with, and worked a shift continuously; I worked at the coal face occasionally when there was nothing else for us to do; we were generally engaged timbering; I have never noticed falls in any other part of the mine; Gronow never spoke to me of the sets that were bent; I never draw the attention of the men particularly to the bent caps, but in passing I have just mentioned them to Thompson and Weller; I cannot say if this would be a week or a month before the accident; I never thought of placing other sets between those where the caps were bent; I understood that there were to be 5 feet centres; that was my instructions from Mr. Thomas, the manager; I could have put in other sets even less than 5 feet apart, without consulting the manager; he gave me instructions to put up what I thought was required; had I thought there was the least danger I would have attended to it at once; I do not consider it singular on seeing the caps bent that I did not exercise the extra power that Mr. Thomas had given me; as deputy I gave official orders to the other men during the absence of the manager; we have taken out from 9 up to 12 yards during the fortnight.

DAVID LEWIS.

Sworn and made at West Maitland, this 5th day }  
of January, 1899, before me,— }

GEO. C. MARTIN, Coroner.

Inquest adjourned, for the purpose of obtaining further evidence, until 10:30 o'clock a.m., on the 10th day of January, 1899, at the Court-house at West Maitland, the jurors being bound over, and warned of time and place of adjournment.

Dated at West Maitland, this 5th day of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 10:30 o'clock a.m. on Tuesday, the 10th day of January, 1899, at the Court-house, at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizances the examination of witnesses was proceeded with.

Dated at West Maitland, this 10th day of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *David Lewis*, recalled on his former oath, saith as follows (*by Mr. Millard*):—The roof of the East Greta Mine was of conglomerate; I never before this fall saw any sign of that conglomerate running out, and it continued all the way down the No. 1 tunnel; I know the stuff that came through was a sort of mudstone—soft stuff; before that fall I had never seen any of this description of stuff in the roof, and I saw no indication to lead us to expect that any mudstone was there; conglomerate is a good roof; it was a hard conglomerate; we got the extra depth that we wanted by cutting out the bottom, as it was softer than the roof; we cut into the roof in some places from 1 to 4 inches; we found the roof very hard; I have had some experience in making drives of this description, and thirteen years' experience in timbering; in my opinion the system we carried out in the No. 1 tunnel was the best; we were not stinted in the timber in any way; the wages that we received were also satisfactory; the caps that were bent were about 40 yards from the face; it was not near the seat of the fall; the force that bent the caps was not the same force that caused the fall, as far as I can think; the fall could not have been prevented by replacing the bent caps with good ones; the bent caps gave no indication of the real danger or what was the real danger; the caps under the fall must have been broken by the fall; I made an inspection every twenty-four hours that I reported; but I made two to four inspections during a twenty-four hours; I made that inspection towards the end of my own shift; I never saw any sandstone in the roof of the seam; I have worked since the fall in No. 1 tunnel; I have worked long hours, but how many I cannot say; sometimes I went without sleep to attend there; finally my health gave way just before we found Barnes' body, and since then I have been very ill.

*By Mr. Bowden*: I cannot say the first time I saw the bent caps that were 40 yards from the face; I put the timbers in that were subsequently found bent two or three months back, before the accident; we would drive from 9 to 12 yards in a fortnight; those timbers were the only bent ones.

*By*

*By Foreman of Jury* : As far as I am aware of, I am only required to make one inspection in the twenty-four hours ; I had no particular reason for making extra inspections ; the first report that I made in September last would be to the effect that I found everything safe ; the whole of the No. 1 tunnel was under my inspection and charge ; the floor at the East Greta Colliery has always been a trouble ; I do not know if the Government Inspector was down ; I am sure I saw him once at the top of the tunnel ; the most of my time I was down on the 11 p.m. shift, I was doing timbering.

*By Mr. Bowden* : It was my duty to keep a constant supervision over the work ; the bent timbers are there still, but the bent parts are now broken ; these were broken by the weight of roof, as far as I know ; no other timbers have replaced these.

*By the Jury* : It would take me half an hour or three-quarters of an hour to inspect the tunnel.

*By Mr. Curley* : Thompson and Weller worked with me on my shift ; the skip took me down to the level, it went slow ; I never timed it from starting to stopping.

*By Mr. Millard* : I am still of the opinion that the bending of the caps before the fall was due to the floor ; I have had other experience of caps being bent by the floor on account of its being soft and swelling.

*By Mr. Tillett* : I consider that the caps got bent by the floor, but I consider that their breaking came from the weight of the roof afterwards.

Sworn and made at West Maitland, this 10th day }  
of January, 1899, before me,—

DAVID LEWIS.

GEO. C. MARTIN, Coroner.

This deponent, *Thomas Cantwell*, on his oath, saith as follows :—I am a wheeler, and reside at East Greta ; I knew Albert Moncrieffe, and that this inquest in sitting on his body.

*By Mr. Tillett* : On the morning of the 18th of November I was working on the level, and my father and Jones were at work in the jig ; we went to work at 11 p.m. on the 17th November ; we and the three deceased all went down together ; I saw down the tunnel where the deceased were at work ; I called down for the alligator and got a reply that I was to have it directly, this was at 6.30 a.m. ; I got the alligator and filled it and sent it on top, then it came back to the deceased, and they filled it ; it had not reached the top when I heard the fall ; I stepped back a few yards as I thought that the alligator may have broken away ; then I went into the level and met my father ; the three of us, my father, Jones, and I came out, and Jones and my father shouted down to the men under the fall ; afterwards we rapped for the alligator, then I called on top for the alligator ; my father and I then started down the tunnel, and Jones went to report ; I have worked in East Greta Colliery five years altogether ; I have known slight falls of roof in the colliery in the old levels ; I noticed the stuff that fell ; we call it conglomerate ; I have not been down the tunnel since the accident ; I don't know what stuff fell from the roof at the fall ; I have seen the roof work in the steam-jig bords, that is the coal roof ; I never reported these roofs working ; I never heard any complaints from the miners of the roofs working or of the timbers.

*By Mr. Atkinson* : I worked in the back or parallel jig before the accident ; all the coal was not being worked ; some portion of the scam was left next the roof to my knowledge ; I had no opportunity of seeing what the roof was, except in one spot at the top of the jig, it was a pebbly conglomerate there ; the coal in the back drive stood well next the roof ; prior to the accident I had never been in the No. 1 tunnel below the levels.

*By Mr. Curley* : The roof was down ; what I called the pebbly conglomerate was in a level ; it looked like a sort of white sandy stone with little pebbles in it ; it had fallen when I noticed it ; it was mostly broken up ; the width of the level where I saw it would be about 9 or 10 feet. It had fallen out between the bars, between the cap pieces, I should have said ; I should say that the bars there would be 6 or 7 feet apart ; the fall came down during the daytime, during the time I was on my shift ; the most I have seen fall would be about a couple of skipsful ; a skip would carry about half a ton ; I have seen this on more than one occasion ; it did not stop work only while it was being cleared away ; it would leave a space of a foot or 18 inches in the roof ; I did not notice any re-timbering after the stuff was cleared away ; no one came in to see about it ; I cannot say who the deputy was for that part ; it was two or three years ago ; anyone coming along could see the stuff until it was cleared away. We used not to go and inform when any falls like these took place ; Mr. Thomas was the manager at that time ; when I saw the coal roof work it was six or seven months back in the bords in the steam-jig ; I have seen much timber broken ; the props were some bent and some broken in the bords ; it was in more than one of the bords ; it was in three of the bords ; the width of the bords was about 8 or 9 yards ; I have seen coal shell off the rib side, sometimes five or six skips would shell off ; I have not seen any top coal fall between the props in the bords ; I did not see any board hanging outside of the tunnel, no deputy's board ; I have seen roof down in different places in the slippery level, and the old bottom level, it fell in the slippery level from between the timbers, and also in the old bottom level ; I handled some of this stone, it was damp in some places ; I did not see any real soft, it was friable or crumbly ; I cannot say if any one of these falls was larger than the other ; the last one I noticed was about two years ago ; I never heard any of the three deceased make any remark about the tunnel ; I saw Gronow, Barnes, and others at the mouth of the tunnel when we went to work ; I worked in the No. 1 tunnel for about three weeks before the accident ; I have not seen Lewis in the morning at the entrance to the tunnel when I went to work ; I have seen Lewis at the entrance to the tunnel of an afternoon ; when we were coming down Lewis was about going up ; I do not remember seeing Lewis at the entrance to the tunnel at any time during the three weeks that I worked in the tunnel ; I went down the tunnel on the alligator ; it would take us a minute or two ; the distance would be about 600 feet, I think ; I have not walked in or out for this past four years ; one could not examine the tunnel very carefully at the speed that the alligator travelled ; I think at the rate the alligator went one would have time to notice if the caps were bent ; I have noticed that the caps were bent where I have seen the falls of roof on the levels.

Sworn and made at West Maitland, this 10th day }  
of January, 1899, before me,—

T. CANTWELL.

GEO. C. MARTIN, Coroner.

Inquest adjourned for the purpose of obtaining lunch, until 2.30 o'clock on Tuesday, the 10th day of January, 1899, at the Court-house, West Maitland, the jurors being bound over and warned of time and place of adjournment.

Dted at West Maitland, this 10th of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 2.30 o'clock in the afternoon of the 10th day of January, 1899, at the Court-house in West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 10th of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *Thomas Cantwell*, recalled, on his former oath, saith as follows :—I have looked down the tunnel, and have conversed with the man down the tunnel ; I have seen cap pieces bent down the tunnel, at about 100 feet from the level ; I have seen four or five cap pieces bent ; I noticed them about a fortnight before the accident ; they were about 9 inches lower than the other sets, it appeared to me ; I never heard the men talk about this.

*By Mr. Millard* : I have never worked in any colliery but East Greta ; I could see at a certain time of the day very nearly to the bottom of the tunnel—say, at a quarter to 3 p.m. ; in the morning one could not see down above 50 to 70 feet ; I had been on the night shift for three shifts ; it was at my fourth shift when the accident happened ; I was about 5 yards away when the fall came away.

*By the Jury* : The caps that I saw bent, on looking down the tunnel, were also splintered ; I think the alligator might make sufficient noise to prevent me hearing any timber cracking ; I have never seen any inspectors down in the new jig, nor have I seen the inspector go down to No. 1 tunnel.

*By Mr. Millard* : I had no idea that a fall was going to take place ; I know that if I saw anything dangerous in my workings I would report it ; I do not remember ever making any report.

*By the Jury* : If the deputy said the working place I was in was safe, I would work in it without examination myself ; I have had a copy of the special rules, but I do not know Rule 70 ; I hear it says that all miners and those employed should report to the person in charge any insecurity in the roof, &c.

Sworn and made at West Maitland, this 10th day }  
of January, 1899, before me,—

T. CANTWELL.

GEO. C. MARTIN, Coroner.

This



This deponent, *Edward George Curtis*, on his oath, saith as follows:—I am a banksman at East Greta Colliery, and reside at West Maitland; I know that this inquest is being held on the body of Albert Moncrieffe.

*By Mr. Tillet*: I was at work at East Greta mine at the time of the accident; I was in the shift that went in to work at the tunnel at 11 p.m. on the night of the 17th; I saw the deceased at 11 p.m. on the 17th, when I let them down; I had not spoken to them or communicated to them after that time; I had not received signals direct from them, but had got several skips of coal from them; I think I received the last skip at 10 minutes to 7; I heard somebody sing out the tunnel had fallen in; I can't say the time; I had no time with me; I ran to the mouth of the tunnel and looked down, and I heard someone sing out, "Send the alligator down, the tunnel has fallen in"; I sent the alligator down; I had been employed at East Greta Colliery about four months; I have never been underground; I have never heard any complaints or any remarks about the roof of the colliery; I took no part below in the search for the bodies.

*By Mr. Atkinson*: The engine-driver gets the signal to pull up the alligator.

*By Mr. Curley*: The signal was in the engine-house; I could hear the signals given at times; I cannot say what signal was given before the last skip of coal was taken up; I was at my post at about 20 minutes to 11 p.m.; I saw Bert Moncrieffe, Dan Gronow, and Richard Barnes go down the tunnel that night; three others, named two Cantwells and John Jones, went part of the way; I did not see anyone else that night either go in or out; I don't remember seeing anyone else that I knew there that night; there is a board just inside the door with signals on it; that is, simply signals for working the tunnel; I have frequently seen this board, but have not seen any other notice on it except signals; as soon as I heard of the fall I sent the alligator down at once; John Jones came out first, and said the tunnel had fallen in; I told somebody to go and call Mr. Heyes, the engineer; Mr. Heyes came after about 10 or 15 minutes; I have not been down the tunnel at all, either before or since the accident.

*By Jury*: I have seen the Inspector go down; I cannot say how often.

Sworn and made at West Maitland, this 10th day  
of January, 1899, before me,—

E. G. CURTIS.

GEO. C. MARTIN, Coroner.

This deponent, *John Downie*, on his oath, saith as follows:—I am a timberer in the East Greta Colliery, and reside at East Greta; I knew the deceased man, Albert Moncrieffe.

*By Mr. Tillet*: I was working in the mine at the time of the accident; I was working in a jig alongside of the tunnel; I took part in the search for the bodies; I came across Barnes's body; it was lying on the left-hand side of the tunnel, standing, or rather in a stooping position, on the last set of timber; there was no man-hole nearer than 20 yards; we did not clear the debris right up to the face; we got the body and then left off; I have been at work at East Greta between three and four years; I have never been past what was originally called the bottom level; I never noticed the state of the roof; I never had time to look down the tunnel; I have known of slight falls along the levels; these were falls of roof; the stuff consisted of conglomerate that fell; it was not the same stuff as fell at the big fall; there was a sort of mixture of stuff at the big fall; there was in that some conglomerate, ironstone, and mudstone; the falls at the levels at the one known as the "slippery jig" level; I cannot say when it occurred; I have noticed caps bent in the mine; the weight causes them to bend; sometimes the floor causes them to bend, and sometimes the roof causes them to bend; when they bend from the floor, the sill springs up too; the caps in No. 1 tunnel are broken below the fall from the pressure of roof; I had not heard from any of the men the state of the roof in the tunnel.

*By Mr. Atkinson*: My jig was going in the same direction as the No. 1 tunnel; I put the timber in the jig; the timber was put under coal; I never saw the roof above the coal; Michael Burns worked in my shift, the two of us alone; the sets were apart 6 feet; the size of the timber was 6 inches diameter; the timber had a cap-piece; the timbers did not bend while I was in it; neither Cantwell or anyone made any remark about bent timber in the No. 1 tunnel that I heard; when Barnes's body was recovered I could see the coal face; the face was about 6 feet from his body, I should think; it appeared to me as if Barnes must have gone where he was found for refuge; I did not see either of the other bodies found.

*By Mr. Curley*: I was instructed to timber by one of the deputies, Mr. Hosking, or by the underground manager, Mr. Cartwright; I was never instructed to do any special timbering in No. 1 tunnel; I had instructions on my last shift to go to No. 4 bord, in what is known as Armstrong's jig, to timber, this is No. 2 tunnel; I had to timber the top rib, because it had all broken away; this timber was set under the coal roof; a good amount of timber has been broken there lately, props mostly, this was due to pressure, mostly from the floor and in some places from the roof; I have done a good bit of timbering in No. 1 tunnel since the accident; pretty well most of the caps from the fall to the face were broken in No. 1 tunnel; this timber was ironbark; I am sure I did not measure the distance that the sets were apart; the first set we put up would almost touch the broken set on both sides, and the next set would be between the new set and the old one; I have never known of any extensive fall in the East Greta Colliery; I have known rails bent from pressure from the floor; I have done some timbering in slight falls on the level, the fall would be up in the roof, sometimes 18 inches and sometimes 3 feet; I would call what fell from the roof conglomerate; I have timbered in other levels for slight falls; I have timbered in the bottom levels in the Scotch heading side; on no other levels or other places for falls from the roof; I have never seen any falls in the bords when tops were being taken down; the Scotch heading is on the right-hand side of No. 1 tunnel, and the top level is on the left side of No. 1 tunnel; I know other deputies—one Mr. Jowett and the other Mr. Eggleston; I do not know of any other deputies in that colliery.

*By Mr. Millard*: I have never worked in any colliery but East Greta; none of the falls I have mentioned were any way close in the lode by fall; I had nothing to do with the continuation of No. 1 tunnel, and have never been past the bottom level.

Sworn and made at West Maitland, this 10th day  
of January, 1899, before me,—

JOHN DOWNIE.

GEO. C. MARTIN, Coroner.

Inquest adjourned, for the purpose of obtaining further evidence, until 10:30 a.m., on Wednesday, the 11th of January, 1899, at the Court-house, in West Maitland, the jurors being bound over and warned of time and place of adjournment.

Dated at West Maitland, this 10th day of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, until 10:30 o'clock a.m., on the 11th of January, 1899, at the Court-house in West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 11th of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *Edward Weller*, on his oath, saith as follows:—I am a miner, and reside at East Maitland; I knew the deceased man, Albert Moncrieffe.

*By Mr. Tillet*: I was working in No. 1 tunnel on the day of the accident; I was in Lewis' shift; I went in at 3 p.m. on the 17th November, and came out at 11 p.m.; I was there timbering in No. 1 tunnel; I was fixing the set; this set was 5 feet from the face; I had been at work in No. 1 tunnel between four and five months; no falls took place while I was at work there; I had a good opportunity of noticing; I never saw the roof work; I never heard any movement in the roof, but I heard the roof working at various times when we were quiet, taking lunch; I never took any notice of it; I did not consider it dangerous; I have seen caps bent about 100 feet from the face; they had cracked a little; I did not take notice of it; I cannot say if it was from the roof or the floor; the roof was of conglomerate mixed with slaty stuff, the heavy stone is conglomerate, and the other the slaty stuff; the slaty stuff is soft to work; there was no difference in the timbering; they were put the same distance apart for both sorts of stuff; I have been in the tunnel since the fall; the fall consisted of the two descriptions of stone now before me.

*By Mr. Atkinson*: I did not have any conversation with my mates about the bent caps; I do not remember mentioning it to my mates; I mean that the caps were split; there were splinters on the bottom side of the caps; I saw it only in the bottom side; I cannot say how much of the cap was splintered through; the fall took place where the caps

were



were bent ; I cannot say how far the big fall was from the face ; the caps were bent 100 feet from the face ; I did not take notice after I went down after the fall to see if the bent caps that I had previously noticed had been where the fall afterwards occurred ; I saw three or four bent caps ; I cannot say how much the caps were bent, but I should say about 3 inches ; the splinters were not of any great length ; I have seen this slaty stone in the mine previously ; there are parts of this slaty stone all the way down ; I cannot say how far or what distance the tunnel was worked ; I worked from the bottom of the sump ; I never heard my mates make any remarks about the change in the roof ; the bending of the bars did not strike me as dangerous ; I heard instructions given by Mr. Lewis to make a manhole ; they were given to Daniel Gronow, Barnes, and Moncrieffe ; these instructions were given before they went to work on their last shift ; we had started the manhole in our shift ; I have had a copy of the special rules ; I know that it is a part of my duty to report a defect in the roof or any special danger that I may see.

*By Mr. Curley :* I now show on a penholder how the timbers were cracked ; I noticed these caps six or seven weeks before the accident ; Lewis worked on the same shift as I did ; I have never seen a board with any reports on it at the tunnel mouth ; I never saw reported on any board that the caps had been bent as I have described ; I cannot say how I came to notice that the fall had occurred where I had seen the caps bent ; Lewis told me on last Thursday that the fall was 100 feet from the face ; Lewis said that the bent caps were 100 feet from the face ; this conversation occurred outside this Court ; I asked Lewis what distance the bent caps were from the face ; I did not notice any other bent caps ; Lewis did not mention it in the mine at any time ; Mr. Thompson was working with us ; he did not mention it ; I was on the night-shift, and never saw the manager (Mr. Thomas) down ; I did not see the under-manager down either ; Lewis went down with us when we went to work, and he stayed the whole of our shift ; Lewis worked with us on the coal ; Lewis never warned us at any time to go out ; he never said the place was unsafe ; Thompson never did so, nor did either Cartwright or Mr. Thomas, the manager ; Mr. Lewis paid me my wages ; he paid me 6s. 6d. ; I have worked in East Greta Colliery just the time the No. 1 tunnel was being driven.

*By Mr. Millard :* I remember a water-cask in the tunnel ; the bent caps were above that ; you could see them from the cask ; I have been to the cask, and could always see the bent timber from it ; I know from what Lewis told me that the fall was 100 feet from the face ; and he also said that the bent caps were 100 feet from the face, and that is how I know where the bent caps were ; if the fall was over 200 feet from the face the bent caps could not be in the position that I said they were ; I should say that the bent caps were about 20 or 30 feet above the cask ; I have seen the soft stuff all the time we were driving the tunnel ; I cannot say where I first saw it ; I think that in the first 10 feet of the tunnel the roof was of conglomerate ; I always went by myself up the tunnel to get any small timber, but for any heavy timber Lewis would come with me.

*By Foreman of Jury :* I have had experience as a miner ; I did not look for any danger, though the stuff did change ; I worked at the Co-operative Colliery for three years as a wheeler ; Lewis never said anything to me about the roof or about any danger ; I knew Lewis was appointed a deputy to look after the tunnel ; I depended on Lewis to withdraw me if there was any danger ; I never saw the Inspector down the tunnel, but I was on the night shift for a month before the fall ; I had previously worked on a day shift ; I knew the Inspector ; I never saw a false set of timber put in ; I never saw a set put in and then removed ; I do not consider myself a practical miner ; I knew that the props and caps were morticed right through.

*By Mr. Millard :* The roof in the Co-operative mine is of bluestone and conglomerate ; falls there are pretty frequent ; I would not have gone in if I had thought that there was danger.

*By Mr. Curley :* The water-cask was there to catch water coming down the tunnel ; I had to go to this cask to empty it ; I cannot say its distance from the face ; I think that the cask was about 80 feet from the face.

EDWARD WELLER.

Sworn and made at West Maitland, this 11th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *Joseph Thompson*, on his oath, saith as follows :—I am a miner, and reside at East Greta ; I knew the deceased, *Albert Moncrieffe*.

*By Mr. Tillet :* I was working in No. 1 tunnel, and was in the same shift as Lewis and Weller, and went in to work on our last shift on Wednesday afternoon, from 3 p.m. until 11 p.m. ; we were working on the face that night ; I was one of the four that took the job of sinking, and was appointed deputy for the shift I was on ; as deputy, it was a part of my duty to inspect the roof ; the roof was of conglomerate, as far as I knew, all the way down ; the stuff I now hold is not conglomerate ; I call it muck ; it was under the conglomerate, and where I have seen it come down it would be from 1 inch to 4 inches ; we never took anything down that would stop up ; I worked in the tunnel from the commencement ; I saw three or four bent caps in the tunnel ; they were not splintered ; my opinion was that the bending was caused from side and bottom pressure ; we knew that the bottom was always springing ; I would likely find side pressure in a single drive ; the bent caps were from 70 to 75 yards from the top level ; I have been in the tunnel since the fall ; the fall occurred above where the bent caps were ; I did not regard these bent as showing any danger ; I do not make any report of my inspection, either written or otherwise ; we were considered to have 60 feet of conglomerate, and I consider that we had that thickness of conglomerate, where the stuff I call muck came from ; I saw Gronow's body in the surgery, and I identified it.

*By Mr. Atkinson :* I have been appointed deputy since the work commenced ; I understood from Mr. Thomas, the manager, that I was to look after things in my shift ; I commenced from the bottom sump ; I have read the special rules of the colliery ; I believe I have read general rule No. 4 of the Mines Act ; my inspection was made every time I went up and down the tunnel ; that would be very likely three or four times some shifts, if extra timber was required to be brought in ; the inspection was made from the alligator going up and down ; the alligator would not go quick, slow enough to have time for inspection ; it did not go particularly slow, but in taking heavy timber in, the alligator would go very slow ; I never saw a drop of water in the roof ; the timbers were set with the lay of the seam ; the timbers were set at right angles to the dip of the seam ; I had a square, a straight-edge, and a spirit-level ; we would use the square at about every fourth set ; Lewis and the others have talked about bent caps in the tunnel ; we were surprised at the new timber bending so quick, and consequently we expressed our opinions about it ; my opinion was that the caps were bent from side pressure ; there was no talk about strengthening or of renewing bent timbers ; as deputy I did not think that it was of importance to mention it to the manager, as I did not consider there was danger ; had I thought so I would have reported to Lewis, and through him to the manager ; I did not think that, seeing the soft stuff called muck, that it denoted a change in the roof ; there was no space left between the props and the coal ; there were no props bent that I saw ; I should not have expected to see the props moved by the side pressure ; the reason that I give for the caps being bent was that the caps were wedged tightly from the rib on each side, both ends being wedged tight ; the ti-tree might give behind the props.

*By Mr. Curley :* The ti-tree was put there with the bark on it ; the ti-tree was not dressed, it was in its natural state of round timber ; the ti-tree was used for packing ; sometimes it would not be required behind the timber ; the ground was what I would call live ground ; there was no great weight on the coal ; I would see the coal burst out occasionally ; I do not think there was sufficient side pressure to interfere with the side timber ; I do not believe that there was any pressure from the roof, notwithstanding the fall ; I have worked at East Greta Colliery about, I think, two and a half years ; I worked in No. 2 tunnel, sinking ; I also worked in the slippery-jig, in the bottom jig, and various parts of the mine ; I have never seen any part of the roof giving, nor have I seen any falls from the roof, nor have I heard of any falls, or of anyone being hurt by any falls ; the sets in No. 2 tunnel were put in 5 feet centres ; that tunnel was driven exactly the same as the No. 1 ; we were paid by the yard in No. 2 tunnel, the same as in No. 1 ; the party consisted of Lewis, Griffiths, Gronow, and myself ; I never saw any caps bent in that tunnel ; we took up the bottom the same as in No. 1, and did the packing the same way.

Sworn and made at West Maitland, this 11th day of }  
January, 1899, before me,—

JOS. THOMPSON.

GEO. C. MARTIN, Coroner.

Inquest adjourned for the purpose of obtaining lunch, until 2:30 o'clock on Wednesday, the 11th day of January, 1899, at the Court-house in West Maitland, the jurors being bound over, and warned of time and place of adjournment.  
Dated at West Maitland, this 11th day of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest

Inquest resumed, in pursuance of adjournment, at 2:30 o'clock on the 11th day of January, 1899, at the Court-house in West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 11th day }  
of January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *Joseph Thompson*, recalled, on his former oath, saith as follows (*By Mr. Curley*): Tenders were called for work in No. 1 tunnel, I believe; I think that a notice was posted up in the office; we tendered for the work; the price that we tendered was not accepted; we tendered, as far as I can remember, at £4 7s. 6d. per yard; after we had a conversation with the manager, Griffiths and I together had a conversation with the manager, and he objected to our price; the manager asked us if we would do it at a certain price, and we came to an understanding, and if we could not make wages at it he said he would see that we made wages; we agreed afterwards for £3 19s. a yard; for that we had to drive the tunnel, as far as I can remember, the same as in No. 2; we had to take the coal out and put the timber in, after lifting the floor; it was explained how we were to put the timber in, the sills were to be 16 feet over all, the caps 15 feet, and the props 10 feet 6 inches, and the class of timber to be of ironbark, same as No. 2, and ordinary hardwood for the slabs; the sills were to be varied from 9 to 10 inches, and of round timber cut off the bush; the cap pieces were to be about the same as the sills, about 9 inches through, put in as they come from the bush, except for fitting in; the props would be of the same thickness, about; I never saw any timber that was defective; sometimes a good bit of the timber would remain on the surface; when I saw the caps the idea never came to me that the roof was weighty; I never thought about putting in a set between the bent caps; as far as I understand the tunnel would have to go about another nine sets, about 45 feet; I cannot say who told me, but I think it must have been Griffiths; this was about two or three days before the accident; we had no conversations about pushing on the work to get it completed; we pushed on every day as much as we could; I never said to the under-manager, the manager, and Lewis, that it was necessary to put in fresh timber where the caps were bent; I considered myself a deputy to make inspections, but not to make a report; the understanding was with Mr. Thomas, and that was, that he would look to me as responsible for anything that occurred on my shift; but Mr. Thomas did not say that I had to report; I did not consider, under general rule 4, that I should report; I believe that my mate, Lewis, who worked with me, made reports; we started at the tunnel four or five months back; I think it was in June last; I generally kept the record of the distance we had driven; I can produce the book I entered that in; I know Edward Weller; he worked along with us; he had, I should think, every opportunity of seeing those cap-pieces; we used the ordinary miner's light; as a rule, we all went down together, Lewis, Weller, and myself; I have never seen any other cap-pieces bent besides those in No. 1 tunnel; there were two casks on the roadside; the water came down the tunnel; it did not come out of the roof; I think that it came out of the coal; there was one cask between the third and fourth man-hole from the level going down the tunnel, and the other cask was further down; I cannot say how much further, but the casks would be about 20 or 30 yards apart; the man-holes were 20 yards apart; the first one was 20 yards from the level.

*By Mr. Millard*: The stuff I called muck would be between the coal and the conglomerate; there are bands in the seam sometimes; it is not always the same; I do not think that this band would affect in any way the roof; I never saw any of the muck mixed with the conglomerate, or above it; I noticed the roof carefully as I went down; had there been this muck in the conglomerate I must have noticed it; all the timber supplied was good; I never saw better; I do not know of any better class of timber for this work; it is recognised as the best; I knew that this tunnel was meant to be a permanent work; the bent caps that I saw were nearer the face than the fall; I do not know the distance of the big fall from the face; the fall extended 55 or 60 feet; I should think that the bent caps would be about 15 or 20 yards from the lower end of the big fall; had fresh timber been put in where the bent caps were, it would not have prevented the accident; the bent caps had nothing to do with the accident, I think; I have had experience of other collieries; the East Greta roof being conglomerate, I should consider it a good roof; it is not an uncommon thing to see falls from the roof in other collieries; I should say that a skip and a half or two skips coming down would be a common thing; I don't think that this would indicate any special danger; in abandoned workings it would not be at all strange for the roof to come down, it would be unusual if the roof stayed there, under those circumstances.

*By the Jury*: The bent caps are still there as far as I know; they were there when I was there last; all that I know of the thickness of the conglomerate is from what I have been told; the slabs were not bent.

*By Mr. Millard*: Had there been pressure from the roof I should have expected to see the slabs bent; I have seen conglomerate in the overcast; this conglomerate shows about 7 or 8 feet thick.

*By Jury*: I have seen since the fall a cap piece taken out that was not broken; I heard that the Inspector was down the mine; this was said to me by Gronow about three or four weeks before the accident; I did not see the Government Inspector myself.

*By Mr. Curley*: The slate above may have been of an average of 8 inches; I have heard the manager and the engineer, and others say that the conglomerate was of the thickness that I have mentioned.

*By Mr. Tillett*: The piece of conglomerate produced is from the overcast, and is marked as an exhibit B, in blue.

*By Mr. Curley*: Where the fall took place I call it soft conglomerate and muck; the rock that I see on the table I term a soft conglomerate, the blue or slatish stone I call muck, and the whiter stone I call a fine conglomerate; the blue or slatish stone examined by the jury is somewhat like what we have been taking up in the floor of the tunnel, sometimes softer than this stone, and sometimes harder.

JOS. THOMPSON.

Sworn and made at West Maitland, this 11th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *John Downie*, recalled, on his former oath, saith as follows:—I see the stone on the table; I brought it from the East Greta Colliery; I cannot say where one piece came from in the colliery, but the other piece came from the big fall in the colliery; this piece is marked as an Exhibit "C"; I got this stone, marked "D," out of a skip of muck; this muck had not been exposed to the weather, and the Exhibit "C" I got out of a heap of stone that came out from the big fall.

*By Mr. Curley*: I think that the stone I produce is a fair sample of the stuff; I cannot tell what part of the fall it came from.

Sworn and made at West Maitland, this 11th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

JOHN DOWNIE.

Inquest adjourned, for the purpose of obtaining further evidence, until 10:30 o'clock on Thursday, the 12th day of January, 1899, at the Court-house at West Maitland, the jurors being bound over and warned of time and place of adjournment.

Dated at West Maitland, this 11th }  
of January, 1899,—

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 10:30 o'clock on the 12th day of January, 1899, at the Court-house at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 12th }  
of January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *James Cantwell*, on his oath, saith as follows:—I am a miner, and reside at East Greta; I knew the deceased man, Albert Moncrieffe.

By

*By Mr. Tillet :* I was working at East Greta Colliery at the time of the accident ; I went in at 11 p.m. on the 17th November ; the three deceased men went in with me ; I was working in the new jig, running parallel to the new tunnel ; my son Thomas and John Jones were there with me ; I did not see any of the deceased, or have any communication with them after going down ; I remember the time of the fall, at 5 minutes to 7 on Friday morning ; we heard a noise as a rumbling like thunder ; I stood and listened for four or five minutes ; then I ran over to the No. 1 tunnel ; I thought the old workings on the opposite side had fallen in ; I looked up the tunnel and could see nothing ; then I walked round and looked down the tunnel and saw the fall ; I and Jones called out to the deceased men and got no reply ; we then went up the tunnel ; I have been at work at East Greta Colliery for seven years ; I have never been down the new tunnel ; I have not seen any defects in the tunnel, as I have not been down ; you could see a good distance down on a clear day ; I never heard any complaint of the tunnel ; I had a conversation with Moncrieffe (2) two nights previous to the accident ; I was alone with Moncrieffe ; he said that some of the bars were bent and broken ; he did not say any more ; he said that they were 100 feet from the level down towards the face ; Moncrieffe said that he wished he was out of the place, as he was frightened ; I did not mention this conversation to any one that I am aware of ; Moncrieffe did not say anything else about it.

*By Mr. Atkinson :* I know the roof of the East Greta Mine ; it was composed, parts of it of conglomerate and parts of soft stone ; these stones represent the roof ; we had softer stone in the colliery than any of that stone in the roof represented here on the table ; I saw patches of it ; there was no conglomerate at all where I saw the soft stone I have mentioned ; the place where I saw it was on the bottom level—now called the middle level—about from the tunnel 40 yards, and 500 yards further in ; it was only in patches during this distance ; I know where the dam is fixed on that level ; I did not notice the soft stone on the tunnel side of where this dam is fixed ; I saw the soft stone just fair over the dam ; I saw this while the coal was coming in and out ; the thickness of the patches of soft stone would be of about 3 feet up between the timbers ; I was working with a deputy named Higginson ; we had no conversation about it ; he would repair any little fall that would come ; the sets were about 5 feet apart ; the weight of the pillar broke a good many of the sets ; I think the pressure came from the coal pillars ; the coal occasionally fell off the pillar sides, in about the quantity of a skip or a couple of skips at a time ; the bar or cap pieces got broken ; I know that the bar was 9 feet long and 9 and 10 inches in diameter ; it was of ironbark ; the sets were only slabbbed in bad places ; the slabs did not often break ; I put packing sometimes between the prop and the rib side ; this timber was generally of ti-tree or short slabs—anything we could get ; I have seen this soft stone in other parts of the mine ; I have seen it in No. 2 bord, above the present level in taking down top coal ; it would be about 500 yards from No. 1 tunnel, travelling south ; I have not seen this soft stone in any other place except that level, not nearer the tunnel ; the top coal was taken down to within 5 or 6 inches of the roof ; falls sometimes would displace this coal ; it used to drop off ; I considered the roof more dangerous where the soft stone is ; I did not report the change, because a deputy was with me ; I presumed that the deputy would report if anything was dangerous.

*By Mr. Curley :* It was three years ago since I was doing the timbering ; I have seen the manager where I was working ; I mean Mr. Thomas ; Mr. Thomas would have a knowledge of the change of roof same as I would ; the No. 1 tunnel is an extension of the workings of the No. 1 tunnel, that have been working for years ; I know of a parallel tunnel that is being made about 30 yards from the No. 1 tunnel ; it goes at the same dip as the tunnel ; no places have been driven between these two tunnels ; the jig is down about 130 feet ; it has not been worked since the fall, but was at work at that time ; I did timbering in the Scotch heading ; this was at the right of the tunnel, about 200 yards from it ; I was working in a level and bords ; I never saw any conglomerate fall there, but I have seen coal fall there only ; I presume that pressure from the old workings caused the coal to fall ; after the coal is taken out a little creep takes place, and then there is a fall of roof ; there was a very big fall of roof in No. 3 bord over three years ago ; I visited this bord with a deputy, and tried to secure it by extra timbering ; I saw what came from the roof ; it was soft stone ; I have done timbering on the left-hand side of the tunnel ; I call that the north district ; I did not see any stone fall on that level ; the timber I put in was to secure the roof ; there was timber in previously ; this timber was about 5 feet apart ; I had occasionally to put extra timber in between the sets ; there was about 5 or 6 inches of coal left in the roof there ; some of the caps were bent and some broken ; they were broken here and there in patches, and new ones were put in ; I cannot say how often I have seen the manager in where I was working before the accident ; I have seen him in three times one week ; I know the under-manager ; I have seen him come in twice when I was on the day-shift ; I was on the night-shift there for a fortnight ; I heard Jowett's voice one night he called out down to me ; Jowett was the only official I heard there during the fortnight ; I was at that time driving the jig ; had they come down the jig I must have seen them ; I am quite sure that Jowett was the only official about there during that fortnight.

*By Mr. Millard :* I was going to the pick-shop from the Cricket Ground when Moncrieffe and I conversed about the tunnel ; it was at about 6 o'clock in the evening ; I would not go into a place I knew to be dangerous ; I worked at it to put it in a safe state ; it was dangerous while we were working at repairing it ; afterwards I remarked to Higginson that it was dangerous ; Higginson said that we need be careful of it and not go underneath it ; the patches of soft stone, I cannot say how many I saw during the 500 yards, as far as I could judge ; in some places the patches occurred in every second set, and then you might go for five or six sets and not see any more ; I believe that there would be 100 patches in the 500 yards ; there was only conglomerate in patches also in that level, small parts, that is flakes, came away ; it still seemed, when this came away, that there was conglomerate above it ; I cannot say how much soft stuff there was above the other that came away ; I cannot say if there was conglomerate above the soft stuff on the level ; the stuff was very soft ; I cannot account for its not keeping on falling except that in places the timber may have kept it up ; it came away about 3 feet in the level, higher in the middle ; after it fell timber was put up against the roof ; the pillars had not been taken out in the Scotch heading to my knowledge ; if they are out now they must have been taken out before the fall ; I am positive the pillars had not been taken out in the Scotch heading at the time of the fall ; it is not usual to take pillars out in the East Greta Colliery ; the roof of the East Greta Colliery was patchy ; I believe that there was more conglomerate in it than soft stone ; I know the overcast in the bottom level, there is no soft stuff in that, it is composed of hard conglomerate ; the extension starts 30 or 40 feet below the level of the overcast.

*By Mr. Bowden :* I have never worked in other collieries ; we could always get all timber that we ever required.

*By the Foreman of the Jury :* I consider that the parts of the East Greta Colliery that are not safe is that where is a soft roof ; I consider that the manager and those in charge have always done their best to safeguard the men at work in the mine ; I never heard from anyone but Moncrieffe anything that would reflect on the safety of the No. 1 tunnel ; I cannot remember anyone being discharged for saying that the mine was unsafe.

*By the Jury :* I still work at the East Greta Colliery ; if Mr. Thomas, the manager, says that the pillars have been removed in the Scotch heading it is an untruth ; it is not possible that the manager could take anyone down to take out these pillars without my knowledge ; I have seen a Government inspector in the colliery ; when I looked up the tunnel I did not think that the fall was where it had occurred ; I thought it was a fall in the old workings ; I knew that caps were broken in the old No. 1 tunnel, and were replaced with new ones ; the fall where Shuffler was at work at the pillars came from the roof ; it would be away about 400 yards, to the best of my belief, from the No. 1 tunnel, where the last fall occurred ; I cannot say how long he was taking them out, or if he still continued to take them after the fall ; I saw this fall afterwards ; I should think about 80 tons may have fallen of roof ; the pillars were not continued taken out there after the fall ; top coal was taken out the same side as the fall, but farther on ; Higginson and I went to the Scotch heading to see if we could do anything to repair or prevent further fall, and we found that it was so high we could not do anything with it ; the front shift had come out, and there was no one at work there when Higginson and I went in ; I did not call these extensive falls ; caps do not always break from roof pressure ; it may be from other causes ; if the props were intact, the sills were intact, and the caps only bent, this would indicate roof pressure ; I am experienced in timbering, and if I saw the props were tightly wedged, and the sills had not moved, and yet the caps were bent, I should say there would not be side pressure ; if there was sufficient side pressure to bend the caps, it should also show in the props ; with bottom and side pressure I should say that the sills would bend or break in the middle, and then I should say that the sides would go next ; the packing of ti-tree would for a time keep back the side pressure.

*By Mr. Tillet :* I would expect to get side pressure in a tunnel of that description.

*By Mr. Millard :* The caps, I know, were wedged into the side tight, and if the side was packed the pressure would come on the legs ; the ti-tree packing, if put in with the bark on, could give a little ; ti-tree put in with spongy bark on it would give sooner than the wedges ; the ti-tree giving would ease the pressure on the props ; I should expect in roof pressure to see it affect the slabs ; they would give or bend a bit ; the slabs are not as strong as the caps.

Sworn and made at West Maitland, this 12th day  
of January, 1899, before me,—

JAMES CANTWELL.

GEO. C. MARTIN, Coroner.

Inquest

Inquest adjourned, for the purpose of obtaining lunch, until 2·30 o'clock p.m., on Thursday, the 12th day of January, 1899, at the Court-house in West Maitland, the jurors being bound over, and warned of time and place of adjournment.

Dated at West Maitland, this 12th of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 2·30 o'clock p.m. on Thursday, the 12th day of January, 1899, at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 12th of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *James Cantwell*, recalled, on his former oath, saith as follows (*by Mr. Curley*):—I had repaired timber in No. 1 tunnel; this would be midway between the top level and the middle level; the caps were broken that I replaced; I saw about half a dozen caps that I helped to remove; I had to pass in and out of the tunnel before I went to repair them; I could see that they were broken before I went to repair them; they could not have been broken more than a week before I went to repair them; I did not notice the roof, as I could not see it for the slabs overhead; it was the cap-pieces that were broken; they were from 9 to 10 inches; this was a little over three years ago.

*By Mr. Millard*: I have noticed sills bent up in that tunnel.

*By Mr. Bowden*: I was with Deputy Higginson when I went to repair the timber; where I noticed the caps bent or broken the slabs were not bent or broken; in bords I have seen slabs broken; I was a fencer, or at any kind of bush-work, before I went to the East Greta Colliery; I was employed on the surface at East Greta Colliery before I went below, for about six months, as near as I can think; I have of late had charge of a shift down below; my duties were then to replace timber in No. 2 tunnel, or to put timber in to strengthen it.

*By Jury*: Mr. Thomas and I are friendly; we have never had any quarrel; the caps that Mr. Higginson and I saw were above the No. 1 tunnel; I had a contract for driving the jig, running parallel with No. 1 tunnel; I had one partner in that contract, Aquila Roster; tenders were called for it; there were no specifications; no distance, only an ordinary jig; I had men working for me; Downie was one of my men; I paid him his wages; after the fall took place, I rang for the alligator; it was not sent down; it is the rule for it to be sent down if rung for; but I did not ring for it on any previous occasion; Jones rang for it after I had done so; I knew a shift was coming down, so I sung out for them not to come down; I have looked down where the continuation of No. 1 was going on; I never noticed any bent caps, as I was never there at a time you could see far down; at about 3 p.m. you can see well down the tunnel; I never happened to look down the tunnel at that time, though I have been there in going about my work; I could have seen had I looked at that time.

*By Foreman of Jury*: I have never seen a fall from the side; the falls generally took place where the timber had not been strained; if I heard a fall at some distance in a mine where there were strained timbers, I should infer that it occurred where the strained timbers were.

*By Mr. Millard*: I put full sets in where the sills were broken.

*By Mr. Curley*: I did this work for about 300 feet in No. 2 tunnel.

Sworn and made at West Maitland, this 12th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

JAMES CANTWELL.

This deponent, *Henry Cartwright*, on his oath, saith as follows:—I am under-manager at East Greta Colliery, and reside at East Greta; I knew the deceased man.

*By Mr. Tillett*: I have been under-manager and manager since the inception of the colliery—first as manager, and then, after Mr. Thomas came, under-manager; I know the extension of the new No. 1 tunnel; I was one of the first to enter the tunnel after the fall; there were three of us together, Heges, the engineer, David Lewis, and myself; the time was, I think, at ten minutes past 7; we found the tunnel had fallen in; we went right to the edge of the fall and called to the deceased; I shouted out loud and knocked on the rails, but got no reply; I was in the tunnel before the fall, but I cannot say exactly when or if I had been in during the week the fall took place in; I think I was in the tunnel for the last time about a fortnight before the fall took place; I examined the roof all the way down then; I did not see any indications of danger in the roof; I saw a couple of caps bent, not broken; they were so bent that one could only just discern it; I did not regard this as an indication of danger; I do not remember seeing stone of the sort now before me at the East Greta Colliery; the roof of the mine was of conglomerate; I have seen slight fall of roof before this fall, after the pillars have been taken out; I have seen slight falls in the levels, but of no thickness; the stuff that came down was sometimes coal and sometimes roof, nothing like this stuff; I went down in the bottom level every day; this has been my practice every day, but I cannot remember seeing this description of stone.

*By Mr. Atkinson*: I was at the top of No. 2 tunnel when I was called at the time of the fall; I had not been down the mine that morning; the pit starts to get coal as soon as the men are down at 7 a.m.; my usual time for going down is 8 to 8·30 a.m.; I had not been near the top of No. 1 tunnel on that morning; I am under-manager for the whole of the mine; it would take me one day to examine the whole of the East Greta mine; I refer to examining No. 1 as well as No. 2; I have read the rules as to the duties of the under-manager; I now read No. 3 rule of the special rules; I can only explain not complying with the Rule 3 that Mr. Thomas and Mr. Heges looked after No. 1 tunnel whilst sinking; Mr. Thomas told me that he had put David Lewis in charge as deputy of No. 1 tunnel; I saw Mr. Thomas about No. 1 tunnel; I did not look upon the extension of No. 1 tunnel as a particularly important place; I cannot say when Lewis was given in charge as deputy of No. 1 tunnel; I do not keep any record; Lewis was put in charge as deputy at No. 1 tunnel when it was started from the bottom of the sump; this would be, if I think rightly, about last July; Jowett, the night-deputy, made the report at the time the tunnel started, and I believe that he reported about it until Lewis took charge as deputy, about a couple of months from the start; I do not know why Lewis came to take charge as deputy; I do not think that Jowett looked after the tunnel after Lewis took charge as deputy.

*By Mr. Atkinson*: Pillars were taken out in the East Greta pit; some of them on the north and some on the south side of No. 1, between the top level and what is now known as the middle level; there were falls of conglomerate when these pillars were taken out; I do not remember seeing any other stone than conglomerate; the fall would be up about 5 or 6 yards; it consisted all of conglomerate; I do not know how far the No. 1 tunnel was to go; I knew that the level was coming from No. 2 tunnel to meet the No. 1 tunnel when it reached a certain point; I have examined the roof in the level; it is of conglomerate; I remember a drive being made from the bottom seam to the top seam; I cannot say the distance; I have been in the place while driving it; conglomerate went through it; it was all conglomerate, if I remember rightly; on second thoughts, I think there was some other stone just before we got to the top seam, but I cannot remember what it was; there are distinct facings in the coal at East Greta; the facings run east and west; I would expect coal to come off the side of the jig easier than a level; there has not been much evidence of a side pressure in East Greta; we generally set timber in the jigs; we always do; we generally wedge the cap-ends tight; I have a good deal of experience in timbering; in a mine with a side pressure I would not think it good practice to wedge the ends of the caps tight; I have seen the big fall in No. 1 tunnel; I think, in my opinion, that a leakage of water made its way to that blue mudstone, and made it swell, and broke the cap-pieces; this was pressure from the roof; I think that side pressure had some influence on the fall; I have noticed the sides of the coal; they are in good condition; I should not take this as a sign of much side pressure; I think the fall was influenced by pressure from the floor; we are troubled a lot with the floor, it is so soft; the bottom heaves up and forces the sill up and then the props, and lifts the ends of the cap-pieces with the middle, being wedged tight, and this is some help towards breaking the cap-pieces; as a general thing the slabs on top are tighter than the sides; by pressure from the floor I should expect the sill to break first; I did not notice the sills bent where I saw the caps bent; I did not notice any water dripping from the roof prior to the fall; since exploration I have noticed a considerable number of caps broken; I never saw any slabs broken; it is a surprise to me to see the caps broken and no slabs broken;

broken; I saw Moncrieffe and Barnes recovered; I cannot say how far from the face they were, but I think that both were about 20 or 25 feet from the face; I should say that Moncrieffe was about 20 feet from the face, and Barnes about from 5 to 10 feet from the face.

HENRY CARTWRIGHT.

Sworn and made at West Maitland, this 12th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

Inquest adjourned for the purpose of obtaining further evidence, until 10:30 o'clock on the 13th day of January, 1899, at the Court-house, in West Maitland, the jurors being bound over and warned of time and place of adjournment.  
Dated at West Maitland, this 12th day of January, 1899. GEO. C. MARTIN, Coroner.

Inquest resumed in pursuance of adjournment at 10:30 o'clock on Friday, the 13th day of January, 1899, at the Court-house, in West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.  
Dated at West Maitland, this 13th day of January, 1899. GEO. C. MARTIN, Coroner.

This deponent, *Henry Cartwright*, recalled on his former oath, saith as follows (*by Mr. Curley*):—I have a good knowledge of the East Greta Colliery; I think I have; I have noticed falls in the colliery at different times; I have seen them both north and south, that is prior to the fall in this No. 1 tunnel; I have not seen any large falls only where pillars and tops were being taken out; the falls were large then; I do not remember anyone being shut in by a fall; I have known of smaller falls in the colliery mostly in the levels, both north and south of this No. 1 tunnel; these falls took place where timber was in; the falls came between the timbers; from seeing these falls I have a fairly good knowledge of the roof; I do not remember any of this blue shale coming down; I have seen stone like the piece marked C come down; it came down about 6 inches below the top of the coal, and sometimes next the roof; I call this stone conglomerate that I now hold; I have seen stone like this fine conglomerate come down from falls; the stone marked B is what the roof is composed of; the width of the levels where I saw the falls between the timbers would be 9 feet; I call the conglomerate stone marked B very hard stone; the piece marked C I call a soft shale intermixed with a grain of conglomerate, or rather streaked with conglomerate; I do not remember seeing any of this stone in the falls between the timbers, but I have seen both the hard and fine conglomerate; I have seen both these conglomerates at the same fall between the timbers; I should call the fine conglomerate a strong one; I should say that a little damp, water, and the air caused it to come down; I have seen cap-pieces broken where these falls were; I should say it was due to the bottom; we have not had sills in these levels; I have seen props broken—that is, split up; when I have seen the falls between the timbers, I should say there was no weight on the roof; I call the conglomerate I have referred to very heavy stuff; the weight would lay heavy on the caps from the damp, the water, and the air; the falls were of 6 or 7 inches; I would call it more from fretting; I have seen it larger—from 18 inches to 2 feet; I do not remember seeing anything beyond 2 feet; my instructions on seeing the cap-pieces broken were to put fresh ones alongside, and take the others out; I saw in the No. 1 tunnel two cap-pieces bent; these were 5 feet apart, one next the other; I did not give any instructions about them; the roof where the larger falls were was of conglomerate, similar to that on the table I have referred to; I never saw any other stone that I can remember but conglomerate; I saw the face of the fall all the way; I climbed up; the thickness was 5 or 6 yards at right angles to the seam; this was on the north side of No. 1 tunnel; this would be on the left-hand side going down; I cannot say what the locality was, but it was betwixt the No. 1 level and what we called the middle level; I know of a fall on the same side, betwixt the surface and No. 1 level; I forget the number of the jig; the roof there I saw was a few yards in thickness, and it was a conglomerate, but I think a little browner and rougher than the stone I now see, something similar to the stone marked D on the table; the piece marked D is a rougher conglomerate than the other, and of a softer nature; the piece marked D is more friable than the other two pieces; it would fret more; I did not see any other stone at that fall than I have spoken of; I do not remember any other falls that I have examined; I have known of falls in what we call the Scotch heading, and in No. 2 level; in the Scotch heading the fall was a large one; I saw it; I could see up; I think my light would only show me up as far as 4 or 5 yards, but what I did see, if I remember right, was conglomerate; the stone mostly resembled that stone marked D inside the paper on the table; in the fall I saw between the No. 1 and No. 2 level, on the south side of the tunnel, if I remember rightly, the stone that came away was conglomerate, but I will not say positively that it was conglomerate; this occurred about three or four years ago, I think; I cannot speak positively, as it is so long since it occurred; I do not remember seeing anything but conglomerate fall; after it has fallen I have not seen any other stone but conglomerate; the main intake for air for No. 1 tunnel is the No. 1 tunnel; we had no difficulty in getting the air to the men there; it was got there from No. 2 level by natural ventilation; the distance from No. 2 level to the face of the tunnel I cannot tell you; I know No. 7 of the special rules; I did not comply with that rule; I examined the report-books at the colliery office every morning; knowing that the cap-pieces were bent, and not seeing any report of it in the report-book, I was no ways alarmed, and did not think of doing anything towards putting the cap-pieces right; I do not think that I took too much for granted in this matter; as I did not go to the tunnel, if there were defects, I could not possibly see them; I have read Special Rule 3 very carefully, but it did not make me anxious to be in that tunnel oftener than I have been; I cannot say when my previous visit to the tunnel was before the fortnight I have mentioned; I regarded the roof of the East Greta Colliery as an exceptional roof; I have had experience in other collieries as overman and under-manager; notwithstanding that the roof was exceptionally good, the tunnel was boxed with timber in a similar way to the model before the Court; but this has not been sufficient to cope with the roof in the No. 1 tunnel.

*By Mr. Millard*: We have had caps broken above the extension in No. 1 tunnel, and other caps have been bent; these bent and broken caps have been taken down, and when these caps were taken down, the roof stood; the slabs were not bent or broken where the caps were bent and broken; I have seen sills bent and broken there likewise; I have seen many of these broken; we have had trouble with the bottom in No. 1 tunnel; the bottom heaved up; the road was lifted; the height of the tunnel was reduced by the bottom lifting; I should not say that the bent and broken caps that I removed were put in that way by the roof; it was done by the floor and sides; the swelling of the floor was the same all the way up the No. 1 tunnel; I replaced all the sills in the No. 1 tunnel; I did not replace all the caps; I had to replace sills in No. 2 tunnel for about 100 feet; I remember a cage breaking away in No. 1 tunnel before the extension was commenced; it carried away several sets; I should think about seven or eight sets it carried away; the roof did not come down when the sets were carried away; the sides and floor moved where the sets were carried away; this would be evidence that the timber held the sides and floor in position, not the roof; the sets are 8 feet apart where this took place, so that about 50 feet of sets were carried away; we boxed up the No. 1 tunnel with timber, as shown in the model, to hold the roof, sides, and floor; had the sides and floor been as good as the roof it would not have been necessary to timber; there is a part of the No. 1 tunnel without timber; this part is between the surface and No. 1 level; where the fall I spoke of in the Scotch heading was the pillars had been all taken out, except the two bottom bords in the Scotch heading, jig, that is in No. 1 bord on each side of the jig; the falls took place after drawing the pillars and tops.

*By Mr. Bowden*: There was an ample supply of timber always kept in the mine; we always got what was necessary; the timber was considered to be good; the work ordered by the company was required to be done safely; expense was not studied to the detriment of safety; I did everything that was necessary to the safety of the men and the mine.

*By Foreman of Jury*: When I went down the tunnel after the accident I found the sides still standing; I believe that there was some side pressure, but that did not make it certain that the sides would come in; I think that the slabs being under the sills, the pressure from the floor was greater; I did not think the slabs under the sills would be a benefit some time ago, and, from the experience of it, I do not think so now; I think that had additional timber been put into the No. 1 tunnel it might have prevented the fall.

*By Mr. Millard*: The bottom of the old No. 1 tunnel was not slabbed.

*By Jury*: In this particular place, on account of the troublesome floor, the slabs were put in at the bottom; this model is a correct specimen of the No. 1 tunnel as regards the timbering, with the exception that in the model there is a string piece on the end of the caps; I have seen a Government inspector in this tunnel; Mr. Thomas and Mr. Heyes measured the work in the extension of the No. 1 tunnel; I do not know how often it was measured; when working-places have been examined by the deputy I have not seen the name and date put in the bord or face; I do not remember acquainting



acquainting Mr. Thomas of falls having taken place in the mine ; I do not consider it is my duty to acquaint the manager with any falls that I have seen ; I was getting pillars out when the falls took place in the northern side of the No. 1 tunnel ; we had the jig drove from the top level to the lower level.

HENRY CARTWRIGHT.

Sworn and made at West Maitland, this 13th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

Inquest adjourned, for the purpose of obtaining further evidence, until 10:30 o'clock a.m. on Tuesday, the 17th day of January, 1899, at the Court-house, in West Maitland, the jurors being bound over and warned of time and place of adjournment.

GEO. C. MARTIN, Coroner.

Dated at West Maitland, this 13th of January, 1899.

Inquest resumed, in pursuance of adjournment, at 10:30 o'clock on the 17th day of January, 1899, at the Court-house in West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

GEO. C. MARTIN, Coroner.

Dated at West Maitland, this 17th of January, 1899.

This deponent, *Henry Cartwright*, recalled, on his former oath, saith as follows :—We never put a jig the same distance apart from another jig ; we considered the distance between the jig we started and the No. 1 tunnel ; we consider the thickness between the No. 1 tunnel and the jig, but I do not remember the thickness of the pillar ; I consider it my duty to know the thickness of the pillar, on account of it being the main tunnel of the mine ; we did not work the tops and pillars from the first jig ; I cannot remember the distance we worked the pillars from that jig ; the time was six or seven years back ; we drove another jig further in than this jig, and it was between these jigs that we took the tops and pillars out ; we did not continue to work the tops and pillars further in the workings ; we worked them on the opposite side, also in a similar manner to those worked on the north side ; we did not continue to work them further south ; we worked all the pillars out in the Scotch heading, except those I have previously mentioned ; I know some of the men who worked those pillars ; they were named Joe Hallam, John, and David, and William Haddow ; neither of these men are working in the colliery now ; I know of a place being driven at right angles between the two seams ; it was in the Scotch heading, the south side of No. 1 tunnel ; a fault occurred that made us put in this drive, and the distance driven I cannot remember ; I know it was measured ; I did it myself ; a Mr. Hughes, I think, can give you particulars of the distance ; I cannot say how long this Mr. Hughes was working at it, for, if I remember rightly, it changed hands ; Mr. Hughes was in that drive at the time it was being driven ; if I remember rightly, it was Jim Allen who finished the drive ; I cannot remember who started, or who finished it ; by sounding them the sides seem different to what they did when driven through ; they, however, look the same ; if the side pressure was so great as to break a 6-inch bar, it does not necessarily say that it would bring about a fall from the side ; that pressure would not necessarily show the coal on the side to be broken.

*By the Foreman of Jury* : There are no splintered caps where the fall occurred, as far as I remember ; the clearing of the pillars in the Scotch heading took place about four years ago, I think.

*By Mr. Millard* : We tried to cut the roof in the old No. 1 tunnel to get the additional height, but did not succeed in getting the height, because to do so we must have commenced to blast, and Mr. Thomas would not allow this ; the roof being hard conglomerate would have required blasting ; no pillars were taken out to the north of the extension of the No. 1 tunnel ; it was all virgin coal from the No. 1 tunnel north to the workings of the No. 2 tunnel ; there were no pillars taken out south of the extension of No. 1, and no jigs, and no workings, except the starting of Cantwell's jig.

*By the Coroner* : The floor of the No. 2 tunnel kept good all the time we were sinking and timbering, and the sets were put in 5 feet apart all the way ; in the extension of No. 1 tunnel, from the start the floor was found to be soft and troublesome, but we did not consider it worse than in the No. 2 tunnel, and thought 5-foot centres were sufficiently close to well support the roof.

*By Mr. Millard* : The floor of the No. 2 tunnel is good now, and the floor of No. 1 is good now, and they have been kept good by timbering ; age and time affect the floor ; they make it lift, but in about ten years or so the floor would have settled ; I should say that in a couple of years the floor would begin to settle ; the old No. 1 tunnel was finished to the No. 2 level about seven years ago, and the No. 2 tunnel has been finished about two years, if I remember rightly.

*By Mr. Curley* : This stone I call conglomerate that I have now in my hand ; but this I now hold, marked B, is harder ; and this stone I now hold I call fine conglomerate, and is as hard as this that I looked at first ; one is, in my opinion, as hard as the other ; the piece of stone I see marked D is also a conglomerate, and is as good stone as the others, the fine and hard conglomerate ; I would not be surprised to know that the first piece of stone you put in my hand came out of the No. 1 tunnel ; I know the overcast ; it is on No. 2 level ; I know a door there, not far away ; I have examined the roof there ; this door is about 30 yards from No. 1 tunnel, on the north side ; I have noticed the roof close to this door ; it is composed of conglomerate ; the first foot might be soft from fretting, but at the back of that it would be hard conglomerate ; I call this stone I now hold a very fine conglomerate ; it is soft now, from exposure ; I would not swear that it came out of the East Greta mine ; I would not be at all surprised to hear that this stone came from near the door mentioned ; this other stone is a fine blue conglomerate ; possibly it came from the East Greta mine ; you can see some of this stone mixed in the conglomerate ; this stone may have come from the floor ; I cannot say ; I know the position of the dam, it is about 40 yards from the south side of No. 1 tunnel ; my attention was never called to any soft stone in the tunnel by anyone ; when I went into the tunnel after the fall the stone that had fallen had mostly gone down the tunnel ; there might have been a shovelful of dirt between the sills where the fall occurred, but no stone ; we reckoned there were about six or seven sets knocked out ; I saw a good part of the timber that was recovered from the tunnel ; I noticed cap-pieces broken ; I cannot say how many ; I also noticed props broken ; they were both broken and splintered ; we have relaid the rail-line from where the fall occurred ; the rails were broke away ; they had separated, and partly gone down the tunnel ; to make the connection complete we had to put every pair of rails down afresh ; some of the sills went down with the rails, as the rails are laid on the sills ; we fasten them together with fishplates, bolts, and dogs ; I cannot say how many sills went down ; I saw some of the material that was filled out of the tunnel ; it was pretty lumpy ; it had to be broke up to lift it into the alligator ; the largest piece would be about 4 feet one way, 6 feet one way, and 2 feet one way ; looking down the tunnel this piece would be (say) 2 feet thick ; there was not much fine stone, it was filled away ; I think that there were many tons of small dirt ; the stone said to be mudstone I should call a soft blue shale ; the stuff carried down the tunnel, I should call this soft blue shale ; I cannot say what was the composition of the large stone I mentioned ; we had to break some of it to get Barnes's body out ; I should say that the stone that composed the fall generally was this conglomerate (marked D), only browner, a soft blue shale, and some other sort of grey shale, and some ironstone.

*By Mr. Millard* : The action of water on the conglomerate makes it fret and crumble, and air has something of the same effect.

*By Foreman of Jury* : I cannot say if soaking this conglomerate in water for twelve months would make it soft, but I should say that in five years' soaking it would go soft ; the fine conglomerate would go soft first.

*By Mr. Curley* : The overcast was built since the extension was started ; I cannot say when ; I should say that it was a month at least before the fall ; in driving the overcast the men had to blast the whole way ; I think that some of the drill-holes can still be seen ; I do not think that it has fretted much.

*By Mr. Markham, Jurymen* : The No. 2 level is not in good repair between the No. 1 and No. 2 tunnels ; there are ways of getting out of the tunnel if the mouth was blocked.

HENRY CARTWRIGHT.

Sworn and made at West Maitland, this 17th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

Inquest



Inquest adjourned, for the purpose of obtaining lunch, until 2:30 o'clock p.m. on Tuesday, the 17th day of January 1899, at the Court-house, at West Maitland, the Jurors being bound over to appear at that time and place of adjournment. Dated at West Maitland, this 17th of January, 1899. GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 2:30 o'clock on the 17th of January, 1899, at the Court-house at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The Jurors having answered to their recognizances, the examination of witnesses was proceeded with. Dated at West Maitland, this 17th of January, 1899. GEO. C. MARTIN, Coroner.

This deponent, *Ernest March*, on his oath, saith as follows:—I am a hay-presser at present, and reside at West Maitland; I knew the deceased man, Alfred Moncrieffe.

*By Mr. Tillet*: I was at work in the East Greta Colliery; I had been at work there for about ten weeks at the time of the accident; I had been working at East Greta, on the surface, for about two years previously; I had been away, and came back and worked for ten weeks; I was working in the shift that came out at 3 p.m. on the 17th of November; I was working with Jack Griffiths and Ed. Parsons; I was working in the extension of the No. 1 tunnel getting coal; I noticed the roof; I noticed some of the caps bent and cracked; I saw the roof work in one place; this was at about a quarter of the way down from where the tunnel was commenced; the caps I saw were also about a quarter of the way down; I spoke to Griffiths; I asked him if it was not dangerous; he said he did not think it was; I did not speak to anyone else; I spoke to Moncrieffe, and Moncrieffe said that if something was not done to it they would not see him there much longer; he said this a few shifts before the tunnel fell in; Dick Barnes and Gronow were both present, and Ted Parsons and Jack Griffiths also; it was said at the bottom of the tunnel at the face; no one present said anything more about it; the roof was composed of conglomerate and slaty rock; the conglomerate was the same as the sample marked "F" and a piece spoken of by witnesses as fine conglomerate, and also something like the bluish stone marked "C"; I call this the slaty rock; a little rock came down in the tunnel at a time; both conglomerate and slate came down; I worked three shifts in the tunnel since the fall; I know where the fall took place; I believe the fall came away at about the part where I saw the bent timbers.

*By Mr. Atkinson*: I know the stone just over the coal; the stone was mixed; it was conglomerate, and dark slatish stone; I could not measure the thickness of the conglomerate; I cannot say how much of the stone was broken on top of the coal, but there was about 18 inches of conglomerate; about 150 feet of the tunnel was driven while I was working there; Jack Griffiths was the chageman in our shift; he used to notice the roof, but he made no remarks about it; it was from the top of the tunnel to the face that he noticed; Griffiths examined going down and coming up; I worked also with Dave Lewis and Joe Thompson; I never saw water dripping from the roof where I saw the bent caps.

*By Mr. Curley*: The bent caps I saw were down from where the tunnel was commenced—the new part; it was 100 feet from the bottom level where I saw the caps bent and cracked; I saw them plainly and distinctly; I never counted them, but I believe there was four or five; I saw Mr. Thomas, the manager, there once on the Tuesday morning before the accident; he was at the face at the bottom; I only spoke once to Griffiths about the broken caps and the roof; I was at the face at the time working when I heard the roof work; I could hear the timber crack occasionally, and it was at that time I drew Griffiths' attention to it; I cannot say if anyone examined the tunnel before we went to work; I never saw anyone at the top of the tunnel who told us that everything was right; I saw slaty stone with the conglomerate; one time the slaty stone would be first; at another the conglomerate would be first; we had sometimes to chip the roof to get the sets fixed; that was how I came to see the stone; I went into the fall on the Saturday morning after the fall to work; I saw where the fall had taken place; I saw the rails on the left-hand side were bent out; I did not see them disconnected; they had not separated; I did not see that any part of them had gone down the tunnel; I never saw the under-manager down there while I was at work before the fall; we all went down the mine together when I worked with Lewis; I do not know if Lewis went down the tunnel to inspect before I went in to work; when Lewis went down with us he appeared to be making an inspection of the tunnel; I cannot say if Lewis made any other inspection during the shift; at times Lewis was working in the face, and at times he was timbering; when I say Lewis was working at the face he was getting coal with a pick; the sills appeared to be in the same position where the fall had occurred as they were before the fall.

*By Mr. Millard*: I noticed the bent caps going down and coming up; I was sitting in the skips; it was about five or six weeks before the fall that I noticed them; I spoke to Griffiths about it a few shifts before the fall took place; that would be about five or six weeks after I had noticed them; the caps were bent about a foot; when I first noticed them they were only bent a few inches; it took five or six weeks to make them show a foot; one could hardly see how they progressed, but they did; I had to go up and empty the cask by baling out into the alligator; you could see the bent caps from the cask in the daytime; they were about, I think, 140 or 150 feet from the cask—up from the cask; the casks would be about 120 feet from the face, I think; I cannot fix the distance by anything, but I believe I am about right in my impression; I saw some caps bent lower down; I could not say how many, but perhaps about three or four; these caps were about halfway between the first lot of bent caps and the face; this second lot were bent 3 or 4 inches; I did not speak to anyone about them; I noticed these caps about two or three weeks before the accident; they seemed to get bent more slowly than the first ones; these caps were a bit above the cask; you could see them from the cask; when I say I heard the roof move I mean I heard the timber cracking; it was loud at times; you could hear it at times above the noise of those working; what I heard was, I believe, the top, not the sides; my reason was the weight coming on the timber, but I did not see the weight come on the timber; I do not know that the sides pressing in could cause the top timber to bend; I do not know that the bottom timber pressing up could affect the top timber; when I was at the face I was about 250 feet to 300 feet from where the fall was, so that I cannot say but what I heard of timber cracking may have come from other places; I did not notice any shifting in the slabs, but they were sinking down with the caps; on each of the bent caps the slabs had sunk down with the caps; I did not notice if the slabs had sagged down between the caps; there was a distinct crack in the caps; in speaking with Griffiths, Moncrieffe being present, I spoke first; I asked Griffiths if he thought that there was any danger of the timber coming in; I thought myself that it was dangerous; I said to Griffiths the bent and cracked timber was dangerous; Griffiths said he did not think it was dangerous; it was on another occasion that Moncrieffe spoke; it was after that other; it was Moncrieffe who began the conversation; I know the band on top of the coal; it is composed of conglomerate; I do not see any stone here like the stone I have seen in the band except the piece marked "C"; there is a patch on it like the band I mention; the band would be only 2 or 3 inches thick; the band was as black as the coal; I could tell it from coal, because it was harder; there was nothing between these two; I would not be surprised to hear that there is a grey band between the coal and the conglomerate showing there now; it was the first time I had been down below that ten weeks I worked.

*By Mr. Bowden*: I believe other men saw both the lots of bent cap-pieces; they did not speak to me about the two places that I remember; when I went down Lewis met me at the mouth of the tunnel; at times he met me there, and at times I was there first; at times we got out some of the floor with the coal; I believe that 2 feet of the floor had to be taken out, and we took out this 2 feet in our shift; I have discussed this case outside, but I know I have not said anything about the timber; I have spoken to those men who worked in the tunnel with me.

*By the Foreman of the Jury*: I have never spoken to any of the jurymen; when I spoke to Griffiths, and called his attention to the caps being bent, the slabs were sagged down on the caps; at the same time we were down at the face, and I am sure that Griffiths knew what I meant as regards these being dangerous; during the whole five weeks I felt that there was danger, but I trusted in those whom I thought had better knowledge; I am not now working at East Greta Pit; I would not mind going back to work at East Greta; I was only on the day shift about a week and a half; I did not see the Government Inspector down the mine; I never mentioned the cracking to Mr. Thomas, the manager, but I mentioned it to Mr. Lewis, and he said he did not think the timber was dangerous.

*By Mr. Markham, Jurymen*: I noticed the sills all down the tunnel, but I did not see any bent; I did not take particular notice of the props or logs; I cannot say if they were bent; I do not think they were.

Sworn and made at West Maitland, this 17th }  
day of January, 1899, before me,— }

GEO. C. MARTIN, Coroner.

ERNEST MARCH.

This

This deponent, *Ernest March*, recalled, on his former oath, saith as follows:—*By Mr. Millard*: I mentioned about the bent caps to Lewis at different times; it was while we were on the shift together; I did not mention it as soon as I saw it bend; it was a week or two after I saw it; I mentioned it while we were going up and down the tunnel, and also while we were at work at the face.

ERNEST MARCH.

Sworn and made at West Maitland, this 17th }  
day of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner,

Inquest adjourned, for the purpose of obtaining further evidence, until 10-30 o'clock, on Wednesday, the 18th day of January, 1899, at the Court-house, at West Maitland, the jurors being bound over and warned of time and place of adjournment.

Dated at West Maitland, this 17th January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 10-30 o'clock, on the 18th day of January, 1899, at the Court-house at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizances, the examination of witnesses was proceeded with.

Dated at West Maitland, this 18th of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *Ernest March*, recalled, on his former oath, saith as follows:—I mentioned it to Lewis two or three times; Joe Thompson and Weller were on the shift with me; they went down in the alligator with me, and they would hear me then mention it to Lewis; I could not say where or what part of the journey it was when I mentioned it, but I mentioned it when the caps were in sight; the caps were plainly bent and cracked; those with me could see these caps as well as I could; these men spoke of the caps at times when on the alligator going up and down; I heard the others speak of them first; I cannot say who spoke first; they spoke about them a week or two after I saw them bent; I did not hear them say they were dangerous; Lewis spoke about them several times before I did; I did not hear Lewis speak of the lower lot of bent caps.

*By one of the Jury*: I heard Mr. Thomas tell Mr. Griffiths that he had been speaking to Lewis about doing something to the timbers; this was on the Tuesday morning before the fall; Mr. Thomas viewed the bent timber on the Tuesday morning when he was down.

*By Mr. Curley*: Moncrieffe said he thought it was dangerous, and if something was not done to it he would not stay; I understood this from what he said; I believe that Mr. Thomas went down to inspect these timbers; I saw him stop there some time, and that led me to think he was inspecting the timbers; I did not go up the tunnel to see him, but I saw his light; I think at that time he would be about 250 feet from the face; Mr. Thomas said to Griffiths, I was speaking to Lewis about the cracked timbers, and Griffiths made some remark, but I cannot say what.

*By Mr. Millard*: Mr. Hayes, Ted Howard, Ted Parsons, and Griffiths were all together at the face when this was said; I believe at that time Mr. Thomas was measuring and examining the tunnel; Griffiths was holding the light.

*By Mr. Tillett*: We used to converse of matters when in the alligator; those were casual conversations about certain matters in the mine; no one seemed to attach much importance to the timber except Moncrieffe; the men seemed indifferent to it.

*By Mr. Curley*: It appeared to me that the men in the tunnel considered that the timber should be looked to.

*By the Foreman of Jury*: Of the men there, Ted Parsons and Ted Weller were two of them who said that they thought those bent timbers were dangerous; I never saw a false set used in that tunnel; I saw slabs put in the roof to hold it up before the permanent timber was put in; these timbers were used in the present face at the bottom where we were working; as far as I know those were only used in places where the roof was bad; the slabs were let into the face to hold up the roof, and the sets were put in underneath them if there was room; if not the slabs were taken out.

ERNEST MARCH.

Sworn and made at West Maitland, this 18th }  
day of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

This deponent, *Edward Parsons*, on his oath, saith as follows:—I am a labourer, and reside at Morpeth; I knew Albert Moncrieffe.

*By Mr. Tillett*: I was in the shift with Griffiths and March the day before the fall; I left the bottom about 3 p.m.; I have worked at the East Greta Colliery since last February, all underground; I had been down mines, but had not had any experience in mining; I think I was at work in the extension of the No. 1 tunnel for about four months; I noticed in that tunnel broken timber; they were cap-pieces; they were about 100 feet down from the lower level; I first noticed one of these broken cap-pieces about six weeks before the big fall; my two mates were with me sitting at tucker, when I heard something crack, which I took to be a cap-piece; those two mates were Pike and Griffiths; we conversed about it; I asked Griffiths what it was; I said I thought it was a sill, and Griffiths said it could not be, as when those sills go there will be something wrong; the caps went on working and breaking; it was about on the 11 o'clock shift that I noticed the caps going more than at other times; I could not say the reason for noticing it so particularly at these times, but it may have been the dampness of the air in the early morning; I have heard Dan Gronow and Albert Moncrieffe speak of the roof as working; when we would get to the face, if there was any bad roof it would be noticed, and one would say, "Look out for the bit of roof," mentioning a certain part wherever there might be a piece likely to drop out; I refer to the face all the way through; one morning when we were down at the bottom, Dan Gronow said that the biggest part of their shift then had been in the man-holes on account of the timber above them working; I heard Moncrieffe speak about it; he said that unless something was done to the timber, that he would not come in to work any more; I have often talked to Griffiths about the timbers; March was with us sometimes, and sometimes Lewis; when a set of timbers wanted to go in, he would be with us also; the roof was composed of a very soft soapstone and some conglomerate, and the stone; the large piece called the bluey-slatish stone is most like what I call the soapstone; the conglomerate that was there resembled the stones marked "D" and "F"; before a set was put in, slabs were put sometimes from the last cap to the coal in the face to prevent bits of roof from coming down; when the sets were put in, these slabs were sometimes lowered down to the caps, and at other times they were left up.

*By Mr. Atkinson*: I noticed five or six broken caps on the last shift that I worked before the accident; I suppose these caps were down a foot from their proper level; as a cap lowered down, the slab lowered with it; the slabs were not broken, nor were the sills bent or broken; I do not think that the props were broken; I have been down the tunnel since the fall frequently; I worked in seven or eight shifts after the fall; the fall occurred where these caps were broken; I know, because when I went down half an hour after the fall, I saw that the broken caps that I had formerly noticed had been carried away; I do not recollect mentioning this to anyone, as the most of the time I was down that time I was alone; I was working on the level at the rapper wire; I came out at 6-30 in the afternoon; I cannot remember mentioning it that night; I remember a conversation about renewing the bent caps; I heard it on the Tuesday before the fall; it was at the face where we were at work; Ernest March, Jack Griffiths, Mr. Thomas, the manager, and a labourer whose name I do not know, were present with me there at this conversation; I do not remember who commenced the conversation, but Mr. Thomas said to Griffiths that he was going to leave that timber up there, signifying the bent caps, till the week end, so that it would not interfere with the contractors' work much; I never had to retire to a manhole when I was at work; we changed shifts at 20 feet from the face; we, that is Griffiths, March, and I, came down together generally; the charge man in our shift was supposed to be Griffiths; he made an inspection of the tunnel mostly as he was going down, by standing up on the alligator; powder was used in getting coal; the shots never disturbed the roof, to my knowledge, unless it was a shot in the top coal, and sometimes it would shake the roof and a bit of the roof would come away with the coal; the bit of roof that came away would be sometimes conglomerate and sometimes that soft stone I have spoken of; I have seen into the roof 6 inches above the coal.

*By*

*By Mr. Curley:* I have not fired many shots in working at that coal; Griffiths used to do that part of it; he might fire two shots in a shift; I bored some of the holes for the shots, and March bored some, and Griffiths bored some; these holes would be a foot off the roof; I never saw any exceptionally soft roof that I can say; the roof was fairly regular as far as I saw; with shots or without shots some part of the roof would fall; I have seen bent caps besides those I saw broken; there was more than one bent or cracked in the tunnel; these were below the broken caps, towards the face; on the Tuesday before the fall, at the time Mr. Thomas was speaking about the broken timbers, he said he hoped, by the next time he came down, the cage would be running; Griffiths replied to the statement made by Mr. Thomas, and said he hoped so too, and wished the tunnel was done then; sometimes I have heard the caps crack once or twice, and sometimes a dozen times; Griffiths would be present at these times; Lewis was with us on shifts occasionally, when we had timber to put in; I cannot swear if Lewis was present when the cracks were heard, but I expect he was there; after the fall I was down the tunnel as far as the last leg left standing; I noticed the rails; they were bent in all shapes; the first length was not disconnected; I noticed the sills; they were the same as they were before the fall pretty well all through the tunnel as far as I went.

*By Mr. Millard:* Since the fall I have been right underneath where the fall was; I know the band that runs between the coal and the roof; it is sometimes a black stone, or a sort of a black stone—a sort of dull black, not shiny like the coal; there was, at times, a small piece of grey band between the coal and the roof; it was something like the piece of stone here marked "H," and also like the piece of stone called "fine conglomerate"; the grey band would hardly be seen sometimes, at others it would go to an inch and a half, and sometimes it was in the coal; I have been told that stone like that was called "a fine conglomerate"; the roof was not hard nor soft—it was a patchy roof; the bottom was mixed too; the bottom had sometimes to be dynamited to remove it.

*By Mr. Bowden:* The bent timbers were lower down than the broken ones; there was more than one bent timber; the bent timbers were three sets below the broken ones; there were about four sets of bent timbers; these were standing after the big fall; I estimated that five or six or seven broken timbers were carried away by the big fall; the timbers that were bent were so for about 2 or 3 inches; I have never noticed any bent timbers below the other bent timbers that I have mentioned; a man must look carefully to notice timber that was only bent.

EDWARD PARSONS.

Sworn and made at West Maitland this 18th }  
day of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

Inquest adjourned for the purpose of obtaining lunch until 2:30 o'clock on Wednesday, the 18th day of January, 1899, at the Court-house at West Maitland, the jurors being bound over, and warned of time and place of adjournment.

Dated at West Maitland, this 18th of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed in pursuance of adjournment at 2:30 o'clock on the 18th of January, 1899, at the Court-house at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizances, the examination of witnesses was proceeded with.

Dated at West Maitland, this 18th of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *Edward Parsons*, recalled on his former oath, saith as follows:—(*By Mr. Bowden*): I was generally at the face when I heard the caps cracking; I cannot swear that it was the broken caps that were working—it might have been other timber; I could form a good idea from where the cracking came by the noise it made; I was sometimes away about 120 feet from the cracking noise; this would mean that I was about by the cask at the time the timber was cracking above the cask; you could tell whether it was above you or to the right or the left of you; there are no other workings down there; the width of the tunnel, as I understand, was 14 feet, so that the crackings either right or left must have been within a very few feet of me; the first crack seemed about 20 feet from where I was sitting; I was on a sill; I reported the cracking to Mr. Griffiths; I could form a pretty good idea of where the cracking I heard at the face came from by where the sound came from; I could not tell how far it came down the tunnel; I said it was the caps, because that timber was the only timber that did work.

*By Foreman of Jury:* I only mentioned the cracking of the first caps to Griffiths; I did not go and examine, because Griffiths said it was nonsense; I thought it was a sill; I am sure that Griffiths saw the broken caps, and also the slate bearing and following the caps down, and I said several mornings to Griffiths that they were looking bad; the legs of the sets had come away with the cap pieces, but the side coal or the ribs stood.

*By the Jury:* I noticed the sills in the extension of No. 1 tunnel; I never noticed any bent; had there been we could not have travelled in the alligator, I think.

EDWARD PARSONS.

Sworn and made at West Maitland, this 18th day }  
of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

This deponent, *Rudolph St. Vincent Heyes*, on his oath, saith as follows:—I am an engineer, and reside at South Maitland; I knew the deceased, Albert Moncrieffe.

*By Mr. Tillet:* I am the engineer at East Greta Colliery, and I remember the fall that took place there on the 18th of November, last year; I was in No. 1 tunnel about ten minutes after the fall; I went down to the edge of the fall; I was in that tunnel on the Tuesday previous to the fall; I was on that day measuring the distance from the second level down to the face; Mr. Thomas was with me, and also Edward Howarth; I saw John Griffiths, Ernest March, and Edward Parsons there; I saw the timber as I was going down on the Tuesday; the timber was all sound; there was one or two bent caps at about 130 feet from the face; I saw no other bent timber but these caps; I did not hear any conversation between Mr. Thomas, the manager, and Griffiths about the timber; Mr. Atkinson has not since the fall said anything to me about how the timbering should be done, but he has asked me if we have put any defective timber in; I answered, "No"; Mr. Atkinson has not written to me on the subject; I believe the stone on the table, called by me mudstone, came out of the roof of the No. 1 tunnel—it is now marked "J"—of the East Greta Colliery, at the time of the big fall; I gave this stone to Senior-constable Brown; I gave him also another piece of stone; it came out from the fall.

R. ST. V. HEYES.

Sworn and made at West Maitland, this 18th }  
day of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

This deponent, *Robert Brown*, on his oath, saith as follows:—I am a senior-constable in the Police Force, and reside at and am stationed at West Maitland; I received some stone from Mr. Heyes; I got the piece of stone marked "J," and also this piece marked "K," and I picked up at the mouth of the tunnel two other pieces of stone marked "I," which Mr. Heyes said had been exposed to the weather; I found it outside, lying at the mouth of the tunnel.

R. BROWN.

Sworn and made at West Maitland, this 18th }  
day of January, 1899, before me,— }  
GEO. C. MARTIN, Coroner.

This deponent, *Rudolph St. Vincent Heyes*, recalled on his former oath, saith as follows:—(*By Mr. Atkinson*):—The distance that the tunnel measured was 565 links from the second level down to the last sill, making it, in fact, 370 feet; my duties took me down the tunnel once a week; my duties were to report on the general state of the tunnel, including the condition of the timber and the timbering; a few sills were slightly bent besides the one or two caps I have mentioned; these sills were 120 feet from the face; the sills were bent within a few feet of where the caps were bent; I have been down the tunnel frequently since the fall; I kept an account of the progress of the work, as shown on the plan; I have seen the timber brought out since the fall; two or three sills were knocked out, I presume, by the fall; I mean that they were knocked out of their position altogether; all the rails had gone down; the roof, including the caps, coming away,

carried

carried the sills and rails with them ; I located the bent caps from the dam being there and the water-casks also being there ; I did not count how many broken caps came out among the timber ; I consider ironbark a good timber for the purpose that we used it ; I have never tested the breaking qualities of a bar of ironbark ; our method of signalling in the tunnel is by electricity ; the signals are carried to within three or four sets of the face ; the engineman was in attendance at the handles when the accident happened ; there is about 4 ft. 6 in. between the back end of the cage, its highest point, to the under side of the caps, and at the sides 18 inches at each side.

*By Mr. Curley :* I examined the machinery and the ropes in connection with the working of the tunnel ; I examined the boilers also ; I made the examination once every day ; the boilers have safety-valves and steam-gauges ; I made my report once a week ; I never said anything in my report about bent caps ; the date of my last report was on the Wednesday, the 17th of November last year ; this was the daily report ; the report books were kept in the outer office ; I considered it was my duty to report any defective timbers and show the defects in the report ; I made my examination during the day ; I made my last examination before the accident on the morning before the accident ; I am quite sure that I only saw two bent caps ; they were bent about 3 inches ; I did not see any broken caps ; I did not see any splintered caps ; I have not made any examinations in the No. 1 tunnel the same as before the accident, but I made examinations during the work of finding the bodies ; I did not consider it part of my duty to count the bent or broken caps after the fall, but I saw a good few after the fall ; I did not make any report of those I found ; we could only get 127 feet down from the level ; I did not see any bent or broken caps in this 127 feet ; I am certain of this ; for this 127 feet down the timber is all sound ; the top end of the fall was 127 feet from the level ; during the progress of retimbering the tunnel I saw a number of broken and bent caps ; I account for this quantity by the fall hitting them and knocking them out of position ; some of the legs are knocked out of position and yet the caps are up ; I did not make any report of this in the report book ; all of the timber was fresh from the bush ; I have a fair knowledge of timber ; I noticed sap in the timber ; I never saw round timber without sap—that is, green timber ; I cannot say how much sap there is circling in that timber ; I have examined it ; I never suggested that stronger timber should be used for this tunnel ; I was at the face on the Tuesday that the manager was there, but I did not hear any conversation about timbering the tunnel at the week end ; no conversation could have been carried on without my hearing it ; Lewis never mentioned to me at any time about any bent caps in the tunnel, neither did the manager or Griffiths mention anything of it ; it is possible that other men might see more than I would ; Mr. Thomas gave the order for the timber to the bushmen ; I looked on it as part of my duty to see whether the timber supplied was defective or otherwise ; I have discarded timber, but not for any defects, but only for being too small—the standard size ; I believe it was for props ; I had the dimensions from Mr. Thomas—8 inches diameter at the small end for the legs, caps, and sills.

*By Mr. Millard :* I was at the face on the Tuesday, walking up and down the tunnel ; I waited there some time at 132 feet from the level I was measuring at the time ; there were no broken caps near me while I was sitting that day ; had five or six caps been broken and slabs sagging down on them, I would not have sat there ; I would have seen any bent or broken caps, because I kept a good eye on the state of the tunnel.

R. Sr. VINCENT HAYES.

Sworn and made at West Maitland, this 18th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

Inquest adjourned for the purpose of obtaining further evidence until 10:30 o'clock on Monday, the 23rd day of January, 1899, at the Court-house, West Maitland, the jurors being bound over and warned of time and place of adjournment.

Dated at West Maitland, this 18th day of January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed, in pursuance of adjournment, at 10:30 o'clock a.m. on the 23rd day of January, 1899, at the Court-house, at West Maitland, in the district of Maitland, and in the Colony of New South Wales, to further inquire touching the death of Albert Moncrieffe. The jurors having answered to their recognizance, the examination of witnesses was proceeded with.

Dated at West Maitland, this 23rd day of January, 1899.

GEO. C. MARTIN, Coroner.

This deponent, *Rudolph St. Vincent Heyes*, recalled on his former oath, states (*in answer to Mr. Millard*): I saw one or two sills bent in the tunnel ; they were not bent to any great extent, but slightly ; the bending of the sills in that way would not prevent the skips from running ; after the fall the road was disconnected from the tunnel ; fourteen or fifteen pairs of rails were knocked down the tunnel ; that would be from the top end of the fall ; a person from the top end of the fall could see that these rails were gone ; the rails were bent and twisted in all shapes ; some of them are at the pit mouth now ; on the Tuesday before the fall the manager made a stay at the second level ; we stayed there for some considerable time before we went down ; he fixed his instruments there ; after he had taken the angle I went down to measure it, and he stayed at the level—the bottom level ; I walked down to the bottom, then back to within 2 chains of where the manager was staying ; the manager did not leave the bottom level while I was measuring down the tunnel ; I waited at the 132 feet point ; the manager did not stop at that point either on his way up or down ; I was with him the whole time ; he did not stop under where the big fall took place to examine the timber ; he did not stop at all ; the men were stopped working from the time we got down to the level ; Griffiths was holding a light for the manager ; the bent caps I saw before the accident did not indicate any danger ; it is not an unusual thing to see timber bent to the extent that I saw those bent ; I attribute the bending of this timber to the bottom pressure and the end pressure—the pressure on the end of the caps ; I have seen caps bent in a similar way from side pressure, but not in this mine ; it was in the old Greta mine ; they were bent in that way for years ; I know that one was taken out eventually ; the roof did not come down on that being done ; one could not notice that the sides had come in ; there was no fall from the sides ; I have a general knowledge of the roof in the East Greta mine, and of the tunnels in particular ; the roof is conglomerate ; it is a good roof, and had always proved itself so ; the method of timbering and timber employed, in my opinion, could not be bettered ; I cannot think of any precaution that could have been taken to prevent the accident ; the bent caps I saw were 70 feet from the lower edge of the big fall ; there were several slight changes in the grade of the tunnel there ; there was a change in the grade about 130 feet from the face ; that would give the timber the appearance of coming down more so than where the grade was different ; the tunnel begins to dip more at that point.

*By Jury :* The sills would have to be bent to the extent of 8 or 10 inches to affect the running of the cage ; I attribute the accident to the soft mudstone giving way through the action of the water ; that has proved the roof to have been not solid—not so good as I expected to find it ; the sills that were bent were 120 feet from the face ; the caps were bent at about 130 feet from the face ; the bent sills had nothing to do with the bent caps ; there were not four or five caps bent where I saw the two ; it would have been impossible for four or five to have been bent without my seeing them ; I replaced the legs that were knocked out. (*Witness marks on plan where the legs were knocked out.*) I could see a cap bent 120 feet below the fall after the fall had taken place ; if fresh timber had not been put in where the caps were bent another fall might eventually have taken place ; I used to revise the report book every night ; I never saw it reported that the shift on one night had passed most of their time in the manhole through the dangerous condition of the tunnel ; the man in charge of the shift would be neglecting his duty if he did not report such a circumstance.

*By Coroner :* Daniel Grono had been working in the colliery for two years and more as a miner ; he had charge of the shift in which Barnes and Moncrieffe worked.

*By Mr. Curley :* I never suggested the strengthening of timber by placing cross-pieces from the sides to the caps ; the skips would not have got through if that had been carried out ; the skips do not go into the cage ; they go on top of the cage ; there would be a space of about 8 inches between the skips and the bottom end of the caps when the cage was thus loaded ; the sides of the cage run within 18 inches of the props ; the skips run the full length of the cage ; there would be no space to put supports from the legs to the caps under those circumstances ; I receive my instructions as to the working of the mine from the manager ; the manager has never suggested to me the bricking of the tunnel at any part of it ; I have never suggested such a thing to him, not even where this fall took place ; the rails are 5 yards long ; fifteen new ones were put in ; the pieces of timber I have spoken of as going down the mine did not include the slabs ; they would have to be added to those ; there were about 1,000 slabs and four sills.

By

*By Juryman:* There would be about 8 inches between the skip and the caps when the caps were plumb; the cage could not work with the cap bent 12 inches; the cage Mr. Curley referred to was not working at the time we repaired the tunnel.

*By Mr. Curley:* A sinking skip was working when the repairs were being effected before the fall.

*By Mr. Millard:* If the caps had been bent down 12 inches the tunnel would not have been of any use for the purpose for which it was intended.

*By Juryman:* When the hood was on the cage there would be about 18 inches space between the top of it and the cap; the hood does not go over the last skip.

R. ST. VINCENT HEYES.

Taken and sworn at West Maitland, this 23rd day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *John Griffiths*, on his oath, states:—I am a miner, and have been employed in the East Greta Colliery; I knew the deceased, *Moncrieffe*; I was in charge of the shift that came out at 3 p.m. on the 17th November last; I had with me *Ernest March* and *Edward Parsons*; I was one of the party sinking the tunnel; I commenced about the end of June or beginning of July last; I know where the big fall has taken place in the tunnel; I did not see any bent caps where the fall took place; I saw some about 40 or 50 yards from the face; I cannot say to what extent they were bent; there were three or four of them; I have heard timber cracking in the tunnel many times; it is a usual thing when new timber is put in to hear it cracking; I believe some persons have spoken to me about the timber cracking; there were one or two of the men working with me who did so; the roof was composed of conglomerate; there was a band of soft blue-stone, running from 2 or 3 inches to about 6 inches; it sometimes extended right across the face; the piece of stone produced, marked "C," is what I call soft blue-stone; I saw *Mr. Thomas* in the tunnel on the Tuesday before the accident; he spoke to me; he did not speak to me about the timber; he spoke to me about the grade of the tunnel; I am positive he said nothing to me about the timber, to my recollection.

*By Mr. Atkinson:* I have worked in East Greta a little over five years altogether; I have worked as a miner during that time; I have not got coal off the bottom levels in No. 1 tunnel; I have not worked along the bottom level at any time; I have seen no falls in the mine where I have been working; while I worked in No. 1 tunnel, during the extension, I have seen the stone fall above the coal about 6 or 8 inches occasionally; that was the soft blue-stone I have referred to; the timber I have referred to as cracking was the timber last put in; it might be six or seven sets back; I have never heard cracking except in the timber near the face—never away from the face further than six or seven sets; I attributed that cracking to the timber setting into the joints; the timber is put right into the joints before the set is left; there would be some settling after that had been done, in my opinion; the pressure would cause that settling or grinding; that pressure would come entirely from the bottom and sides, in my opinion; I cannot give any opinion as to the cause of the accident; I cannot form any idea as to the cause of it; I had charge of the shift; my duties were to see that everything was right—to inspect the tunnel going down; I used to inspect it every day, both going down and coming out; none of the workmen ever expressed any danger to me owing to the timbering in the tunnel.

*By the Coroner:* It never struck me, while at work, that there was a weak place in the tunnel.

*By Mr. Curley:* I have had nearly thirty years' experience as a miner; I have not seen many falls in mines; when a roof is timbered and a fall takes place I suppose it is a sign of a bad roof; the bending of the timbers at the roof is not always a sign of a bad roof; it is sometimes; at other times it is an indication of side pressure; if there was side pressure in the tunnel I would expect to see the effect of it upon the timber; I would not expect to see the props bent; if there was extraordinary pressure I would expect to see the props bent; if there were bottom pressure, I would not expect to see the effect of it on the sills always—unless there was extraordinary pressure; where the caps were bent I did not notice any signs of bottom pressure; I saw no signs of side pressure; I could see no more indication of it than that the caps were bending; I cannot say when I first noticed a cap bending in the tunnel; hearing the cracking of the timber did not induce me to make an examination; I have not said that the men were speaking to me about these bent caps; I cannot say when I noticed any of the bent caps; I cannot say even approximately; it was over a week before the accident; I cannot say how far they were bent; they were not splintered or cracked; nothing in particular drew my attention to these bent caps; I just noticed them in the course of my ordinary examination of the tunnel; I had no conversation with *Lewis* about them at any time; I was off work about a fortnight or so before the accident; *Thompson* was working in my place; my two mates worked with him; no other man was put into the tunnel to fill my position; we had a spare man there at the time—*Ernest March*; I do not think it possible for there to have been other bent timbers in the mine without my seeing them than those I have spoken of; I saw those bent timbers before *Heyes* was in the tunnel; if I could not see any timbers bent that were bent they must have been bent to a very slight extent; I do not know whether any timber was replaced in the tunnel before the accident; on the Tuesday before the accident I asked the manager how much further the tunnel was to go, and he said he could not tell me until he had gone to the office; he said, "I believe you'll be finished by Christmas"; I replied, "I wish it was finished now, *Mr. Thomas*"; *Mr. Heyes* said, "Why, *Griffiths*?" I replied, "Because the water does not agree with me"; that was about all the conversation that took place; I do not recollect *Mr. Thomas* saying that he had been speaking to *Lewis* about the timber, and that they were going to do it at the week end; I heard him say nothing like that; I had no talk with anybody about the timbering; I am acquainted with all the deputies of the colliery; I never at any time to my recollection spoke to *Lewis* about the timbering; I never spoke to *Mr. Thomas*, the manager, about it, nor to *Mr. Heyes*, nor to the under-manager, nor any of the deputies; I was down the tunnel on the same day as the fall took place, not since; I went right down to where the fall had taken place; I stayed there about five or ten minutes at a time; *Lewis Thompson* and, I believe, *Mr. Thomas* were with me at the time; I noticed that nine or ten sets of timber had gone, and that the roof had fallen; I noticed nothing else; I noticed the road and the sills where the fall had taken place; the road was bent into all shapes, and two or three sills had been knocked out; the rails had become disconnected; I cannot say for what length; I could see very little; I have fair sight; I cannot say how far those rails had separated; I had sometimes to put up a slab in the face before I got my sets up; that was because sometimes there were 6 inches of coal there, and if we had good height we used to keep that up; if we were short of height we used to take the coal down and try to keep the soft stone up with slabs; we had to do that pretty often; I never had to chip any of the conglomerate to get my sets in, but the timber men did; they were *Lewis* and *Thompson*; I saw the stuff that came down when they did chip; there was sometimes difficulty in getting it down; it was always hard when the conglomerate had to be chipped down; I never saw any particularly soft patches of conglomerate; I have seen some softer than others; I would not say from that that the conglomerate varied in certain places; the bottom was, as a rule, soft; we have put a shot into it occasionally when we struck a hard patch; it was not soft where we had to do that; it was soft on the top sometimes, with hard layers underneath; I did not assist to clear any of this stuff out after the fall; some of the men spoke to me about the timbers cracking; they would listen, and ask me what was that, and if there was any danger in it; I always told them no, that it was always the same when new timber was put in; I often heard this cracking of the timber; the men did not often speak to me about it—no more than once or twice; I do not remember ever having heard the men speak about these bent caps; they never, as we went up and down, drew my attention to them, and said, "There's a bent cap there"; at no time did they do so; *Gronow* never spoke to me about them; I never heard the men mention a statement that had been made by *Moncrieffe* about these caps; I have never spoken to anybody about these bent caps.

*By Mr. Millard:* I know the East Greta Colliery generally; I have seen the roof in No. 2 from top to bottom, and considered it a good roof; the roof generally I considered a good roof; I drove the tunnel in No. 2; it was a very good roof there; the floor was not equally good; it was a soft floor; the roof in No. 1 appeared very much the same as No. 2; I worked all the way down carrying out the extension, and there was nothing about the spot where the fall afterwards took place to indicate in the slightest degree that it was a weak spot; the roof there appeared to be conglomerate, and the same all the way down, as far as I could see; wherever the roof was cut into it appeared to be conglomerate; the "pot-holes" referred to were small, and showed no break in the conglomerate, which appeared to be above them; the pot-holes were the same stuff as the bands, or something similar to them; the band was pretty nearly always between the coal and the conglomerate; sometimes it went out like a wedge; there were no caps bent where the fall took place; if there had been caps there bent down 12 inches, and the slabs sagging out with them, I must have noticed them; nothing was ever said by any of the men going up and down in the skips with me about the caps being bent there; *March* never spoke to me about broken timbers or bent timbers; *Parsons* never did; I remember the Tuesday before the accident, when the



manager came down; he came straight down from the bottom level; I cannot remember whether he stopped going up; I did not notice him do so; I cannot say whether he stopped underneath where the fall afterwards took place, and examined the timber; I did not see him do so; I have not had much experience of timbering; the other men did the timbering; before the accident there was nothing in the tunnel to indicate to me any danger; had there been I should not have gone down; it is not an unusual thing to see caps bent in the way I saw them; they were not bent to any out-of-the-way degree; I know the Greta Colliery, and have seen timbers bent there, and caps bent by side pressure; those caps have stood for a length of time, and some of them are standing there yet; I have often heard timber crack, and have attached no importance to it; I do not think the timber being green would make it crack more than seasoned timber.

*By Mr. Bowden:* The sills were not put on the ground, but a piece of wood was put under each end, from one leg to the other; it was hollow underneath, the bottom being cut from underneath it; we used to put in four or five sets of timber before we slabbbed the bottom; very often there would be 6 inches between the sill and the bottom; the soil was very often scooped out under the sill to allow for the bottom pressure; it used to swell up to the sills, and we would have to take a pick or a drill to break a hole under the sills again; that was on account of the swelling that took place after the sill had been put in; I have seen the sill sometimes spring back about an inch after we had taken the stuff out to put in the slabs; the slabs put in from the end timber to the face were only put in to keep the loose stuff from falling; that loose stuff would sometimes be the soft blue-stone and sometimes coal.

*By Jury:* Edward Parsons and Ernest March were my mates; there were nine men working on that extension altogether; since the tunnel was begun there have at times been ten men working there; Pike was the tenth man working there; I do not know how long it is since he left; he may have worked there for two or three weeks; I do not think Pike is still at the colliery; I do not know where he is; he left through sickness; the soft blue-stone and the pot-holes indicated no danger to me; I would not call the roof of the tunnel a patchy one; it was pretty regular; I know the meaning of the term "a live mine" as described by one witness; it means that there is a good deal of life in the coal—that it is cracking while being worked; that does not indicate danger, but is just what we like to see; Mr. Thomas did not mention Lewis' name to me on the Tuesday before the fall when he came down the tunnel; I heard March and Parsons give their evidence the other day, and heard them say that Mr. Thomas said he would see Griffiths and speak to Lewis about the bent timbers; Mr. Thomas did not say that; I am quite positive about that; he never mentioned such a thing; Mr. Thomas did not speak to me about the bent timbers and say he would have something done to them at the end of the week; March did not draw my attention to a bent cap with the slab sagging down upon it; the cause of the fall was something unseen; when we put the timber in we considered it quite strong enough to support the roof; I cannot say how far the fall went down the tunnel; I could not tell how far the rails had gone; I have seen the Government Inspector down the mine; I cannot say how often; I saw him more than once between June last and the time of fall.

Taken and sworn at West Maitland, the 23rd }  
day of January, 1889, before me,—

JOHN GRIFFITHS.

GEO. C. MARTIN, Coroner.

Inquest adjourned at 1 p.m. till 2:30 p.m. this day for lunch.  
Court-house, West Maitland, }  
23rd January, 1899,—

GEO. C. MARTIN, Coroner.

Inquest resumed at 2:30 p.m. this day.  
Court-house, West Maitland, }  
23rd January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *John Griffiths*, recalled on his former oath, states (*in answer to Mr. Curley*):—I think Grono was off work for a day or two before the accident; that was while I was at home; I cannot say how long ago that was; I believe a man named Kelly worked for him during that time; I do not know whether Kelly is working at the colliery now; I have never seen any fall to speak of in the colliery while I have been there; I have seen little bits of falls; they were along the level; that was not roof, but coal, as a rule; there might have been a little bit of roof occasionally, but nothing to speak of; it did not extend far into the roof; I have never been in a bord where they have taken the tops out; I have never had to go to a place where a fall has taken place; I have never had to clear out of the mine in consequence of falls.

*By Jury:* I was not a contractor in the No. 1 tunnel; I was paid so much per yard; I did not consider that contract work; I consider it was not contract work, because we took it to sink by the yard; there was no contract about it at all; it was an understanding between Mr. Thomas and ourselves; I was not appointed a deputy; I was appointed to take charge of the shift; I was appointed by Mr. Thomas; I do not think Mr. Thomas could have spoken about repairing the timber on that Tuesday without my hearing it; Lewis never spoke to me about that timber; Mr. Thomas could have stopped at the scene of the fall without my seeing him on his way up; I did not start to work at the face after he had left us; we could not do so till we got the skip; I watched him going up the tunnel; if he had stopped at the locality of the fall I might not have seen him; we used a couple of dynamite shots in getting up the bottom; I have not been speaking particularly to anyone about the accident since it happened; I have only spoken of it in a general way to those who have mentioned it to me; I cannot mention some of those to whom I have spoken about it; we only had nine men working in the mine except for a little while, when Ernest March worked as a spare man; he worked in the tunnel; Kelly worked in the tunnel; others besides those men mentioned have worked in the tunnel, but I cannot say who they were; I considered myself responsible to the men for wages; that would not be the means of my knowing who they were; if my mates had reported the tunnel as dangerous I had the power to withdraw them from the face to remedy that danger; Grono had the same power in that respect.

*By Mr. Bowden:* I have worked in other mines—all sorts of mines; I have heard cracking in them similar to that I heard in East Greta; any mine that has sets of timber will crack in that way; that cracking does not indicate to me that there is any danger or likelihood of a fall; one cannot locate the timbers from which this cracking emanates; I could not see Mr. Thomas when he was going up the tunnel; I could see his light, but not the part of the tunnel in which he was; that was because the grade of the tunnel altered to a very great extent; my mates at the bottom of the tunnel could not have seen him either; we could see the reflection of his light, but not the light itself, unless he held it up a good bit; when we were at the face I held the light for him; I held it in my hand, but I had a 5-foot stick on the sill with the light on top of it; I lifted the light as he required it to be done; I had to hold the light up on the stick before he could see.

*By Coroner:* It was the ordinary cracking of the timber that I took no notice of; anything out of the way I would inspect and look for the cause of.

*By Jury:* The tunnel was steeper in some parts than in others; the tunnel had not the same grade all through, as shown in the plan produced.

*By Mr. Bowden:* The cracking noise coming from the timber is not the same noise as that produced by the breaking of a 9-inch bar; it is nothing like it; the noise of the timber breaking is much louder than that of the timber cracking; I heard only the one noise—the cracking of the timber; I have never heard a 9-inch bar break in a mine; I have never heard any timber break.

*By Mr. Curley:* Timber is put up in a mine to prevent it from coming in.

Taken and sworn at West Maitland, the 23rd }  
day of January, 1899, before me,—

JOHN GRIFFITHS.

GEO. C. MARTIN, Coroner.

This deponent, *David Lewis*, recalled on his former oath, states, in answer to Mr. Millard:—Where the fall took place there were no bent caps before the fall; it is not true that at that point there were caps bent down 12 inches, with the slabs sagging down on them; that was not the case in any part of the tunnel; March never spoke to me about bent timber when we were going up or down in the skip, nor did Parsons; I never heard any of the men in the skip say that the timber was bent or broken at the point where the fall took place; March spoke to me after the fall as to the position of the fall; he asked me at the pit top how far it was from the level down to the fall; I said, "I cannot tell you exactly; what do you want to know for"; he replied, "I should like to know, because very likely there will be an inquiry after this"; I asked, "Do you not know?"; and he replied, "No"; I said, "Well, if you do not know you can tell them that you do not know"; he said, "I should like to know," and I answered, "Well, I cannot tell you"; March had been down between the time of the accident and this conversation; he was not down after that.

*By*



*By Mr. Bowden* : I have never heard timbers breaking in a mine ; I was in Court when the witness Cantwell told the jury that Moncrieffe had slept in one night ; I know that Moncrieffe did sleep at home one night ; that was on the Wednesday night ; on the Tuesday night, when I came up on top, Moncrieffe's brother-in-law was on top, and I asked him to call Moncrieffe ; Gronow had told me that he was a man short ; he said, "All right" to me ; Moncrieffe went to work, calling at my house on his way ; on Wednesday night he never turned up at all, and I spoke to the men about it ; Thompson said, "You had better leave him sleep to night, it will be a lesson for him" ; on Thursday night he turned up, and I said to him, "Hello, did you find yourself" ? he replied, "Yes, I made sure of it to-night" ; I said, "What did you do ?" he replied, "I came to the pit top at 7 o'clock, and had a sleep in the little skip on top" ; that is the skip that is now at the tunnel ; he had slept there from 7 till a quarter to 11, so as not to miss the shift.

*By Mr. Tillett* : I used to talk to the men going down in the skip ; sometimes we spoke about the mine ; I did not pay particular attention to those conversations, and they would soon pass out of my memory.

*By Mr. Millard* : If anybody had said that the timbers were bent so as to be dangerous, I would not forget that.

*By Mr. Curley* : If anyone had said to me, "That timber has been cracking down there to-night," I would ask in a minute, "Where ?" ; whether I put it in my report book would depend upon the sort of answer I would get ; I have never heard the timbers "cracking" down there ; but I have heard them "creaking" ; to illustrate my idea of the difference between the two terms—if you sit on an old chair it will "creak," but if the leg breaks it will "crack" ; I recollect being in the tunnel with the jury on the 13th instant, and being asked to get a sample of the stone from the roof ; the exhibit marked "F" is what I got ; I procured it from the roof of the tunnel down below the fall ; it was a good bit below the fall ; the stone had been in the water, but was not when I got it ; I do not know how far the water came up in the tunnel after the fall ; I look at the piece of stone marked "H" ; I recollect being through the drift in the overcast near the door ; I got a piece of stone there very much like that produced ; if that piece came in the parcel that I sent to the Court that would be the piece of stone ; Mr. Thomas was there ; I did not hear him say there was a soft patch there ; I call that stone a sort of conglomerate ; the piece of stone now shown me came from the floor [marked "M"] ; I had sometimes to shoot the bottom ; I had to fire three or four shots ; I have never tested the roof by putting a hole up into it nor in any other manner ; Thompson and I set all the timber that was put up in the tunnel ; any defect in it I would hold myself and Thompson responsible for ; Mr. Heyes and Mr. Thomas, the manager, inspected the timber besides Thompson and myself ; sometimes they found fault with the manner in which the timber was set ; Heyes used sometimes say they were not in line and point out how they ought to be ; we had to rectify that ; that was all Mr. Heyes drew attention to ; Mr. Thomas once complained to me that the timber was not set at right angles to the seam ; he said it was out, and I said it was not ; he maintained it was ; I asked him how much, and he said a couple of inches ; eventually we had to get the square head to prove who was right ; neither of us was right ; it was an inch out ; the timber had to be put right ; at no other time was any complaint made to me by Mr. Thomas about the timbering ; the under-manager did not trouble us very much there ; I never measured the thickness of the sap in the timber ; I do not think it possible for bent caps to have been in that tunnel without my seeing them ; on the 13th instant, when down with the jury, I saw a number of bent and broken caps below the fall ; I was working on the clearing out of the fall from shortly after it took place till the recovery of the bodies ; on the 13th instant the jury could not get to the face for water ; they were 60 or 80 feet from the face ; I have been below that point myself since then, and have seen broken and bent caps along there ; I noticed them after the fall as soon as we got the dirt clear from them, as we worked our way along ; before the fall I only saw four bent caps ; after the fall I have seen any number of broken caps ; I cannot account for that alteration in the timber ; I should say the roof had broken those caps, or some of them ; the others may have been broken by the sides ; I do not know the names of the men who were working with me in clearing the tunnel after the fall ; there were three of the Genges, Jack Downey, Jimmy Hinney, Jack Lisman, Fred Cook, Ernest Nickson, a man named Jilson, and others whose names I cannot remember ; I was on the scene soon after the fall ; the rails were all right down to the fall ; down about two-thirds of the fall I could not see any road ; the rails had gone ; in the other part of the fall the rails were hanging on to the top end of the fall ; the dogs had sprung out ; there was one of the sills gone near the seat of the fall ; that was the only one there, but we found others gone as we went down ; I think we found four altogether gone ; the first one was about two-thirds down on the fall ; the others were lower down as we went down ; all the rails had gone from the fall to the face ; they were all swept from their places to the face.

*By Mr. Millard* : The rails had not all gone in a heap to the very bottom ; some of them were thrown up against the roof and fastened there. DAVID LEWIS.

Taken and sworn at West Maitland, the 23rd day }  
of January, 1899, before me, — }  
GEO. C. MARTIN, Coroner.

This deponent, *Azariah Thomas*, on his oath states (*in answer to Mr. Millard*) :—On the Tuesday before the accident I was down the tunnel surveying ; I had a conversation with Griffiths ; I did not mention to him to speak to Lewis to have the timber repaired at the end of the week ; I did not say a word about that ; not one word was said about the necessity of timber being repaired ; not one word was said about timber being broken or bent ; I did not stop either on the way up or on the way down to look at any broken or bent timber ; there could not have been timber bent and broken as described by March and Parsons without my seeing it ; I saw no timber bent, except that near the water-cask.

*By Mr. Bowden* : I have never heard any creaking of the timber in the tunnel ; I have heard timbers crack in a mine and have stood by them ; I know the noise produced by the settlement of timber ; that noise could not be mistaken for the breaking of timber ; if the timber is large it would make a noise like the report of a cannon on breaking ; the timber in East Greta mine was what I would call large timber ; if the timber had been broken in the manner suggested by previous witnesses, the noise produced would have been a very loud one. A. THOMAS.

Taken and sworn at West Maitland, the 23rd day }  
of January, 1899, before me, — }  
GEO. C. MARTIN, Coroner.

Inquest adjourned till 10:30 a.m. to-morrow, the 24th of January, 1899, the jurors being bound over.  
Court-house, West Maitland, }  
23rd January, 1899, — }  
GEO. C. MARTIN, Coroner.

Inquest resumed at 10:30 a.m. this day, at the Court-house, West Maitland, on the 24th January, 1899, the jurors answering to their recognizance.  
GEO. C. MARTIN, Coroner.

This deponent, *Edward Parsons*, recalled on his former oath, states (*in answer to Jury*) :—Since the accident I have had a conversation with some one about the bent caps in the extension ; I have conversed with Mr. O. K. Young ; he has not offered me a cheque for £20 to keep my tongue silent about the bent caps ; I have never said that he did so ; when I left the mine on the Thursday the props were not bent and the caps were not broken at the shoulders ; it was possible for the caps to have been bent 12 inches without being broken at the shoulders ; I think it possible for them to have bent 2 feet without being broken at the shoulders ; I think I said Griffiths and I were in the "alligator" together when I called his attention to the caps and the slabs sagging down on them ; that was on the day before the fall, between 6:30 and 7 a.m. ; one would naturally think that the roof would fall in as soon as the slabs sagged down in the manner I have described ; I called his attention to five or six caps that were broken as we passed down ; I am quite positive that those caps and slabs were at the place where the fall occurred.

*By Coroner* : They were right under where the fall took place ; I could not see the roof there ; I could see between the timbers ; you could put your hand up between the timber on each side of the tunnel ; the roof looked like a sort of composition ; it looked more like the mixed stone than the conglomerate.

*By Jury* : There were spaces between the slabs through which you could see ; whenever I got close to the cap-pieces I used to examine them at the corners close to the props ; I will not swear they were broken, or that they were sound close to the props ; the slabs could sag a foot without the caps being broken.

*By Mr. Millard* : I first noticed I could see the roof between the slabs when they first began to drop ; that was about three weeks before the fall ; the stone I could see through the roof was like that marked "J" ; I made no remark to anybody about the stone showing through there ; I heard nobody else make such a remark ; the stone I could see in the roof

roof through the slabs was broken up; it was pressing right on to the slabs; the spaces between the slabs were about 1 inch wide; pieces of this stone used to drop through and come down the tunnel; I could not say whether it dropped through the slabs or from the rib; the rib was of coal; at the corner of the caps there might be coal or the stone; I never saw any stuff falling from the roof as I went past in the alligator; the stuff could not roll down the tunnel; it would fall down the tunnel; sometimes it would hit the sills and go jumping down the tunnel; there used to be pieces coming down the tunnel like that all the time I was working in the colliery; one night a piece fell from about 50 feet from the surface, and the engineer had to stop the engine; we saw the patch where it dropped out, and saw where it fell on the bottom; the other men working there could see this stuff dropping out as I could; the slabs were not sprung in any way, but bent down.

*By Jury* The other men would not speak about the stuff falling, because they were frightened of losing their job.

*By Mr. Millard* I considered it dangerous when a large piece of this stuff came tumbling down.

*By Mr. Bowden* None of the men told me that they were frightened of losing their jobs.

*By Jury* Five or six of the caps in succession were bent down—about 30 feet altogether; the slabs were split slabs; they averaged 3 inches in thickness; some were about 1½ inch thick; the larger slabs never slipped over the smaller ones when the caps bent; the slabs have a lap of pretty well a foot over the edge of the caps; the larger slabs might slip over the smaller ones, but the weight on top would tend to prevent them doing so; it might be possible for them to have slipped over in that way.

*By Foreman* I say that I did call Griffiths' attention to the broken and bent caps.

*By Mr. Curley* There are no broken or bent caps in the model of the tunnel produced; that is not a correct representation of the tunnel as it was before the fall; if I saw bent and broken caps in the tunnel before the fall, the fact that I saw bent and broken caps there after the fall might or might not confirm the statement I have made that there were bent and broken caps in the tunnel before the fall; I cannot properly understand that question; Griffiths can hear pretty well; he knows well when a workman is not using his pick; Griffiths was not more than 12 feet away from me on the day I heard the conversation between them; Mr. Thomas was about 5 feet away from Griffiths; Thomas said to Griffiths, "Well, Griffiths, we are going to let that timber there," pointing up the tunnel, "go till the week end, so as not to interfere with the working of the tunnel"; I am still positive he said that to Griffiths; I took particular notice of it; I do not know what made me do so, but I did; notwithstanding the fact that both Thomas and Griffiths have denied that anything of the sort was said between them, I still say it was.

*By Foreman* I went down the tunnel after the accident; the broken caps were not there then, but the bent ones were.

*By Mr. Millard* The same bent caps were there after the fall as I had seen before the fall; they would be about the third or fourth set below the fall; I am certain those were the caps I had seen bent before the fall; before the fall the bent caps were two or three sets below the broken ones; the broken caps were 100 feet at least below the bottom level; I cannot say they were not 150 feet below it; they may have been; I think they were about 130 feet below the bottom level; I cannot say the first of the broken caps was 130 feet from the bottom level; I cannot say within 30 feet where the first broken cap was; the first broken cap was within 100 feet of the bottom level, it may have been a little more, it was not less; I cannot say where the first broken cap was within 30 feet; I still say those broken caps were under the big fall.

*By Jury* I thought there was a bit of danger in working down the pit; whenever I heard the timber work I thought of the danger; I did not think the mine was so dangerous as it was; I trusted the men above; I asked them about it, and they said it was all right; I told them the timbering was looking bad, and that something ought to be done to them; I did not think they would come down as quickly as they did; if I had thought so I would not have stayed there; I was not afraid of losing my billet, because I had made my living before I went to East Greta, and could do so after leaving; from what I saw before the fall I located the broken caps after the fall; there were either five or six sets of timber that I saw bent down in the manner I have described; I think seven sets were carried away by the fall; there may have been more.

*By Coroner* I never spoke to Mr. O. K. Young about the accident at all that I know of.

*By Mr. Bowden* I went to see Mr. Young about a job; he did not give me a job.

*By Mr. Curley* Nothing at all took place between Mr. Young and myself; I simply asked him for a billet on hearing that he wanted a couple of men.

EDWARD PARSONS.

Taken and sworn at West Maitland, the 24th day }  
of January, 1899, before me, —

GEO. C. MARTIN, Coroner.

This deponent, *Jonathan Dixon*, on his oath, states (to *Mr. Millard*):—I am the manager of the Greta Colliery, and reside at Greta; I know the East Greta Colliery; I have had about twenty-nine years' experience of coal-mining in all its branches; I have had experience in the A. A. Co.'s mine, the Stockton Colliery, the Wickham and Bullock Island Colliery, the Newcastle Colliery, and at Austimmer on the southern coast, the Maitland Colliery; I have, in addition, visited several other collieries; I was not in the East Greta Colliery prior to the date of the accident; I know the seam there, and have had practical knowledge of it at the South Greta Colliery and at the Maitland Colliery; the roof overlying the seam is conglomerate; the hardness of the conglomerate is characteristic of that seam; at Captain Russell's old mine, at the junction of the Wollombi and Great Northern roads, it has a thickness of 39 feet; according to Professor David's geological report of 1888, it has a thickness of 49 feet at the Homeville Colliery; I have proved the conglomerate myself at the Maitland Colliery; I proved it there to a thickness of 52 feet; that is about 2 miles from East Greta Colliery, in a direct line; that conglomerate is an exceptionally hard roof; it is, consequently, a reliable roof; I have also proved it at the South Greta Colliery and in the Old Greta Colliery; at the Greta Colliery there is a thickness of 25 feet immediately overlying the top seam; that thickness has been obtained in the sinking of the shaft at Greta; the exhibit marked "F" is a sample of that conglomerate; Exhibit "B" is also a sample, and particularly resembles the conglomerate in the Maitland Colliery; Exhibit "K" is also an extremely fine sample of the conglomerate; Exhibit "H" is a sample of sandstone; Exhibit "F" has been subjected to the action of water and the atmosphere.

*By Coroner* Exhibit "J" is a sample of mudstone; I have seen stone similar to that in my visits to East Greta since the fall.

*By Mr. Millard*: That stone is not characteristic of the seam; I have been into the tunnel at East Greta since the accident; I took particular notice of the timbering; I have not been to the face; I consider the method of timbering in the colliery good; it is scientific timbering; the timber used—ironbark—is considered one of our best timbers; spotted gum is considered more resilient than ironbark, but I doubt its greater strength; I was at the scene of the fall about 2 p.m. on the day of the accident, and saw the cavity; as well as I could with safety I took notice of the strata of the cavity; afterwards I had a better opportunity of doing so; on the left-hand rib—speaking of the cavity—there were from 18 inches to 2 feet of the conglomerate on the head of the coal; that seemed to thin out to 4 or 5 inches on the opposite side; the conditions were reversed when we got down to where the bridge had been left; above the conglomerate there was the mudstone, and above that again a stone somewhat similar to the sandstone produced; the mudstone went to a height of 8 or 10 feet; I have been into the overcast two or three times; from what I saw there, and what I have seen of the cavity, I would not have expected to have found such a thickness of the mudstone; from my knowledge of the seam and its strata I could not have imagined such a thickness of mudstone on the hard conglomerate; the timber in the tunnel was sufficiently strong to have met all requirements that might reasonably have been expected; from what I saw there, and my knowledge of the seam, I would not have anticipated such an accident.

*By Coroner* In the light of this accident I think an intrusion of this mudstone upon the conglomerate may be expected anywhere in connection with this seam.

*By Mr. Millard* It is not an unusual thing to find timbers bending in a mine; there is not a mine in the world using timber where bent timber will not be found; the deflection of a cap or several caps is not a positive indication of danger; the movement of the strata will bring that about until the strata have settled down; if the caps were bent and the slabs not pulled down with them, I would say the pressure was a lateral one.

*By Coroner* Seasoned timber has the greater power of resistance, and is better for all mining purposes than new timber.

*By Mr. Millard* The fact of the timber being new would not weaken the tunnel, because timber of a greater strength than is required is generally put in; under the conditions I have named, and allowing for the fact that the timber in East Greta was new timber, I consider it was sufficient for all purposes of the colliery; notwithstanding the fall, I still adhere to my opinion that the system of timbering carried out there was the best under the conditions existing; approximately

approximately I should say that from 250 to 300 tons of stuff came away in that fall—that is, including the slabs and legs, &c. ; I scarcely think that caps bent down a foot and the slabs sagging down on them would have supported such a weight for six weeks ; a broken cap will support a certain amount of weight ; if a cap is broken right through, the leverage gained from the joint will support a certain weight ; if five or six caps were broken like that they would not support such a weight as I have mentioned.

*By Mr. Tillet :* I cannot accept the statement that the caps were deflected 12 inches the day before the fall ; I daresay an ironbark cap with a length of 12 feet would deflect 8 or 10 inches before it broke where the pressure was on the centre of it ; the ends of it would still have some strength ; I saw the broken caps at the pit mouth ; I should imagine they had been broken from the under side ; I have not met the mudstone in the other collieries in the conglomerate as it has been found in East Greta ; if I had known of the falls of mudstone in the tunnel I would have to find out first whether the fall was a merely local one or a general one in the tunnel before I would strengthen the timbering ; if I had found the mudstone right across the face in sinking and at other places finding the conglomerate, I would think a change was showing itself and take precautions to deal with it ; sometimes you get three or four bent caps running sometimes at intervals ; the fact of these caps being bent in that way would not indicate too much pressure on the roof ; in a drive like that at East Greta, with the coal on each side, I would expect a lateral pressure ; the fact of it having a soft bottom would tend to make part of the coal slide, and thus exert a lateral pressure ; after the fall I thought the pillars were standing very nicely ; it was quite possible for there to have been a lateral pressure there ; I have formed an opinion as to the cause of the accident ; the mudstone, which is an indurated clay, has become infiltrated with water, and has thus lost its adhesive properties and thrown all its weight on the caps, which have suddenly gone—that is, one or two of the bent caps have gone and thrown the others out ; a small piece of the Exhibit "J" placed in water and left for a few minutes would have to be picked out in small pieces, thus showing the action of the water on the stone ; the weight of the mudstone would come suddenly on the caps at the last moment after complete impregnation ; the bent caps would be an indication of the pressure of the stone on them if you knew the mudstone was there ; the fact of the clearing being made between the caps and the roof would allow the mudstone, after full impregnation, to come down suddenly on the caps and snap them off ; if ti-trees were placed on top of the slabs and the mudstone were sliding a deflection of the caps would be brought about before the actual fall.

*By Mr. Millard :* The layer of conglomerate between the slabs and the mudstone would not hold any weight if it was thin ; had the thickness been right across about 18 inches it would have held up a good weight, but my examination showed it to be thinning between the two sides of the tunnel ; if none of the caps were bent before the fall it does not alter my opinion as to the cause of the accident ; there must have been a space between the timbering and the roof.

Taken and sworn at West Maitland, the 24th }  
day of January, 1899, before me,—

JONATHAN DIXON.

GEO. C. MARTIN, Coroner.

Inquest adjourned till 2:30 p.m. this day for lunch.

Court-house, West Maitland, }  
24th January, 1899,—

GEO. C. MARTIN, Coroner.

Inquest resumed at 2:30 p.m. this day.

Court-house, West Maitland, }  
24th January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *Jonathan Dixon*, recalled, states (*in answer to Mr. Atkinson*) :—Water would disintegrate the mudstone very rapidly ; water finding its way to the mudstone would commence to disintegrate it at once, and the water would percolate through the interstices it made in the stone ; if I noticed changes of a marked character in a roof I was dealing with I would increase the quantity of timber, not alter the method of timbering ; from what I have seen of the roof since the fall, I do not consider the manager would see sufficient to warn him of the change in the roof, and the impending danger resulting therefrom ; the conglomerate would hide from him any deficiency in the roof above it ; to my mind the mudstone would not be visible till after the fall had taken place ; on looking through the breaks in the slabs on the day Moncrieffe's body was found, I could see the conglomerate in its usual position above the coal ; if I had known the mudstone was immediately over the coal I would have considered it necessary to put in additional timber ; the fall was influenced to a very slight extent by side or bottom pressure, in my opinion ; if the caps were not put tightly in a very slight side movement would cause a bending of the caps ; knowing there was a side movement, I would not recommend that the caps be tightly wedged at the ends ; had there been much side pressure I should expect to see it first shown on the legs ; I was not at the Maitland Colliery when the sinking was being done ; that shaft is bricked, but not through the conglomerate ; I have never noticed any patches of mudstone in the conglomerate.

*By Coroner :* I took particular care to examine the tunnel since the fall ; I saw nothing but the conglomerate, thick or thin, except where the fall had taken place, and there there were traces of the presence of the conglomerate ; the conglomerate overlaid the coal everywhere.

*By Mr. Curley :* The water would eventually work through the mudstone and trickle down ; probably the piece of stone produced marked "J" has not been subjected to the action of water ; it does not follow that all the mudstone was wet, but sufficient had been acted upon by the water to bring down the whole body ; on the Monday after the second fall, I saw the water running and dripping down from the roof ; the action of the water will affect some kinds of conglomerate ; it will affect calcareous conglomerate, but not the hard siliceous conglomerate ; the conglomerate marked "D" is not of the same class as that marked "B" ; the latter is the harder, and water will not affect it, while it will the former ; if the water trickled through the roof, it would be noticeable by the manager ; I was manager of the Maitland Colliery for about four years, actively and inactively ; it worked continuously during that time, except for one short break ; the workings extended about 300 yards to the south, and about 150 yards to the north as well as to the west ; we worked the bord and pillar system with 8 yards bords ; we used a fair amount of timber ; we had a soft floor, but not so soft as I have seen in the tunnel of the East Greta ; we took the bottom up when we drove the stone drift ; we only took up a few inches of the bottom ; that would be portion of the roof of the lower seam ; I have seen a roof in a mine vary in different parts of the roof ; that is not a common occurrence in a marked degree ; you generally get a characteristic roof over the whole of your seam ; I have spoken of the timbering in the Stockton Colliery being bent and broken in many places ; I know that a fall took place there many years ago ; that was the cause of the timber being put in ; there was a good roof at Stockton, but I decline to say what was the cause of that fall, as that matter has been investigated by a Commission ; the probabilities with regard to such a tunnel as East Greta are that the timber put in would be too strong for the requirements ; the timber put in at 500 feet depth would be far in excess of the requirements, so that at 1,000 feet I would not increase the size of the timber ; there was nothing to my knowledge before the fall to show or indicate that the timber was not strong enough to bear the roof at any depth ; I have examined the tunnel carefully since the fall, and found the conglomerate overlying the seam everywhere ; I am satisfied now that there is not uniformity in the roof of the East Greta Colliery ; if the cap were broken in the middle, and the end fastened into the coal at the side, the end would support a certain amount of weight by reason of the leverage gained from the leg ; if I had seen four bent caps in succession in the tunnel, I would certainly have looked for the fifth ; I would have found out whether the wedging at the side caused the bending, or the side pressure or the top weight ; I would have looked for the cause of the bending or breaking ; I would find out the cause first before putting in extra timber ; I would be guided by the conditions of the case as to whether I put in extra timber ; broken caps will sometimes support a heavy weight upon it.

*By Mr. Bowden :* If mudstone were saturated with water, there might not be sufficient water to trickle through the stone and into the tunnel ; the moment a heavy weight fell upon a thin band of conglomerate it would snap at once, and not bend ; I would not expect to find the conglomerate in the tunnel bending down to a depth of 8 or 9 inches before breaking ; if the mudstone were immediately in contact with the conglomerate the conglomerate would break away first in the case of such a fall ; when the conglomerate broke in that way the other strata would be all ready to come away ; if the caps had cracked they would be weaker than before ; the pressure upon them should increase as they bent more and more ; if the water had not gone into the mudstone, I do not think we should have heard of the fall in East Greta ; if the water were performing its action unseen it is possible that it might be disintegrating the material on the top, and bending the caps.

*By Foreman :* I have proved 52 feet of hard conglomerate over the second seam of the Maitland Colliery ; that was 512 feet below the surface ; that is the corresponding seam to the seam at East Greta at No. 1, which comes out to the surface ;

surface; the conglomerate near the surface would be subjected to the action of weather, and be softer than conglomerate lower down, but it would be affected for a depth of a few feet only from the surface; after that it is all the same all the way down, as long as it is the same kind of conglomerate; it is just as likely to be as hard at East Greta as at the Maitland Colliery; the piece of stone produced marked "K" is on the line of demarcation between conglomerate and poststone; I do not think that water trickling over it would disintegrate it; water falling from some height would disintegrate it; the stone marked "D" would disintegrate before that marked "K" if placed in water; the fact that the tunnel extension was being carried on for five months, and the fall happening suddenly, may be accounted for by the fact that the water was silently doing its work, and without being visible; the fact that the bodies were found where they were is an indication to me that the fall must have taken place suddenly; otherwise, if the cracking of the timbers had been going on for some time, the men would have had time to have reached the level.

*By Jury*: I cannot say whether the water had come through the seam after the fall had taken place or not; I think it had been there for some time affecting the mudstone; there would not, in my opinion, be a cavity in between the two seams that held that water; I think the water was held in the strata; in all probability I would have a look at any bent timber in the tunnel as soon as I knew of it, and try and find out the cause of it bending; if it were due to roof pressure, I would not necessarily strengthen it; it would all depend upon the circumstances; after first putting in timber the movement of the strata might bend the timber and then settle down, and no more bending be visible; the bending or breaking of timber is not necessarily a cause for repair; I would be entirely guided by conditions; I have seen timber break with only 2 or 3 feet of stuff on top of it, and then, after the removal of that stuff, a thoroughly safe roof found where it was not formerly known to exist; a large body of running water acting upon the mudstone would bring the mudstone down through the slabs, but where there is only a small body of water acting on the stone, it would take a very long time to do its work and percolate through the stone; I saw a length of roof in the tunnel with the roof untimbered; if all the roof had been like that it would not have required timbering.

*By Mr. Millard*: If I saw a band of dark shale above the coal, and between it and the conglomerate, I would not look upon that as a change in the roof; even although this dark shale ran into the roof in small potholes I would not deem that a change as long as the conglomerate lay above it.

JONATHAN DIXON.

Taken and sworn at West Maitland, the 24th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *Hugh Humphreys*, on his oath states (*in answer to Mr. Millard*):—I am the manager of the Dudley Colliery, and reside at Dudley; I have had twenty-three years' experience of coal-mining in the Wallsend and Dudley Collieries; I have visited East Greta Colliery several times since the accident; I have made observations as I have gone down the tunnel as to the manner in which the tunnel has been driven, and the method of timbering adopted there; the methods of driving and timbering I consider good; I have had no experience of the East Greta seam; from what I have seen of the roof since the accident I consider the timbering in the tunnel was sufficient for its purpose—that is, taking into consideration the conglomerate roof I have seen there since; a slight bending of the caps does not always indicate danger; it is quite a usual thing in mines to find timber bending; it is quite possible for side pressure to bend timber; if I saw caps bending, but the slabs not being affected in any degree, I would attribute it to side or bottom pressure; I have been down the tunnel six or seven times since the accident; I took notice of the strata where the fall had taken place; I saw a layer of conglomerate about 18 inches thick on top of the coal with the soft mudstone immediately above the conglomerate; I noticed conglomerate on the sides of the tunnel, just on top of the coal, in other parts of the tunnel; I have made no inspection through the slabs of the roof; I attribute the accident to the faulty ground—the mudstone—which has been acted upon by water, breaking some of the timber, and carrying away the rest of it; if there was no indication, such as the creaking of the timber a quarter of an hour before the fall, I would call that a sudden fall; we estimated that from 250 to 300 tons of stuff came away in the fall—that is, including the stuff that came away in the second fall; if that weight had been pressing on the roof for some time, it would give some indication of that pressure; if it came away suddenly, there would be no such indications.

*By Mr. Tillet*: I should expect a fall of that sort to give some indication of its coming; it is not impossible that it came away without any warning; that warning might be the bending of caps, or a crushing and creaking of the timber; I do not think that could have been going on for three weeks before the fall; if I saw extensive patches of the mudstone in the conglomerate roof, I would take extra precautions in my timbering; if I saw any great extent of it, I would deal with it, instead of the conglomerate; I would not put in stronger timber, but put it closer together; with such a roof as they have had to deal with at East Greta, I consider the timbering there sufficient.

*By Coroner*: I have had no experience with conglomerate roofs; I do not know that mudstone comes into conglomerate in extensive patches; the cause of the East Greta accident was the conglomerate thinning out, and the mudstone taking its place.

*By Mr. Atkinson*: I consider side or bottom pressure had very little to do with this fall: I have seen the sides of the tunnel where the fall took place; the sides there were in good condition; if there had been much side pressure, and the slabs had been well wedged in, I should expect to see it on the legs first; I have not had an opportunity of examining the roof on the lower level; the roof where I have examined, it was very hard conglomerate; I did not see the roof in the neighbourhood of the dam; if in a tunnel like No. 1 I saw four or five consecutive caps bent to the extent of 6 inches, I would ascertain the cause before dealing with them; if the roof were lying down on the caps, I would consider it roof pressure, and that they required renewing; timber in a tunnel, at an angle of 45 degrees, would require more attention than timber on a level drive; timber in a tunnel of this sort would require more attention than timber on a level drive.

Taken and sworn at West Maitland, the 24th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

H. HUMPHREYS.

This deponent, *Jonathan Dixon*, recalled on his former oath, states:—I wish to say that every credit is due to the workmen employed in restoring the tunnel for the manner in which they carried out their work; I wish to make special mention of Deputy David Lewis for his intrepidity, calmness, and sound judgment in supervising the work.

Taken and sworn at West Maitland, the 24th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

JONATHAN DIXON.

Inquest adjourned till 10-30 a.m. to-morrow, the 25th of January, 1899, the jurors being bound over.  
Court-house, West Maitland, 24th }  
January, 1899,—

GEO. C. MARTIN, Coroner.

Inquest resumed at 10-30 a.m. this day, the jurors answering to their recognizances.  
Court-house, East Maitland, }  
25th January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *Hugh Humphreys*, recalled on his former oath, states (*in answer to Mr. Curley*):—On the left-hand rib the conglomerate showed from 18 inches to 2 feet at the seat of the fall; on the right-hand rib it only showed 4 or 5 inches; lower down the conditions were reversed; the thin layer seemed to run for about 30 feet down the fall; after that it began to thicken on the right-hand side, and thin out on the other side; on the left-hand side of the bottom of the fall the thickness of the conglomerate was 4 or 5 inches; the thin layer on the left-hand side extended about 15 to 20 feet from the bottom end of the fall; I am satisfied that the stone put into the glass yesterday by Sub-inspector Fowler has been affected by the action of the water; I have noticed veins lying vertically and horizontally in the strata of mines; they lie in layers; there are sometimes natural facings in the strata; if water had been trickling through at East Greta, and came through the slabs, it must have been seen; it must have affected the conglomerate, or the fall would not have taken place; if the caps were broken, and the slabs lying on them, and the roof lying on those slabs; I should say the water had affected the roof; otherwise the roof would have remained, and the slabs would have come away by themselves; under those conditions I should have expected to have seen some indication of the water; if no water was coming through under the

the conditions of roof described, I could not say that water was there; I called the stone marked "J" soft shalstone; that marked "K" is hard poststone; that marked "F" I would call conglomerate; if I had to use timber at 500 feet in that tunnel, and timber at 200 feet lower down, and I saw the timber in the lower level bending, I would set it closer together, as has been done in this case.

*By Foreman:* I have got out at the No. 2 level on the right-hand side; I have been through the overcast several times; I did not notice a soft spot over the overcast; I examined the nature of the roof of the overcast; all I saw there was extremely hard; if there is any soft material there I did not see it; leaving out of consideration the part where the fall took place, I consider the roof of the tunnel a very good one; had the conglomerate, as it appears at the overcast, continued right through the tunnel, there would have been no fall; I saw nothing like the stone marked "H" in the overcast; that is a sandstone; it may be portion of the conglomerate; probably above that the roof would be hard again; there would not be much of that stone in the roof; down the tunnel, below the fall, the roof I saw through the top slab was conglomerate.

*By Jurymen:* I have had no experience of the East Greta roof, but I know what a conglomerate roof is; I saw the roof near the surface at the overcast, and where I saw it above the slabs on the side; practically the only places where I could examine it properly were above the tunnel, and at the overcast; there may have been soft patches that I could not see at all; my opinion of the roof is formed from what I saw of it at the place where it is not timbered and at the overcast; if the roof was as solid as it is at the overcast and out by the level, I do not consider it would have required timbering all the way down; if that sort of roof continued it would not require timbering at all, leaving out the soft bottom.

*By Mr. Millard:* I did not see a band between the coal and conglomerate; if there is one it would not be a source of danger.

*By Mr. Bowden:* A person travelling up and down in the alligator could not see the nature of the roof while he was doing so; he would have to stop and examine it.

*By Mr. Tillet:* Anyone that stopped under the timber and made an examination through the timber he could see the nature of it.

*By Coroner:* A deputy or man in charge travelling in the alligator could not see the nature of the roof unless he went very slowly.

*By Mr. Bowden:* A person in the alligator could make a proper inspection of the timber from it if travelling slowly.

*By Jurymen:* There must be some portion of the roof exposed at the face before they can get it in.

*By Mr. Bowden:* From what I saw of Lewis I consider him a thoroughly practical man; I had every opportunity of watching him while I have been at the mine.

H. HUMPHREYS.

Taken and sworn at West Maitland, the 25th }  
day of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *Duncan McGeachie*, on his oath, states (*in answer to Mr. Millard*):—I am manager of the Waratah Colliery; I have had about twenty-seven years' experience of coal-mining in all its branches, both in Scotland and in this Colony; I am also an engineer and surveyor; I had not visited the East Greta before the accident; I have a fair knowledge of the whole of the Greta Measures; the roof found over the East Greta seam is a hard conglomerate roof; that is known as the general roof of the seam; that conglomerate extends to a depth of 40 feet; when I visited the tunnel after the fall I took notice of the method of driving and timbering; I consider the timbering had been done on the most approved method for a tunnel of that description; the manner of carrying out the work appeared to be good; the timber employed was all good that I saw; I have heard the conditions existing with regard to the roof before the accident, and consider the roof was well timbered; I took notice of the strata at the seat of the fall; I found that the conglomerate there had run out to almost a thin casing or shell—from about 18 inches to a few inches on the other side; above that there was a soft mudstone, and above that a hard sandstone; that is not a usual thing to find in a conglomerate roof; from my knowledge of geology and the strata of this district I would never have expected to find such conditions; I was not down the tunnel lower than the fall; I had an opportunity of observing David Lewis at work; I consider he was a competent person to superintend such work; I consider him a very competent man, and a man deserving great credit for the work he has done there; from what I have seen the accident has been caused by this mudstone coming into the roof; it may have been assisted by water; I think the fall took place quite suddenly, with very little warning, if any; I do not think the timbers at the fall would last five minutes if the weight had come on them; they would not last five weeks with the weight of the roof on them in that way.

*By Coroner:* I was very much surprised when I saw the cause of the accident; it upset all my preconceived ideas of the strata of the seam; I had never seen such a thing before in that stratum.

*By Mr. Tillet:* It is most unusual to find this mudstone in such a roof; I had never seen it before; if I had seen it it would indicate to me a change in the nature of the roof; sometimes stuff of that sort would fall through a little hole and would not mean any change in the roof; I would not be surprised to find small potholes of it in the conglomerate; if I found a patch of it extending right across the face it would indicate to me a change in the roof; under such circumstances I would consider a change in the timbering necessary to strengthen it; I do not think it possible that this roof gradually settled on the timbers; the conglomerate underneath is so hard that it would not yield; it would break suddenly when the weight came on it; the weight might have been on the conglomerate without being seen, but the moment the weight became too much for the conglomerate to bear, it would snap away suddenly.

*By Coroner:* If I saw the change in the roof spoken of I would either put in heavier timber or put the same timber closer; it would depend upon the circumstances of the particular case.

*By Mr. Atkinson:* I have had experience in steep measures in Scotland; the dip was from 43 to 47 degrees; those mines were worked by shafts; the roof was what was called a treacherous one; the main working places went to the rise, and the main leading places to the dip; the main leading places required timbering; they were from 10 to 12 feet wide; the main dips were not driven on pillars as at East Greta; they were worked on the long-wall system; my experience of the Greta seam consists of two years under-management of the Greta Colliery; we worked the conglomerate in the shaft there; the shaft was not bricked where the conglomerate was; I think roof pressure had all to do with this fall; I saw no water dripping from the roof on any of my visits; I had an opportunity of examining the roof in the lower level at East Greta; it seemed to be a very sound conglomerate there; I saw no indication of any other stone there, at the overcast; I was in no other part of the mine to examine the roof; I have had experience of ironbark caps in other collieries with which I have been connected; if I saw four or five of those caps together, bent to the extent of 5 or 6 inches, I would think there was something wrong; I would try to find out what was the matter; if I satisfied myself that it was due to pressure from the roof I would consider those caps required renewing or strengthening; I do not think that the bending of a cap for 3 or 4 inches would be anything out of the way; when it comes to be bent 6 or 8 inches it is practically useless; if there were side pressure I would expect it to show first on the props.

*By Coroner:* I noticed the floor just above the fall; it seemed to be of a nature that would be easily affected by water; taking that into consideration, I consider the timbering there was good; the sills were good and well put in.

*By Mr. Curley:* If a cap were bent 3 or 4 inches I would not consider worth while putting in another; if bent 6 or 8 inches it would be past the point of resistance; if I noticed four sets in a line bent 3 or 4 inches I would take notice of it; I would try and ascertain the cause of the bending; if it were roof-pressure I would provide against it; according to the circumstances of the case, I would either put in heavier timber or put the same timber closer; I did not make a minute examination of the conglomerate at the fall; on the right-hand side it thins out to 5 or 6 inches; I cannot say how far that thinning out extended; it extended for several yards; I examined the left-hand side of the fall also; the conglomerate was thicker on that side; I was never out of the main tunnel except into the overcast.

*By Mr. Bowden:* I saw no water or appearance of water at the fall when I examined it; from my knowledge of the seam, I would not expect the layer of conglomerate to thin out to 6 to 8 inches as in this case; I think the timber used was good timber—could not have been better timber for the purpose for which it was used; if the caps had been bent to the extent of 12 inches they could not have stood up for any length of time; they would not have stood their own weight; I have seen timber bent by side pressure; if I had had any trouble with side pressure in one part of the tunnel, the bending of three or four sets of timber in another part would not have alarmed me; in the case of pressure from the roof, I would have expected to have seen the slabs bulge down between the caps; if they were not bulged down, and I had had side pressure previously, I might take it that the side pressure was affecting the caps; if the slabs were not tight down on the caps



caps at the ends I would not consider it was roof pressure, I would expect to see side pressure exerted on the props, even with packing of ti-tree; caps wedged hard in would be affected by side pressure before the legs; where the fall occurred it was impossible to see that such a change in the roof had taken place; I saw patches of the soft stone at the sides of the tunnel, but that was no guarantee that it extended right across the tunnel; it was impossible to see such patches extending across the tunnel where the fall took place; they could not be seen for the conglomerate.

*By Mr. Tillet:* I do not say that such patches did not exist, and had been seen; what I say is, that it was impossible for them to have been seen at the seat of the fall.

*By Coroner:* I was at the mine on the Monday, Wednesday, and Friday following the fall, and saw no water on any of those days.

*By Foreman:* I first visited the mine on the Monday after the accident; I went there to consult with Mr. Thomas; I was asked to go there; I was asked to inspect the seat of the fall in order to give my ideas as to the best way of getting over the difficulty and getting the place retimbered; I could see for myself what was the cause of the fall—a change in the roof; I could see that in the fall; I saw no change whatever in the roof at the overcast; I went no further than the overcast; I tried to ascertain the nature of the roof; I looked at the roof in the overcast at the edge of the tunnel; I did not go there to find out what was the nature of the roof; I knew the nature of the roof pretty well before I went there; I examined the roof over the overcast and saw it was good conglomerate; I was not on the dam side of the tunnel; if I had thought such questions were to be put to me I would have made a closer examination of the roof; I only went there for the purpose of advising as to the best way of repairing the fall.

*By Juryman:* I never saw a change in the Greta seam like that before; I have known faults to come in the coal in that seam; that has not surprised me; I consider that I have a fair knowledge of the Greta measures right through; I never saw the East Greta mine before the Monday after the fall; I consider I have a practical knowledge of the East Greta roof in consequence of my general knowledge of the nature of the Greta measures; I have never seen such changes in the measures as revealed by this accident; I did not go round the overcast; I only went to the one side of it; I saw the roof at the beginning of No. 1 tunnel; some of the roof there had no timbering; from what I could see of the whole of the roof from the outside it did not appear to require timbering anywhere; I prefer seasoned timbering; the timber that has been put in the East Greta tunnel is good enough for anything—either seasoned or unseasoned; I think I saw one or two sets of timber below the fall broken; that fact was proof that the timber was not strong enough to withstand the pressure that came on it after the fall; the fall would certainly influence the bending of the caps immediately below the fall; simply because of the greater weight thrown on them by the fall; I do not think the fall would affect the caps 200 feet below the fall.

*By Mr. Millard:* As to replacing bent timber I would be guided by my past experience as the manager of the mine; if I had previously found timbers bent higher up the tunnel, and on examination, taking them down and the roof were found intact, I would incline to the belief that the cause was not roof pressure; if I had had trouble with the bottom I would incline to the same belief; I went to the colliery because I was asked to do so by the manager, to assist with my advice in carrying out the operations for finding the bodies, and repairing the tunnel.

*By Mr. Curley:* One could tell whether the pressure came from the roof or the side or bottom when the bent cap was taken away; I have seen broken or bent caps in a mine that showed pressure from the roof, and not from the sides.

*By Coroner:* I was asked to visit the Dudley and Stockton mines after the disasters there, but did not give evidence afterwards.

*By Mr. Millard:* There is no greater danger in the bord and pillar system than in the long-wall system; the long-wall system would not have prevented this accident.

*By Mr. Bowden:* Patches of this mudstone underlying the conglomerate would not indicate a general change in the roof; all roofs are patchy to a more or less extent; these patches are not usually thick, but what are termed pot-holes.

*By Juryman:* I would describe the stones produced as exhibits by the same terms as the other witnesses.

D. McGEACHIE.

Taken and sworn at West Maitland, the 25th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

Inquest adjourned till 2.30 p.m. this day for lunch.

Court-house, West Maitland, }  
25th January, 1899. }

GEO. C. MARTIN, Coroner.

Inquest resumed at 2.30 p.m. this day.

Court-house, West Maitland, }  
25th January, 1899. }

GEO. C. MARTIN, Coroner.

This deponent, *Richard Thomas*, on his oath, states (in answer to *Mr. Millard*):—I am manager of Messrs. Brown's collieries; I have had about twenty-eight years' experience of mine managing; I have a general knowledge of the strata of the coal seams throughout the Maitland and Greta district; I know the East Greta seam, and have had experience of it; I have made a study of geology; I went over the whole of the Greta field with Professor David; the roof in the East Greta seam is hard conglomerate—calcareous; that is generally found over the Greta seam; I have traced it for about 16 miles from the Homeville mine; that is the best roof for coal mining purposes; it has been proved from 50 to 80 feet thick throughout that distance; I have visited the East Greta colliery, both before the accident and after; I visited it when it was opened up, and was there on the day of the disaster, and on several occasions since; I took particular notice of the methods of driving and tunnelling; the timbering was squarley framed, very strongly put together, and well adapted to resist pressure from roof, floor, or sides; it is a modification of the Welsh style of timbering, specially adapted to resist floor pressure; the tunnel has been driven and timbered on thoroughly scientific principles; the class of timber employed is the best that can be used for that purpose; under the conditions obtaining before the accident, I consider the timbering was all that could be desired for the purpose for which it was intended; I visited the scene of the fall and took notes of the strata disclosed by the fall; immediately over the slabs was a thin layer of conglomerate, 18 inches thick on the left-hand side, and a foot thick on the right-hand side; above that about 5 feet of mudstone; then a pebbly sandstone from 10 to 12 inches thick; above that about 4 feet of mudstone, and above that a dark-brownish sandstone; on a subsequent visit I went to the lower end of the fall, and the conglomerate on the left-hand side prevailed right through, and on the right-hand side thinned out to almost nothing; I went no further than that; I have had no particular experience of the roof in the tunnel beyond that; I saw the overcast in the second level driven right through the solid conglomerate; that showed no sign of giving out; I did not go into the level at all; from my knowledge of geology, and of this seam in particular, this erosion of the mudstone is not what I would expect; it is what I would call a freak of nature; conglomerate is always carried along by a swift strong current, while mudstone is carried along by a slow stream or current; it is not unusual for the conglomerate to carry away the mudstone, but it is very unusual for the mudstone to carry away the hard conglomerate; the conglomerate would be in the first instance laid down horizontally; a band of shale between the coal and conglomerate would not affect the roof unless it formed the roof; as long as the main roof of conglomerate was overhead its stability would not be affected; a stream of water has first run over the coal depositing silt, then another current has brought down the conglomerate and carrying away the silt, leaving patches of it; we never expect the soft silt to carry away the hard conglomerate; originally the stream of water would leave the conglomerate of a uniform thickness, especially when it is found persistent over such a large area as in this instance; the accident has been caused, in my opinion, by the erosion of the mudstone into the conglomerate; such a thing would be quite unexpected, and a danger that could not reasonably be provided against; it is not an unusual thing to find timbers bending to a small degree in mines; it is a usual thing to find them so, for the reason that they are not put in tightly in the first instance, and do not get their full proportion of the weight; a cap slightly bent is quite as good as new; a bending of 2 or 3 inches is only a slight bending; if the caps were only slightly bent and the slabs had not come down with them, I would not expect the cause of the bending in the caps to be roof pressure; in dealing with these bent caps I would be guided by my general experience in the mine; if I had found at one point in the tunnel that the caps were bent, and, on examination, found that the roof was intact, a bending of the caps lower down would lead me to believe that it was not caused by any defect in the roof, but due to the same cause as the bending in the caps higher up; I think, in regard to the fall, that the conglomerate would probably break away suddenly



suddenly ; it is a roof that will not bend ; when once the conglomerate had broken away the timber would not stand the strain long ; there would be double the weight thrown on the set next to the first that carried away, and treble the weight on the next ; I think the breaking of the conglomerate and the actual fall would be almost instantaneous ; if the caps were broken and the conglomerate broken through, the timber would not support the weight of the roof for any length of time ; there would be so much extra weight thrown on each set of the timber as soon as the conglomerate had given away ; I do not think it possible for the caps to be bent or broken and the slabs sagging down on them with the mudstone visible through them for some weeks before the fall ; I consider the caps in the tunnel would support a weight of 20 tons each ; after the cap had been cracked and broken through it would hardly support itself ; if the cap were bent down to an extent of 8 inches, and were cracked, it would have reached the limit of its strength ; it would not then support 20 tons ; any amount of cracking would reduce its strength ; I cannot give any estimate of the strength of the slabs used in the tunnel ; in mining, the strength of the slabs is not taken into consideration ; the cap is supposed to bear the whole weight.

*By Mr. Tillet :* This mudstone has practically no cohesion ; if the tunnel had not been timbered, the thin layer of conglomerate would not have supported the mudstone for any time ; the face had been driven some distance past the fall ; it had been driven for about three months ; the fall did not take place sooner because the timber was there to support the conglomerate ; it was not necessary for the conglomerate to break before the weight came on the set of timber ; the timber was carried right into the conglomerate ; if the mudstone had to depend upon itself it would have come away ; if the caps were tight under the conglomerate, any movement of the conglomerate would come right on to the caps at once ; I could not see any evidence of the assertion that water played a part in this fall ; there was no evidence of the action of water either upon the conglomerate or the mudstone ; the timbering was sufficient for the conditions existing as far as could be seen before the fall ; the existence of the mudstone upon the coal meant nothing ; small furrows of the mudstone may not have been scoured away by the conglomerate, but there was not sufficient of it to affect the stability of the roof ; my opinion of the formation of the roof is that there was this dark band on the coal, then irregular patches of mudstone, which were subsequently partially scoured away by the conglomerate in its deposition ; only practice would tell me whether these patches of mudstone are extensive or not.

*By Mr. Atkinson :* I would not expect much side pressure in a tunnel of this kind ; I do not think that side or bottom pressure had much to do with the fall ; I consider that conglomerate is a rock which geologically varies very little in its character, especially such a consistent conglomerate as this is ; in calculating the strength of the cap-piece I assumed that the weight was equally distributed throughout the length of the cap-piece ; if four or five caps together were bent to the extent of about 6 inches, I would be guided by my previous experience of the tunnel in dealing with them ; I would first make my examination to see whether the roof was intact ; if it was intact I would not consider the pressure came from the roof ; if the pressure came from the sides I would expect to see the sides fall ; the sides under this fall were to all appearances just as they were driven.

*By Mr. Curley :* I was in the East Greta in its earlier stages ; that would be ten years ago or more ; I was in the No. 1 tunnel at that time ; I saw a hard patch of conglomerate there, entering that tunnel, which is not timbered ; there are about 75 or 80 feet of that untimbered roof ; I saw timber following on that, and also patches without timber, then timber continuously ; I should say that the continuous timber would be put in owing to the greater depth, and it is a precaution that a prudent and cautious manager should take against accidents in connection with the roof or sides ; the continuous timbering at the greater depth would be necessary because the cover was so much greater ; where there was no timbering there was not the same thickness of cover ; the tunnel was down about 100 or 150 feet when I was there about ten years ago ; some bords were going at that time ; I have not been in the colliery since up to the time of the accident ; during that interval I would not think there had been any serious falls of the roof with such a roof as they had ; if there had been falls of the roof in that time I would want to know the conditions of them before I would class my knowledge of the mine with that of the manager ; I would not compare my limited knowledge of the mine with that of the manager ; I would not say that to a great extent my experience of the mine is a closed book ; my scientific knowledge enables me to form an opinion as to the tunnel, and the characteristics of the formation of it ; in making my geological examination of the district I took my points at Homeville Maitland Colliery, East Greta, Heddon Greta, Sandford Greta, Silkstone, Richmond Vale, and Scholey's bore ; that would be about 16 miles long, and about 4 miles wide ; if I had had the conglomerate breaking, and the mudstone showing above it, I would say that the conglomerate did not prevail throughout the roof, but a patch of mudstone under the conglomerate would not affect the roof at all ; if the mudstone were above the conglomerate I would say there was a want of uniformity in the roof ; the exhibit marked "J" is mudstone, and practically has no cohesion ; a roof composed of that would require close timbering ; if I knew the conditions prevailing at the fall before the fall I should put the timber not more than 3 feet apart ; if I knew of the presence of mudstone in unknown quantities with the thin conglomerate I would treat it as mudstone, and timber accordingly ; I made my first measurements on the first or second day of the fall, and the others on the last visit ; I made them at the first set of timber that was standing, and close to it ; I measured from observation, and not with any instrument ; other measurements were made at the bottom end of the fall ; at the bottom of the fall there were three caps good and the fourth broken ; this side of the fall, the nearest to the edge of the fall, was good, and the second one bent about 4 inches ; at the side there I could see no sign of weight upon the timber at all ; I noticed no break of the roof there ; I did not get beyond the overcast ; I went there to look after the rescue of the men, and effect it, if possible, and to attend to the safety of the explorers ; Inspectors Dixon and Bates were with me when I made the measurements, and Mr. Thomas, the manager, Mr. Ross, and Lewis, the deputy ; I think a colliery worked with such a deep incline requires more care and attention than one working on the even grade.

*By Mr. Tillet :* I would call the conglomerate in this roof a coarse conglomerate ; I know "Geikie's Geology" ; it is a standard work ; I do not agree with the description quoted by you to me as to the nature of our conglomerates in the Greta district ; Geikie could not have had experience of our marine beds when he wrote that ; the quotation applies to our Newcastle freshwater beds.

*By Mr. Millard :* My examination of the field contradicts that quotation from Geikie.

*By Foreman :* The first fall did not extend beyond the rib, but the second fall ran over the rib about 3 feet ; the second fall happened at the same point as the first ; the extension of the fall over the rib only applied to the left-hand side ; my first object in going to the fall was to try and rescue the men ; when that was found impracticable, I devoted my energies to getting their bodies out, and looking after the safety of the explorers ; those were the main objects of my visit ; of course, I took a scientific interest in trying to ascertain the cause of the fall ; it was not necessary for me to go all over the mine to find that out ; it would no doubt have been interesting for me to have examined the roof over the No. 2 level, but I had no time to go all over the mine ; my visits could only be made when I could spare the time from my own mine ; I would not, from the fact of the presence of a soft patch in the roof near the overcast, expect to find the soft roof the same all through.

*By Jurymen :* The coal was deposited there by a slow current, carrying driftwood, which, on becoming consolidated, became coal ; that would likely be covered with the silt or mudstone, which would afterwards be carried away in furrows by the conglomerate ; if the coal had not been solid, the conglomerate would have scoured it away ; calcareous conglomerate will soften if exposed to the atmosphere or the action of water ; after the fall, the edge of the conglomerate there would be exposed to the air, and might soften rapidly ; I believe the tunnel in which the fall took place was the same as I went down ten years ago.

*By Mr. Bowden :* I have seen caps bent by pressure from the floor in the Old Country, but not in the Newcastle district ; if the timber were bent from the floor, the sides would be affected ; it is not possible for a body of stone with little cohesion in the roof to hang for any time if it depends upon its own support ; a roof with little cohesion could stand there till its limit was reached, and then it would come away ; there is a certain breaking point which, on being reached, brings the stuff away ; if I saw a patch of that shale-stone in the roof, I would not from that expect to find a large quantity of it there ; the presence of those patches is no indication of a change in the main roof.

Taken and sworn at West Maitland, the 25th day }  
of January, 1899, before me,—

RICHARD THOMAS.

GEO. C. MARTIN, Coroner.

Inquest adjourned till 10:30 a.m. on Friday next, the 27th instant, the jurors being bound over.

Court-house, West Maitland, 25th January, 1899.

GEO. C. MARTIN, Coroner.

Inquest resumed at 10:30 a.m. this day, the 27th of January, 1899, the jurors answering to their recognizance.  
 Court-house, West Maitland, }  
 27th January, 1899,— }  
 GEO. C. MARTIN, Coroner.

This deponent, *Azariah Thomas*, recalled on his former oath, states (*in answer to Mr. Curley*):—The dip of the No. 1 tunnel was 47 degrees from the bottom level to the face; my instructions to the timber-setters were to set the timber at right angles to the pitch; the set of the timber was at right angles to the angle of the tunnel; I did not tell the setters to set the timber at so many degrees, but at right angles to the dip of the tunnel; I have formed an opinion as to the cause of the caps in the tunnel being bent and broken after the fall; the lower sets of timber were broken by the water soaking into the roof after the fall; the water affected the conglomerate; it is quite evident that the breaking of those caps happened after the fall, because those caps are resting on the stuff that came down in the fall; I would not say that the water had been over all the broken caps; the water and *debris* filled up the tunnel for about 130 feet from the face; the timber immediately below the fall we saw breaking during the time we were repairing the tunnel where the big fall had taken place; we both heard and saw that; I heard the timber cracking while we were putting in timber where the fall had taken place; I noticed the timbers on the out-by side of the fall towards the level; they were in very good condition; the sets next the edge of the fall were in good condition; they were not bent, as far as I could see.

*By Coroner*: The mudstone that came from the fall was in much the same state as the Exhibit "J"; the bottom end of the fall had mudstone in it which contained water; the mudstone that had not been immediately in contact with water was in a solid state; as we worked down the tunnel we could see the water working its way down to the face under the timber.

*By Jurymen*: It was impossible for me to have got timber out of the bush without sap in it; the 8 inches required in the timber included sap and all; the smaller end was to be that size; the other end would be larger; I have known ironbark to be in a mine for seven years and a half, and it is there still; the sap of ironbark is considered much better than that in other timbers; that is one reason why it is chosen for permanent work; it is possible to get square timber without sap—that is, if the timber is large enough to allow of the sap being cut out; growing timber cannot be got without sap; I have never had it reported to me, directly or indirectly, that the roof or any part of it was dangerous and a demand made for extra timber.

*By Mr. Curley*: That particular tunnel was commenced a little over seven years ago; there was another tunnel near it down as far as the top level; I do not know how far away from this tunnel that was; there was a distance of 135 yards between the two mouths on the surface; the other tunnel was down 120 yards horizontally when I took charge; there were two places opened out on it, if I remember rightly; it was very little timbered—only a stick in here and there; it never occurred to me to do anything in the No. 1 tunnel that I have not done; there was no restriction at all on me.

Taken and sworn at West Maitland, the 27th day }  
 of January, 1899, before me,— }

A. THOMAS.

GEO. C. MARTIN, Coroner.

This deponent, *William Kerr*, on his oath, states:—I am an engine-driver employed at the East Greta Colliery, and residing in West Maitland.

*To Mr. Curley*: I was on the 3 o'clock shift at the tunnel at the time of the accident; I worked a year and nine months at the colliery; I was not on that shift all that time; the other shifts I went on at 11 p.m. and 7 a.m.; the 3 o'clock shift terminated at 11 p.m.; sometimes I would send the men down on the 3 o'clock shift, sometimes the other man; Lewis went down the tunnel at 3 o'clock during the week in which the accident occurred; I sent Lewis down and the men on that shift; the men did not always go right from the surface to the face; sometimes they went right to the face; sometimes I stopped them at the level; Lewis and the men usually went down together; I could not see them at all from the handles; it was the alligator that went down with the men; I knew by the signals that men were going down; we had a signal for men going down, and another for men coming out; the tunnel men used to go down in one lot sometimes, and sometimes they and the jig men would all go together; I cannot remember whether during the week before the accident I sent them down in one lot or two lots; the alligator went down at a fair speed with the first lot of men; it would go with the same speed with the second lot; the men on the previous shift came up after the other shift went down; it generally took five minutes to bring up the men from the bottom direct to the top—I mean from the present face of the tunnel; I was never told by Lewis or anybody else to go down slowly as he was going to make a careful examination of the tunnel; the method I have described of lowering and bringing out the men has been the practice since I have been at the mine; the timber took a minute and a half or two minutes longer; the men had to come up for the timber; they went down with the timber which was placed in the alligator; I sometimes went to work with the men working in the tunnel; I have heard some one remark about broken or bent timber in the tunnel; that was Dan Grono; it was during a conversation I had with him in the street here one Saturday afternoon, between five and seven weeks before the accident; he said there were two or three caps that were bending with a splinter in them; he said nothing more than that; none of the other men working in the tunnel ever said anything to me about broken or bent caps.

*By Mr. Tillet*: The subject was brought up by the tunnel being mentioned between us, and one asking the other how it was going on; he said there would be some timber replaced when the tunnel was finished, and then went on to mention about the caps being bent with the splinter; he did not speak of them as indicating danger at all.

*By Coroner*: I could tell that Lewis went down with the other men, because I only sent the alligator down once, although I could not see who were in the alligator.

WILLIAM KERR.

Taken and sworn at West Maitland, the 27th day }  
 of January, 1899, before me,— }

GEO. C. MARTIN, Coroner.

This deponent, *Thomas Lionel Bates*, on his oath states (*in answer to Mr. Tillet*):—I am an inspector of collieries, residing at Hamilton; I have inspected the East Greta Colliery several times; I last inspected it before the accident, on the 5th September last; I was in the extension of No. 1 tunnel on that occasion, and down to the face; it was then driven about 50 or 60 yards; that was below where the first fall occurred; I inspected the timbering; it did not show the slightest indication of undue pressure; I had had prior experience of the tunnel, and from what I saw of the timbering on the 5th September last was quite satisfied with it.

*By Coroner*: I walked down the tunnel; I could not see much of the roof because it was slabbed over; I could see the timber as I went down; I examined the timbering in the extension carefully; I could see the roof just through the slabs, and, as far as I could see, it was the usual conglomerate; the predominating feature of that seam is that conglomerate.

*By Mr. Atkinson*: I have inspected that colliery ever since it commenced—about nine years ago; I was at the colliery three times between the 5th September and the day of the accident investigating accidents; I have seen light falls in the mine during my inspections; what came down was what I would call an argillaceous shale or clay shale; I only saw it from 5 to 8 inches thick; I invariably saw the conglomerate above that shale; in the early part of 1897 I had an anonymous complaint about the mine; it came from a wheeler, and set out that the place in which he was working was dangerous on account of the roof; I investigated the matter at once, and all I could find was that the floor was lifting and making the road dirty and difficult to wheel upon; the roof was perfectly good; that was on the left-hand side of the lower level of No. 1; the roof was of coal; the bord was in some little distance—some 50 or 60 yards or thereabouts; there was no fall of roof from where the bord was turned away to the face; I have been down the tunnel since the fall; I am satisfied that the accident was brought about by the conglomerate thinning out, and this mudstone creeping in large bodies; that has become saturated with water and brought about the fall; the saturation with water would cause the mudstone to expand; it could not expand upwards on account of the conglomerate above it, so it would break away where the least resistance was offered, which would be at the point where the fall took place; the side or bottom pressure had very little to do with the fall.

*By Coroner*: I cannot account for the water getting into the mudstone; it might have been brought about by the excavation of the tunnel, which would allow the mudstone to expand.

*By Mr. Curley*: I never saw anything but conglomerate in the slight falls that I have spoken of; I have seen two kinds of conglomerate in the colliery—the silicious and the calcareous; the silicious is the harder of the two; the roof of this tunnel is composed of both kinds—the silicious at the overcast; I cannot tell how far that goes down the tunnel; the calcareous

calcareous comes in below the fall ; there might be some of it in the big fall ; I could only see between the slabs to examine the roof, and wherever I looked I found the conglomerate ; I did not notice any shale ; I looked to see that the timbering was sound and safe ; as long as that was so the men were safe ; I have not investigated any falls in the mine ; I have just seen where some slight falls have taken place ; it is not an uncommon thing to see a fall in the mine ; I can quite believe that there have been big falls where the pillars have been taken out ; I have heard of such falls under those circumstances ; I have not noticed the action of these falls upon the pillars ; I have seen nothing in connection with these falls to indicate any action of the roof upon the timber before the falls ; I have seen several places where there have been slight falls on the levels ; there was nothing important about them, nothing to indicate any danger ; about 6 or 8 inches have come down ; if I, as an inspector of the East Greta Colliery, knew that the levels were timbered in a certain way, and falls had taken place between the timbers, I would take notice of such falls ; I have not, to my recollection, seen falls on the level extending for 2 or 3 feet in thickness ; I have been in the level where the dam is ; I have seen the roof there ; there is a kind of mudstone above the coal there ; it is something like the exhibit marked J ; the roof is not broken to a dangerous extent there ; it is broken where the mudstone has come away, but not to an alarming extent ; I cannot say to what extent it is broken ; I saw it when I was down with the jury ; I cannot say whether it was broken for inches or feet ; the conglomerate was above it ; I saw none between it and the coal ; I think the conglomerate there was calcareous ; I have been in the overcast ; I saw silicious conglomerate there ; I did not go up as far as the door when the jury were down ; I saw nothing but conglomerate in the overcast.

*By Coroner :* Even if the whole of the roof were calcareous conglomerate I consider the timbering was sufficient for the purpose.

*By Mr. Curley :* I have examined the report-books of the colliery when making my inspection ; they were to my satisfaction at the time—that is, prior to the accident ; from what I have heard in this inquest about the report-books, I am not satisfied ; I am dissatisfied with the person who made the inspections, and recorded by Lewis ; I consider that Cartwright or the manager should have been down the mine during the fortnight ; I have read Special Rule 7 of the East Greta rules ; I do not think that the under-manager complied with that rule when he was not down the tunnel for a fortnight ; I should say that a mine of the character of East Greta should be under very strict supervision.

*By Mr. Millard :* I had no knowledge of Lewis before the fall ; I have nothing to say against his competency as a practical miner ; I believe him to be a most competent man from what I have seen of him since the accident ; he appears to be a thoroughly practical man ; I look upon him in the light of a contractor, and say that he is ineligible to make the reports in the books ; I do not say he is incompetent ; that is a question of law, and I only offer my opinion as a layman ; I cannot mention anybody in the mine more qualified to make the inspections than Lewis.

*By Mr. Bowden :* On the whole, the colliery is a carefully and skilfully managed one ; I should call the current of air in the extension a district current.

*By Foreman :* The opening of the top seam some years ago would not affect this tunnel with regard to water.

*By Juryman :* It was beyond human conception to expect the mudstone in such large quantities in that roof before the fall ; if the tunnel had been worked with a straight ventre and double skips, with a line of props down the middle, it would have been doubly strengthened ; that was not practicable though ; it would have increased the safety of the mine if the roof had been bored periodically ; it would be possible to work the tunnel with the props down the centre, but it would not be expedient ; if the skip got off the line at all it would bring down the props ; I visit pretty well every working-place in the mine on my inspections ; I know No. 1 in the No. 2 jig on the north side of the No. 1 ; I believe it was a bord going north that I had the complaint about ; I have seen the tops and pillars between the No. 1 and No. 2 jigs ; I have seen where falls have taken place there ; I have never see any falls take place in the places while the men have been working ; I considered those falls extensive ones ; I saw no reason to stop the men working ; there was no danger ; I know that they stopped taking out pillars ; I know the roof in other mines in this district ; I have never seen the mudstone in the roof to any appreciable extent, but only in small patches ; I would attach importance to it if I saw it for 2 or 3 feet with the sandstone above it.

*By Foreman :* The manager did not evade any provision of the mining laws by not running the jig down in front of the tunnel.

*By Juryman :* I never knew from whom the complaint came about the roof in the mine ; it was quite possible for the men to be working in that tunnel without knowing of the presence of the mudstone ; only the conglomerate was exposed to their view, and they could not tell the thickness of it.

*By Mr. Curley :* I did not go to the face the last time I was down ; the tunnel was timbered close to the face, so I could not have seen the roof by going down to the face ; I went close enough to see all that I wanted ; I went close enough to see the face.

THOS. L. BATES.

Taken and sworn at West Maitland, the 27th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

Inquest adjourned till 2:30 p.m. this day for lunch.

Court-house, West Maitland, }  
27th January, 1899,—

GEO. C. MARTIN, Coroner.

Inquest resumed at 2:30 p.m. this day.

Court-house, West Maitland, }  
27th January, 1899,—

GEO. C. MARTIN, Coroner.

This deponent, *Thomas Lionel Bates*, recalled, states (*in answer to Mr. Millard*) :—The periodic boring of the roof would have been a reasonable safeguard against such an accident as this fall ; it would not be practicable to put those bores in every 2 feet ; I would advise another bore at 50 feet from the overcast, if one were put in at that point ; I believe bores are put in the roof at Stockton to see what is in the roof ; if bores were put in about every 50 feet it would show that precautions had been taken to find out the nature of the roof ; the presence of the mudstone in bords would not have the same effect if it fell as in the main tunnel ; the putting in of the bores would be an additional precaution ; I would never have asked for these bores to have been put in before the accident ; I should advise such a thing now, after hearing the evidence in this case.

*By Juryman :* I have never visited the tunnel since the 5th September last up to the time of the accident.

*By Mr. Curley :* I first saw the fall on the day of the accident ; two of the caps, I think, showed signs of bending on the out-by edge of the fall ; I just noticed the strata of the fall, but did not take any measurements of it ; there was a little bit of conglomerate—from a few inches to 18 inches—then the argillaceous shalestone, then the sandstone ; I think the conglomerate must have been the calcareous ; I did not take particular notice of it ; going down the tunnel the conglomerate was thicker on the out-by edge of the fall, on the left-hand side ; there was very little of it on the other side ; that thin shell ran for about 15 feet, I think ; I was desirous of pushing on the work of rescue and did not want to do anything to hinder it ; below the fall the timber was more or less broken ; below the fall there were two or three sets that were not broken ; then there was another fall below them ; I saw some water dripping from the roof at the fall ; that was on the Monday after the fall ; I saw no water on the day of the accident.

*By Mr. Millard :* I do not think there was any water there at all on the day of the accident ; it was after the second fall had taken place that I noticed it.

*By Juryman :* One could make a certain examination of the roof while going up or down in the cage at the ordinary pace ; to make a proper examination it would be necessary to go more slowly ; I saw Lewis's signature to the reports in the report-books as having inspected the mine ; I did not object to his signing the books when I saw his name there.

*By Mr. Tillett :* I did not object to it because I did not know he was a contractor at the time.

*By Juryman :* There must have been 13 feet between the top of the fall and upper seam.

THOS. L. BATES.

Taken and sworn at West Maitland, the 27th day }  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This

This deponent, *Edward Davis*, on his oath, states (in answer to *Mr. Millard*) :—I am a colliery carpenter, and reside at East Greta ; I have been often down the extension of No. 1 tunnel ; I have sometimes gone down once a day, sometimes two or three times a day, and sometimes not down at all for three or four days at a time ; I was down there about a week before the accident ; that was the last time I was right down to the place ; I noticed the timber in going up and down ; it was in a very good state, I consider ; I did not notice any of the cap-pieces bent or broken ; I know about where the fall took place ; there were no broken timbers there, and if any had been bent it must have been very slightly, or I would have noticed them ; if there had been five or six caps bent or broken, and sagging down a foot, I would have seen them ; there were none in that state ; my work was fixing up the rollers and oiling them, and looking after the signals ; I fixed a roller about 60 or 70 feet from the bottom, just before the accident ; I was there for at least an hour and a half.

*By Mr. Tillett* : I was not concerned much in the roof, my work being on the floor and sides.

*By Mr. Curley* : I did not see five or six caps broken where I fixed the roller 60 or 70 feet from the face ; I did not see one bent ; I just casually looked at the roof as I went by ; I could see some little distance down and up the tunnel ; I did not see four bent caps there ; I had nothing to do with looking after the road in the tunnel.

EDWARD DAVIS.

*By Mr. Bowden* : The rollers were fixed to the sills

Taken and sworn at West Maitland, the 27th day  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *Edward Howarth*, on his oath, states (in answer to *Mr. Millard*) :—I am a labourer at the East Greta Colliery, and know the extension of No. 1 tunnel ; I was down there either on the Tuesday or Wednesday before the accident ; I went down with the manager and Mr. Heyes ; we went as far as the bottom level, where we got off ; Mr. Thomas took the grade of the floor ; the three of us stayed there ; Mr. Thomas sang out to Griffiths to give him a sight ; Griffiths did so ; he was down at the face ; Mr. Thomas said, "Is that right?" after taking the level, and Griffiths answered, "Yes" ; Heyes threw the chain down the tunnel, and told me to take it down and mark every chain ; I did so ; I walked across the tunnel three times, then drew the chain down to the bottom ; I took notice of the timber as I went down ; I saw two bent caps ; they were about nine or ten sets before you come to the face ; I noticed no others bent ; there were none bent at 2 chains from the bottom level ; I saw every set as I went down ; I did not chain up the tunnel ; Mr. Thomas was at the bottom level all this time ; Mr. Heyes asked me how many, and I told him I did not know, as I had not been told to count them ; he said, "I'll have to climb back again now, as you did not count them" ; he then went back up the tunnel ; I do not think he went quite to the level ; Mr. Thomas and Mr. Heyes came right down the face afterwards on the alligator ; Griffiths, Parsons, and March were at the face ; Mr. Thomas did not get off the alligator ; Thomas asked the men how they were getting on ; there was nothing said about the timber, only Griffiths asked Thomas how far they were to go ; Thomas told Griffiths that he would let him know as near as he could ; he told Griffiths he had about 45 feet to drive in, and that would mean about nine more sets of timber ; Griffiths said he wished it was his last shift, as he was sick of the water which did not agree with him ; he said, "Well if that is all we have got to go we will have her done about the new year" ; Heyes told me to roll up the chain and get on the alligator ; I rolled up the chain and got on the alligator ; Messrs. Thomas and Heyes got on with me ; we did not stop between the face and the bottom level ; we stopped at the bottom level to get the instruments ; Mr. Thomas did not stop between the bottom level and the face coming down in the alligator.

*By Mr. Tillett* : I was watching him come down in the alligator ; I could see him quite plainly from the face ; I cannot say whether the chain was one or two chains long ; we chained along the rail ; Mr. Heyes was at the top end of the chain ; my work was all along the floor ; you could just notice these two caps bent, and that was all ; I could not go down very quickly with the chain as it used to get caught.

*By Mr. Curley* : I was told what I was going to do before I went down that tunnel on that occasion ; Mr. Heyes told me to go down and draw the chain while they measured it ; that was the first time I had ever done that work from the bottom level to the face ; that was my only trip as far as the face ; I had been down to the bottom level often ; one day I went down about nine or ten sets below the bottom level ; I dropped a pair of tongs from the bottom level, and went after them ; I do not go often into the mine ; I have been about 100 yards along the bottom level ; I have seen timber set there ; I saw no breaks in the roof there ; I cannot say how close the timber was set there ; I saw no bent timbers there.

E. HOWARTH.

Taken and sworn, at West Maitland, the 27th day  
of January, 1899, before me,—

GEO. C. MARTIN, Coroner.

This deponent, *Alfred Ashley Atkinson*, on his oath, states (in answer to *Mr. Curley*) : I am the Chief Colliery Inspector ; I have had about twenty-four years' experience of colliery workings ; during that time I have had to deal with various kinds of roofs in collieries ; I have not had to deal with conglomerate roofs ; that is a very unusual roof in the coal mines in the old country ; I have given some attention to the study of geology ; I heard the quotation from Professor Geikie the other day ; knowing him as a recognised geologist, I take it that he would not write anything that was incorrect ; my experience of mining managers teaches me that they usually endeavour to ascertain the nature of the strata overlying their coal seams ; I should think they would take considerable trouble to become acquainted with the roof of their various collieries ; I have heard reference made in this inquiry to falls in the East Greta mine such as that referred to by Cartwright ; from that I should say the manager should have a good knowledge of the roof of the mine ; if caps were broken or bent, or other timbers broken, I should say the manager should look for the cause ; I was once on the East Greta colliery in October, 1897 ; the extension of the tunnel had not been commenced then ; the mine was idle on that day, but I went down No. 1 tunnel as far as the lower level, and along the level to the face on the south side ; I was not making a general inspection of the working places ; it was my first visit to the colliery, and I did not think it necessary to go any further, as the mine was not at work ; I have been down the mine since the fall twelve or fifteen times ; I have gone through most of the working places, and part of the old places ; I have tried to ascertain the general character of the roof ; I have seen the character of the roof at the big fall in No. 1 tunnel ; I could not get along further to the south than the dam ; I noticed the character of the roof over the dam ; above the conglomerate there is some of that soft mudstone ; there were about 2 feet of conglomerate there in thickness ; I examined the mudstone above the conglomerate, and am satisfied it was there ; I could not say that it would run into No. 1 tunnel ; the whole was half the width of the level ; the mudstone ran the whole of that distance, as far as I recollect ; from finding it there I would think it possible to find it in other parts of the mine as well ; I did not get beyond the dam ; I went through on the other side in connection with the overcast ; I saw one place on the left-hand side which showed a little softer stone through the conglomerate ; that stone, I think, was mudstone, with sandstone mixed ; that was just on the left-hand side ; I should say that was just a small patch in the conglomerate itself ; I think the conglomerate over the dam was silicious mostly, although there appeared to be traces of the calcareous conglomerate as well ; since the fall I have made what observation of it I could without going up into the fall ; I went there first on the day of the fall ; the conglomerate there was mostly the calcareous ; on the left-hand side on the top of the fall it appeared to be about 18 inches thick, and tapered down to a few inches on the right side—4 or 5 inches ; I cannot say with any accuracy how far that thin layer extended ; above the conglomerate was the mudstone ; that was several feet thick ; when I first saw the hole there seemed to be the hard sandstone or fine conglomerate ; the silicious conglomerate is the stronger, and would not suffer so much from the weather or influence of water ; I should say the silicious conglomerate would support a bigger weight than the calcareous ; a colliery manager would have that knowledge if he had opportunities of seeing the action of the weather and water upon the two ; I would naturally expect Mr. Thomas to know the nature of the roof in No. 1 tunnel ; I did not notice any water on my first visit to the mine after the accident, but saw some later, I think, on the Monday following the accident ; it was dripping from the roof right out of the top of the fall ; there was not much water ; it was not running, but dropping fast ; the sides appeared good, except where the caps had gone, and torn a little of the coal away at the top ; I did not take particular notice of the floor on my first visits, but afterwards looked at them ; I noticed no bending in the sills above the fall ; I noticed the cap pieces on the out-by side of the fall ; they appeared to be all right, but it was decided to strengthen them in view of possible dangers ; no doubt the men chipping the roof would have a knowledge of the mudstone which was lying immediately above the coal, but I could not say that they would know of the mudstone lying over the conglomerate ; if the conglomerate ran out, and the mudstone came in, the timber-setters would have a knowledge of it ; if the conglomerate had run out, and the mudstone come in, and the timber-setters known of that, I think it probable that some of them might have mentioned it to Mr. Thomas ; if the officials knew that the conglomerate had run out, and been replaced by mudstone, I should say it was a matter requiring their attention, and they should have

have put in stronger timbers and closer together; timber may be strengthened by adding sets of the same size or putting in stronger sets at the same distance; I have noticed the timber particularly that was put in; it was very good timber; I know that a lot of it came green from the bush, and was put in with the sap in it; I have seen larger timber than that put in mines; I have seen it put closer; I have seen tunnels bricked; that was where a tunnel was being driven from the surface, and ground was soft and treacherous; on the other side of the fall there were two or three sets standing good then—one set badly bent; as the work progressed several of the sets below were seen to bend a good deal more. [*Objected to by Mr. Millard and Mr. Bowden*: I do not consider that Lewis was eligible under General Rule 4 to make the inspections of the mine; I know the Special Rules of the colliery; the Special Rules of a colliery are according to the Act to be considered of equal force as the Act itself; I heard Cartwright's evidence as to his not being in the tunnel for a fortnight; I do not think he complied with Special Rule 3, or Special Rule 7.] I have been in the colliery since the accident several times; I found the pillars in good condition; I did not see much crushing of pillars; some of the roads I thought required more timber; I cannot tell whether it has been put there; those roads were on the bottom levels in No. 2 tunnel; it is general admitted that conglomerate roofs do not run with such uniformity as deposited to by several witnesses in this inquiry; my opinion is that they do not; I do not think they run so regularly as the ordinary shale or sandstone roof.

*By Foreman*: I could not say that the mudstone visible in the fall extended beyond the limits of the fall; it was probable that it spread itself out beyond the fall in a lateral direction; the water running down the tunnel, I expect, came from the dam; I should think that it was extremely unlikely that water from the dam percolated through the roof to the fall.

*By Jurymen*: If the conglomerate at Greta is good, that at East Greta would also probably be good if it were of the same composition; I was through some of the workings in No. 2 tunnel; I found some of the mudstone in one of the levels where there was a fall.

A. A. ATKINSON.

Taken and sworn at West Maitland, the 27th day }  
of January, 1899, before me,— }

GEO. C. MARTIN, Coroner.

This deponent, *Oliver Kay Young*, on his oath states (*in answer to Foreman*):—I am an auctioneer, residing in West Maitland; the witness Parsons had a conversation with me about a job; he spoke to me about the accident; he came to my office in High-street a few days after the accident, and asked me if I wanted any men; I told him no, and asked him where he was working; he said at East Greta, in the rescue work at No. 1 tunnel, but was not going to work there any more; that Cartwright, the under-manager, had said to him that if he did not work at No. 1 tunnel he could not go to work at the mine; he said, "I don't intend to work there"; I asked him if anybody had forced him to work there, or if he had gone of his own freewill; he said nobody had forced him to go there; I then asked him what right he had to come to me to dictate where he would work, and where he would not; he replied, "I've got the company under my foot, and I'm going to squeeze them"; he said nothing about my having made him any offer; nothing was said about any offer of money to him.

*By Mr. Tillet*: I have mentioned this conversation to others.

*By Mr. Bowden*: There were two people within hearing of this conversation.

*By Mr. Curley*: I am one of the directors of the East Greta Mine; Mr. W. J. Gilham, of Newcastle, is chairman of the company; I have an interest in the mine; Parsons and I have never had any quarrel; I did not know who he was when he came to see me; I recognised him by the lump on his neck; I have a feeling against him, because he told an untruth in his evidence.

O. K. YOUNG.

Taken and sworn at West Maitland, the 27th day }  
of January, 1899, before me,— }

GEO. C. MARTIN, Coroner.

[Court-house, West Maitland, 8:30 o'clock a.m., 28th of January, 1899.]

WE, the undersigned jurors, impanelled and sworn on an inquest opened at the Surgery, at East Greta, on the 24th day of December, 1898, and continued at the Court-house, at West Maitland, on the 4th, 5th, 10th, 11th, 12th, 13th, 17th, 18th, 23rd, 24th, 25th days of January, 1899, and concluded on the 27th day of January, 1899, touching the death of Albert Moncrieffe, do hereby solemnly and sincerely declare that, after (14) fourteen hours' continuous debate, we cannot agree together on a verdict; and we, the said jurors, do hereby affirm that it is not possible that we could come to any agreement however long we might be locked up to further consider the verdict:—

Frederick William Thursby, Foreman.  
Henry Atkinson.  
Daniel Joseph Ryan.  
James Joseph Maher.  
William Henry Oxley.  
John Markham.

Stephen Prendergast.  
Robert James Fullford.  
Thomas Edmunds.  
Thomas Dunphy.  
Charles Wellington Holmes.  
Frederick Isaac Beckett.

Signed in the presence of,—

GEO. C. MARTIN, Coroner.

And witnessed by

F. FOWLER, Sub-Inspector.

Dated at West Maitland, this 28th day }  
of January, 1899. }

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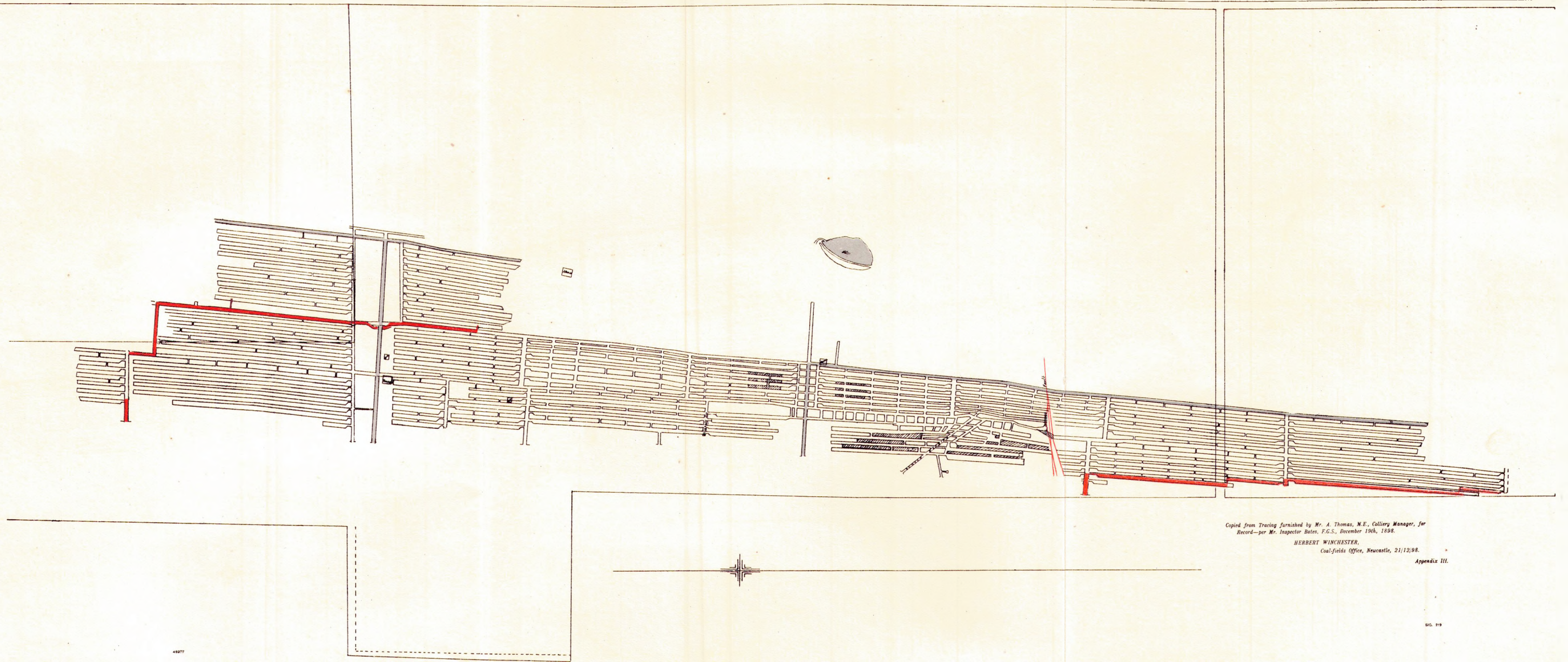
[Three plans.]





DUPLICATE PLAN OF WORKINGS  
IN THE  
EAST GRETA MINES.

Appendix III to Report by Chief Inspector of Collieries, dated  
17th February, 1899, to Hon. Joseph Cook, on the causes  
and circumstances of the Accident which occurred at the  
East Greta Colliery on 18th November, 1898.

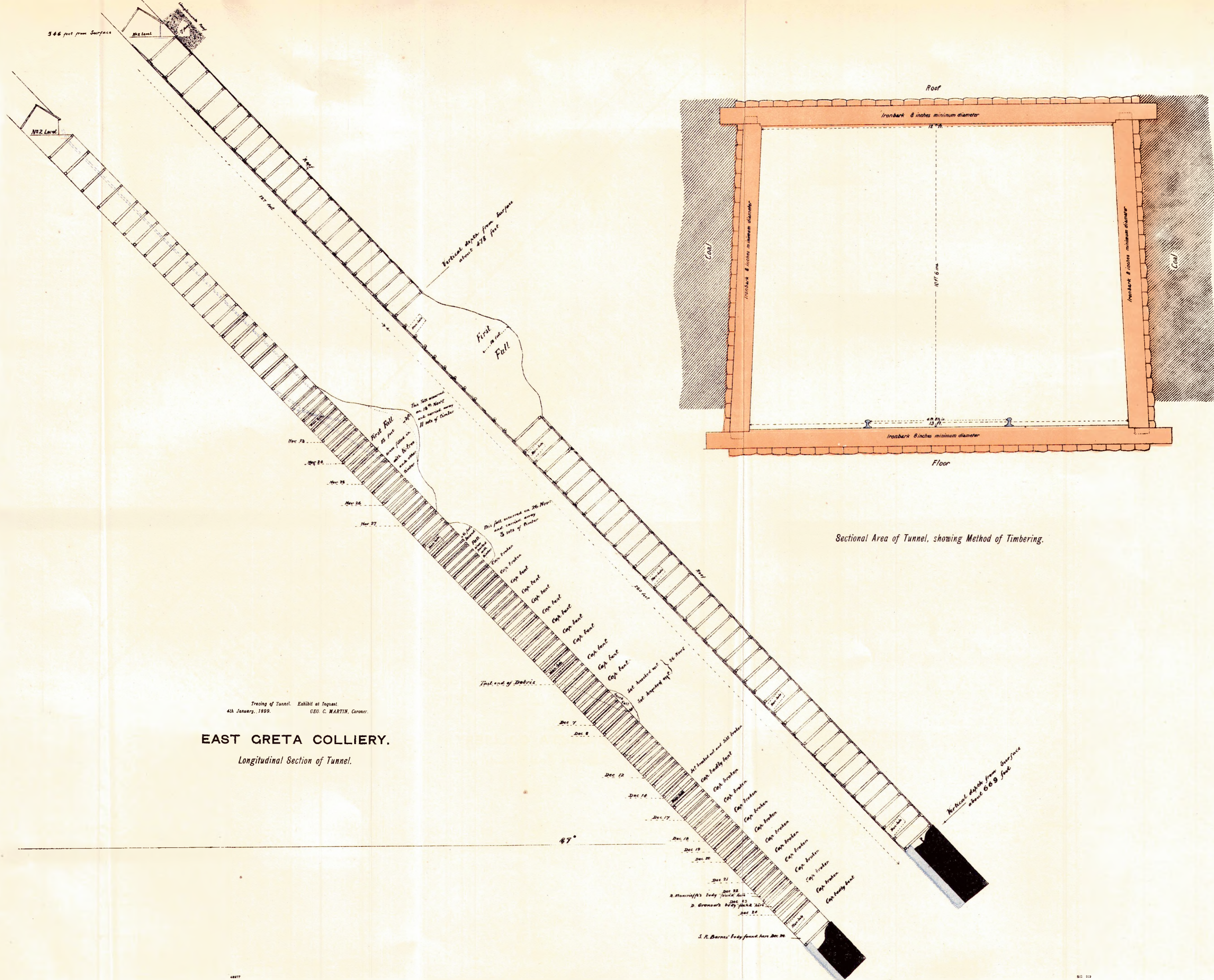


Copied from tracing furnished by Mr. A. Thomas, M.E., Colliery Manager, for  
Record—per Mr. Inspector Bates, F.G.S., December 19th, 1898.  
HERBERT WINCHESTER,  
Coal-fields Office, Newcastle, 21/12/98.

Appendix III.

Photo-lithographed by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.

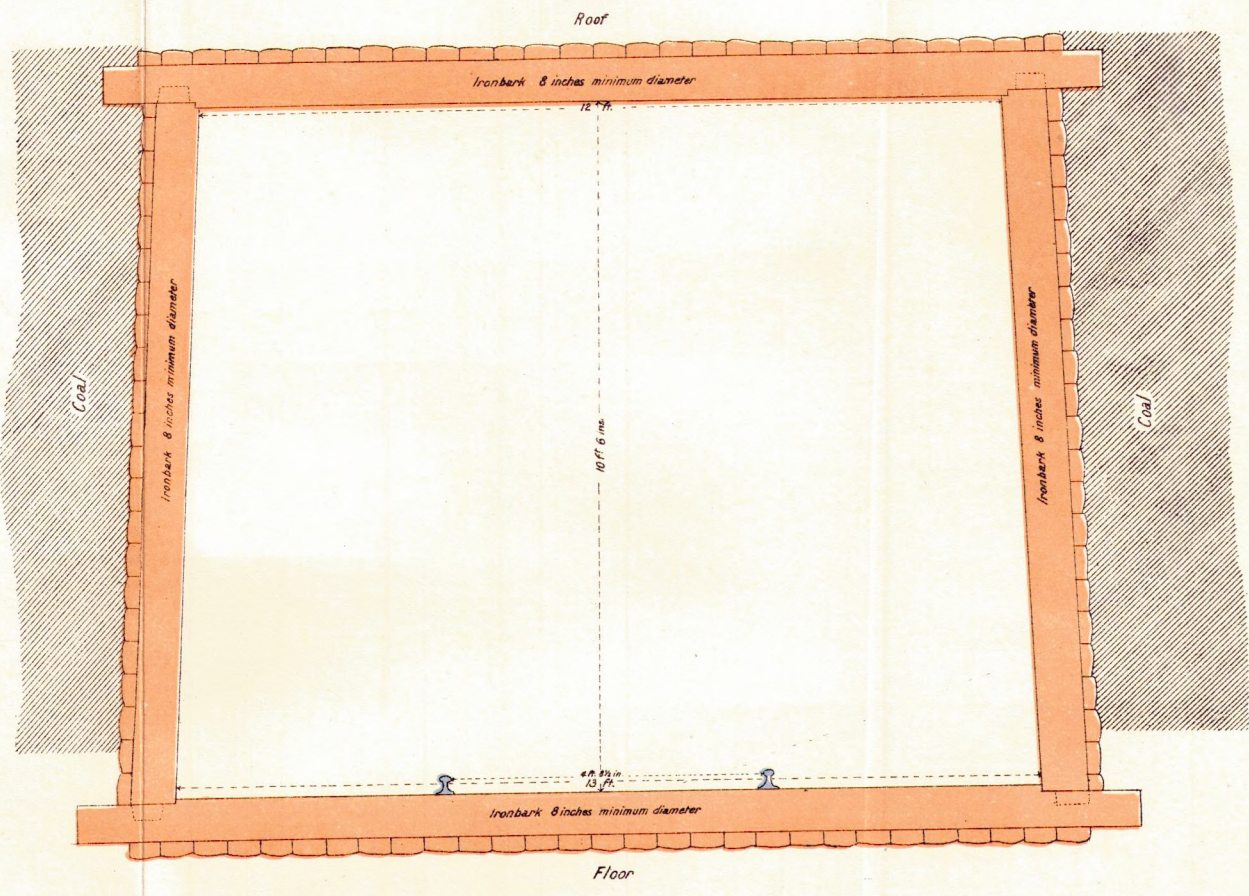
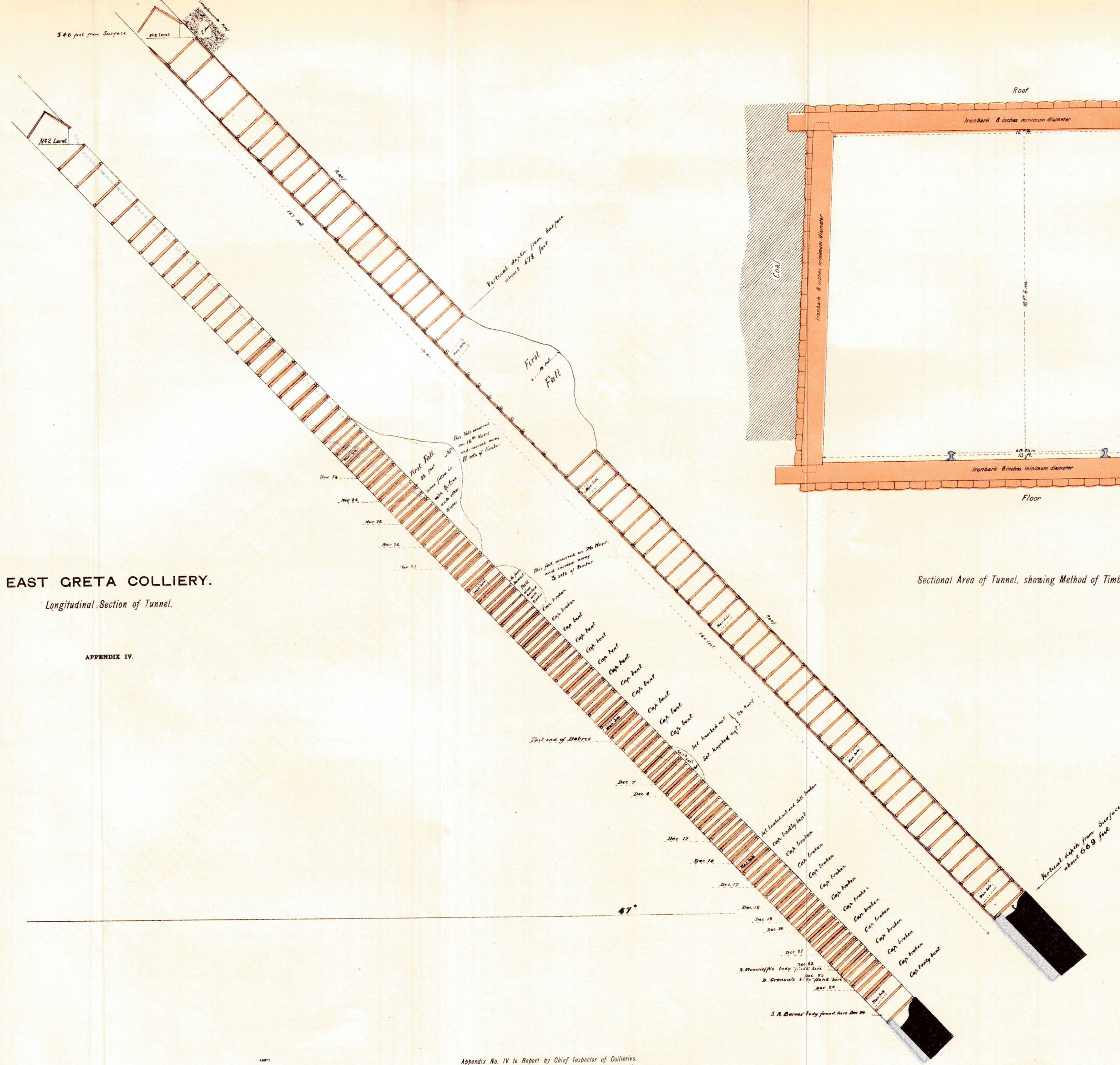




Tracing of Tunnel. Exhibit at Inquest.  
 4th January, 1899. GEO. C. MARTIN, Coroner.  
**EAST GRETA COLLIERY.**  
 Longitudinal Section of Tunnel.

Sectional Area of Tunnel, showing Method of Timbering.





**EAST GRETA COLLIERY.**  
Longitudinal Section of Tunnel.

Sectional Area of Tunnel, showing Method of Timbering.

APPENDIX IV.

Appendix No. IV to Report by Chief Inspector of Collieries, dated 17th February, 1889, to Hon. Joseph Cook, on the causes and circumstances of the Accident which occurred at the East Greta Colliery on 16th November, 1888.

Photo-lithographed by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

**MINERAL LEASE AT MOUNT WINGEN, HELD BY  
MR. E. S. MARKS.**  
(RETURN RESPECTING.)

*Printed under No. 9 Report from Printing Committee, 8 November, 1899.*

[Laid upon the Table in accordance with promise given in answer to Question No. 7, Votes No. 31,  
24 October, 1899.]

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**No. 1.**

Mr. C. J. Muston to The Under Secretary for Mines and Agriculture.

Sir,

25, Victoria Arcade, Sydney, 21 November, 1898.

I have the honor to report that the labour and other conditions under which Mr. E. S. Marks holds a mineral lease, M.L. 8,531, pns. 110 and 111, parish of Wingen, county of Brisbane, 40 acres, have not been complied with, and request that the said lease may be declared forfeited.

I have, &amp;c.,

C. J. MUSTON.

Acknowledged.

Acknowledged. Particulars of lease.—M.L. 8,531, E. S. Marks, of Bligh-street, Sydney, portions 110 & 111, parish Wingen, 40 acres; delivered 21/7/98; work to commence, 21/7/98; two men to be employed first three years, and four remainder.—F. H. C. BROWNLOW, Senior Clerk, Registrar's Branch, 24/11/98.

Call upon the lessee to show cause, and inform Mr. Muston.—E. H. RAY, Registrar, 26/11/98. Lessee called upon by registered letter. C. J. Muston and Warden at Scone informed, 28/11/98. Noted.

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No. 2.

Mr. G. N. Marks to The Under Secretary for Mines and Agriculture.

Sir, 35A, Bligh-street, Sydney, 6 December, 1898.

In answer to your letter (98-22,127 M.), I have the honor to inform you that on the same date as your notice I received enclosed receipt for £5 6s. in payment for work done on mineral lease No. 8,531. I beg also to state that five (5) tons of mineral products from the lease, to be tested as a soil fertiliser in England, have already been sent away; also that many large sample packages have been distributed amongst nurseries of New South Wales.

You will observe that I am doing all that I can to further the interests of this province in regard to agriculture by my before-mentioned actions. I wish to mention that so much of the condensed vaporous deposit can be obtained in a short space of time, and so peculiar to the nature of it, that the lease is not possible to be worked in the usual way now common to other mineral leases. Should the experiments turn out successfully, I can assure you that more than the ordinary labour conditions will be immediately fulfilled.

As this is perfectly *bonâ fide* business undertaking on my part, I trust you see your way to suspend, temporarily, any adverse action of the Department.

I have, &c.,  
GERALD N. MARKS.

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The Warden, Scone, for report.—E. H. RAY (for U.S.), B.C., 13/12/98.

Memo.—The Warden has had inquiry made, and has the honor to report that at present nothing further has been done to comply with the labour conditions on mineral lease 98-1, parish of Wingen, and that there is nothing on the land to indicate what work has been done. No doubt, as stated by Mr. Marks, stuff has been taken from the land from time to time, it is presumed from the surface, for the purpose of being tested. Perhaps, as the lessee has expended some money for survey, &c., the Minister may see his way to grant some time longer to allow for the minerals being tested as to its value.—GEO. R. EVANS, P.M., Warden, Scone, 19/12/98. The Secretary for Mines, &c., Sydney. Records, 22 Dec., '98.

M.L. 8,531.—Under the circumstances, and in view of the fact that the lease was only delivered in July last, the lessee might be allowed one month to put on full labour; failing this, the land should be cancelled.—EDGAR H. RAY, 29/12/98.

For approval.—D. C. McLACHLAN, Under Secretary, 29/12/98. Approved.—J. COOK, Minister for Mines, 29/12/98. E. S. Marks, c/o G. N. Marks, informed. C. J. Muston and Warden informed, 30/12/98.

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[Enclosure.]

Dear Sir,

I beg to acknowledge cheque for £5 6s. in payment of four cases ore sent from Mount Wingen by me. Excuse delay, as illness prevented me from writing sooner.

The Range, Wingen, 28/11/98.

I remain, &c.,  
TOM S. WALSH.

Mr. E. S. Marks.

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No. 3.

Mr. Warden Evans to The Under Secretary for Mines and Agriculture.

Mineral Lease 8,531.

SEE papers herewith.—Mr. Warden Evans, for report as to whether full labour is now employed.—W. H. TUNKS (for Under Secretary), B.C., 30/1/99.

Scone, 24 February, 1899.

MEMO.—The Warden has the honor to report that the full complement of men, viz., two, were put on to work on mineral lease No. 8,531, parish Wingen, on the 30th of last month, and are still working there.

GEO. R. EVANS, P.M.,

The Under Secretary for Mines and Agriculture, Sydney.

Warden.

M.L. 8,531.—Under the circumstances, the complaint may be disallowed. As a matter of fact, this is hardly land that should be held as a minning lease, the product is being tested as a soil fertiliser, and, I understand, for some medicinal purposes. Any other person taking up the land for mining purposes would experience the same difficulty in continually employing full labour.—EDGAR H. RAY, 25/2/99.

For approval.—D. C. McLACHLAN, Under Secretary, 25/2/99. Approved.—J. COOK, Minister for Mines, 27/2/99. E. S. Marks, C. J. Muston, and Warden informed, 28/2/99. Noted.

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No. 4.

Mr. C. J. Muston to The Under Secretary for Mines and Agriculture.

Department of Mines, Inquiry Branch, 22 February, 1899.

NOTIFICATION of alteration address.—C. J. Muston, 5 and 6, Victoria Arcade, Elizabeth-street, Sydney.

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Records put with Papers No. 98/23,275.—F. H. C. BROWNLOW.

No. 5.

## No. 5.

Mr. E. S. Marks to The Under Secretary for Mines and Agriculture.

Dear Sir, 8 and 9, Post-office Chambers, Pitt-street, Sydney, 10 April, 1899.

Referring to the interviews Mr. B. F. Marks had with your Department, respecting mineral lease No. 8,531, of 40 acres, situated in the parish of Wingen, county of Brisbane, and Mining District of Peel and Uralla, I desire to state that this area was leased for the purpose of investigating the medical properties of the loam, said to be effective for destroying insect-life, and also a remedy for diseases in plants, vegetables, &c.

For this purpose the quantity of loam required is nominal, and one or two men can produce sufficient in a few days to meet the demand for six or twelve months, consequently I find it impossible to fulfil the labour conditions imposed on the said lease, and I therefore desire to surrender this lease, No. 8,531, and have this day written to the Under Secretary, Department of Lands, to grant me a special lease in place of same.

Trusting you will give this matter your prompt attention.

I have, &c.,  
E. SEABORN MARKS.

## No. 6.

Mr. W. C. Muston to The Under Secretary for Mines and Agriculture.

Dear Sir, 5 and 6, Victoria Arcade, First floor, Elizabeth-street entrance, Sydney, 12 July, 1899.

I respectfully beg to again report the holder of mineral lease No. 8,531, portions 110 and 111, parish of Wingen, county of Brisbane, for non-fulfilment of the labour conditions.

Yours, &c.,  
W. C. MUSTON.

Particulars of lease:—M.L. 8,531; E. S. Marks, of Bligh-street, Sydney, for portions 110 and 111, parish Wingen; area, 40 acres; delivered 31/8/98; work to commence, 21/7/98; two men to be employed for first three years, and four remainder.—F. H. C. BROWNLOW, Senior Clerk, Registrar's Branch, 14/7/99.

## No. 7.

R. A. Price, Esq., M.P., to The Secretary for Mines and Agriculture.

Dear Sir, 29 July, 1899.

Re Mr. Muston's complaint that the labour conditions had not been performed in connection with the property taken up by Marks and party near Scone, I shall be pleased if Muston's case is considered by you specially.

Yours, &c.,  
R. A. PRICE.

U.S. for report.—J. Cook, Secretary for Mines, 29/8/99. I understand that Mr. Marks has made an application to the Lands Department for a special lease of this ground. Please ascertain what is being done by that Department?—E. H. RAY, 7/8/99.

Mr. Marks, the lessee, applied for permission to surrender this lease in April last, and at the same time I understand he applied to the Lands Department for a special lease of the ground; the minerals to be mined for are sulphur, alum, and iron, on the Burning Mountain, Wingen, and are used for medicinal purposes. Mr. Marks informed me that he could get out enough in two weeks to last him for twelve months. Under the circumstances I hardly think it worth while calling upon the lessee to show cause, but recommend that the papers be referred to the Lands Department, with a view to ascertaining what action is being taken on the application for special lease. If approved, Mr. Price, M.P., and Muston may be informed.—E. H. RAY, 15/8/99.

Better in the first place to call upon lessee to show cause.—D. C. McLACHLAN, Under Secretary, 15/8/99. E. S. Marks called upon by regd. letter; Warden at Scone informed; R. A. Price, M.P., informed; and W. C. Muston informed, 17/8/99. Noted. Is it intended to inform Mr. Price and Mr. Muston that lessee has been called upon to show cause? Mr. Ray.—A. FRY, Correspondence Clerk. Yes, please.—E. H. RAY. R. A. Price, M.P., and W. C. Muston informed, 17/8/99.

## No. 8.

Mr. E. S. Marks to The Under Secretary for Mines and Agriculture.

Dear Sir, 8 and 9, Post-office Chambers, Pitt-street, Sydney, 21 August, 1899.

I beg to acknowledge receipt of notice from your Department dated 17th August, calling upon me to show cause within thirty days why mineral lease No. 8,531, portions 110 and 111, parish of Wingen, should not be cancelled, for non-fulfilment of labour conditions.

In reply, I respectfully desire to call your attention to my letter of 10th April last, duplicate of which I enclose, and as this communication was written at the request of your Department, and understanding at the time when I had lodged my application for a special lease that there was no need for fulfilment of labour conditions, and having made application to the Lands Department for a special lease in place of mineral lease referred to, and as I am now in possession of a notice to appear before the Local Land Board at Scone, on the 29th instant, with respect to my application, I therefore trust you will see your way clear not to proceed any further in the matter.

I have, &c.,  
E. SEABORN MARKS  
(per B.F.M.).

Submitted



Submitted that this matter be allowed to stand over until action by the Land Board on the application for special lease is complete ; if the lease were cancelled, Mr. Muston, the complainant, would be in the same position as the present holders.—E. H. RAY, 28/8/99.

For approval.—D. C. McLACHLAN, Under Secretary, 28/8/99. Approved.—J. COOK, Minister for Mines, 29/8/99.

[Enclosure.]

Dear Sir,

8 and 9, Post-office Chambers, Pitt-street, Sydney, 10 April, 1899.

Referring to the interviews Mr. B. F. Marks had with your Department, respecting mineral lease No. 8,531, of 40 acres, situated in the parish of Wingen, county of Brisbane, and Mining District of Peel and Uralla, I desire to state that this area was leased for the purpose of investigating the medical properties of the loam, said to be effective for destroying insect-life, and also a remedy for diseases in plants, vegetables, &c.

For this purpose the quantity of loam required is nominal, and one or two men can produce sufficient in a few days to meet the demand for six or twelve months ; consequently, I find it impossible to fulfil the labour conditions imposed on the said lease ; and I therefore desire to surrender this lease, No. 8,531, and have this day written to the Under Secretary, Department of Lands, to grant me a special lease in place of same.

Trusting you will give this matter your prompt attention.  
D. C. McLachlan, Esq., Under Secretary, Department of Mines.

I have, &c.,  
E. SEABORN MARKS.

#### No. 9.

Mr. W. C. Muston to The Under Secretary for Mines and Agriculture.

5 and 6, Victoria Arcade (1st floor), Elizabeth-street,  
Sydney, 22 September, 1899.

Sir,

*Re* "my complaint for non-fulfilment of labour conditions on lease No. 8,531, portions 110, 111, parish of Wingen, county of Brisbane," it has accidentally come under my notice that the holder of the said lease has applied to the Lands Department for a lease, under the Lands Act, of 100 acres, including the same ; and I would respectfully bring under your notice that this has been done to evade the conditions under which he holds the lease under your Department, and on account of my complaint that he was not fulfilling same, and, if granted, would lock up valuable mineral property.

I therefore trust that when the matter comes under the consideration of your Department you will bear this fact in mind, and give my position due consideration.

I have on two occasions lodged complaints for the non-fulfilment of labour conditions, and am prepared to take up the said lease and carry out the labour and other conditions.

It appears to me very unfair that the lessee should be allowed to apply for a special lease under the Lands Act while holding a mineral lease under your Department, especially in the face of a complaint lodged for the non-fulfilment of the conditions of same.

I may add that I have lodged an objection with the Lands Department to his obtaining a lease under their Act.

Under any condition I should be glad to know whether a special lease in the Lands Department would take priority over an application for a lease under the 23th section of the Mining Act.

I have, &c.,  
W. C. MUSTON.

#### No. 10.

Minute for The Secretary for Mines and Agriculture.

*Subject* :—Mineral Lease 8,531.—E. S. Marks.

Registrar—Department of Mines.

THIS lease was reported for non-observance of the labour conditions by W. C. Muston in November last year. After the usual inquiry, the complaint was disallowed in February, the Warden having reported that the necessary labour was employed.

In April last Mr. Marks applied for permission to surrender the lease on the grounds that it was impossible to profitably employ the necessary labour all the year round. The minerals to be mined for are sulphur, alum, and iron, and are, I understand, used for medicinal purposes. Mr. Marks has applied to the Lands Department for a special lease, including the land now held by him under mineral lease.

In his letter herewith, dated 22nd September, Mr. Muston states that he is prepared to hold the land as a mineral lease, and carry out the labour conditions. He has also notified the Lands Department that he objects to the land being granted as a special lease. Mr. Muston explained to me, at a personal interview, that he had the means of utilising the minerals from the Burning Mountain unknown to any other person in the Colony.

As there are points about this case which render it somewhat difficult to deal with, I would recommend that the papers be referred to the Government Geologist, with a view of ascertaining whether the minerals in question are such as can be mined for under our Act, and whether Mr. Marks should be allowed to secure this land under special lease from the Lands Department. In the meantime the Department of Lands should be asked to stay action on Mr. Marks' application for a special lease.

EDGAR H. RAY, Registrar,  
25/9/99.

For approval.—D. C. McLACHLAN, Under Secretary, 25/9/99. Approved.—J. L. FEGAN, Minister for Mines, 26/9/99. Lands Department asked to stay action on Mr. Marks' application for a special lease, 27/9/99. As Professor David has examined the Burning Mountain at Wingen rather recently, I shall be obliged if he will give the Department the benefit of his opinion on the question at issue.—E. F. PITTMAN, Government Geologist, 30/9/99.

Having geologically examined this ground near Wingen, I can state that the occurrence of the mineral material in it (sulphur, sulphate of iron, &c.) is extremely limited, being confined to very narrow cracks in the sandstone formation overlying the burning Greta coal seam below. As the coal burns away the sandstone roof subsides and cracks, and the sulphur, &c., is deposited in these cracks. The market, too, for this material must be extremely limited. I am of opinion that it would not pay anyone to hold the ground

ground as a mineral lease, and consider that under the circumstances a special lease under the Land Act would be the fairer form of tenure.—T. W. E. DAVID, Professor of Geology, Sydney University, 30/9/99. The Government Geologist, 30/9/99.

I concur in Professor David's opinion. The substance which is being collected is really a sublimation from the burning coal, and it accumulates in small quantity in the cracks or joints of the rocks. I believe it is locally termed "Wingen," and is manufactured into an ointment which is used for healing purposes. It is not likely, therefore, that there could be a very large output for it, and the enforcement of the labour conditions attached to an ordinary mineral lease would appear to be inequitable in such a case; therefore such a tenure appears to be unsuitable.—E. F. PITTMAN, Government Geologist, 30/9/99. The Under Secretary.

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### No. 11.

#### Decision to allow Special Lease Application.

UNDER these reports I think the special lease under the Land Act should be allowed to go on.

D.C. McL., Under Secretary,  
3/10/99.

Approved.—J. L. FEGAN, Secretary for Mines, 3/10/99. See Lands Department and ask them to hold the special lease application for a day or two.—E. H. RAY, 5/10/99. Urgent. Mr. Muston called and asserted that he was in a position to put on the labour and keep it employed continuously.—E. H. RAY, 10/10/99. Ask the Lands Department to stay further action in the special lease application until a decision has been arrived at in connection with the mineral lease.—E. H. RAY, 11/10/99. Lands asked to stay further action, 12/10/99.

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### No. 12.

#### Mr. W. C. Muston to The Under Secretary for Mines and Agriculture.

Re "Mineral Lease No. 8,531," portions 110, 111, parish of Wingen, county of Brisbane, comprising 40 acres.

5 and 6, Victoria Arcade (1st floor), Elizabeth-street,

Sir,

Sydney, 11 October, 1899.

With regard to my conversation with you and your officers in the above matter, I beg to state that I am prepared to find bonds to the extent of £200, for two years, that in the event of my obtaining a mineral lease of the above property I will carry out the labour conditions attached to same.

I am agreeable that the present lessee receive fourteen days' notice to put on labour and carry out the labour conditions of the said lease, on condition that should he fail to do so at any time the said lease will be transferred to me.

I have, &c.,

W. C. MUSTON.

Register and send to me, please.—E. H. RAY, 12/10/99. Acknowledged.

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### No. 13.

#### Minute.

THE present lessee may be informed that it has been represented that the labour conditions prescribed under the mineral lease regulations can be continuously and profitably carried out on this land, and that consequently this Department must object to any other tenure over it than that of a mineral lease, and that unless the labour conditions are fully complied with within fourteen days the lease will be cancelled.

D. C. McLACHLAN,

Under Secretary,

13/10/99.

Approved.—J. L. FEGAN, Secretary for Mines, 13/10/99. E. S. Marks informed as directed above, 14/10/99. Records. End of fourteen days. Noted.

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### No. 14.

#### Mr. E. S. Marks to The Secretary for Mines and Agriculture.

Sir,

8 and 9, Post-office Chambers, Pitt-street, Sydney, 20 October, 1899.

I have the honor to bring under your notice particulars with respect to the mineral lease No. 8,531, of 40 acres, situated at Mount Wingen, near Scone, for which I have received notice of intended cancellation for non-fulfilment of labour conditions.

A notification was given by me in writing to the Mines Department on 10th April last to cancel this lease, as I intended applying for a special lease under the Lands Act (which application has been granted), and I respectfully request that the Mines Department should be instructed to take no other action in the matter than was requested by me in my letter of 10th April last.

I desire to state Mr. John Bennett purchased the right to this lease from the original lessee, Mrs. Bailey, about four years ago, for the sum of £300, and, desiring co-operation, he arranged with me last year to apply for a lease, as the property was originally held under a mineral license.

This lease was granted, and the labour conditions duly complied with. The chemical deposit on this lease was hitherto used for medicinal purposes, and one man could procure sufficient of the material in one day for one year's requirements.

I recently discovered that the material contained chemical properties that would destroy insect-life in plants and trees without injury to the latter, and I have gone to considerable expense in introducing the material to the notice of agriculturists, and have forwarded bulk samples to the Agricultural College at Richmond, Carpenterian Reformatory, Atkin's Nursery, Mr. H. W. Potts, the Victorian Government Agricultural

Agricultural Expert, and many others, and have forwarded bulk samples to England and America for exhaustive tests, for the purpose of proving the best form for preparing the material for every-day use, and as soon as the point is satisfactorily settled, it was intended to erect a large plant and to employ the necessary scientific and other labour for working the deposit.

As it appeared that the working of the deposit must be erratic for the present, it was recommended that the mineral lease should be cancelled, and a special lease applied for under the Lands Act, and the application for this lease was granted by the Local Land Board of Scone on 29th August last, after an exhaustive inquiry. Some parties have taken, without permission or payment, quantities of the material for making medicinal preparations, and claim that they are the discoverers of its chemical value, whereas medicinal preparations have been made by Mr. A. J. Watt and others for many years past, under arrangement with Mr. John Bennett and the previous owners.

The property was lying idle for some years until I applied for a lease, during which time the material was being removed by other parties without license or payment to the Government. Since the issue of this lease attempts have been made to get it cancelled even while the lessee was fulfilling the labour conditions. In the month of August notice was received from the Mines Department that an objection had been lodged in consequence of the non-fulfilment of labour conditions, when the following extract of a letter dated 21st August was forwarded by me to the Under Secretary for Mines:—"I respectfully desire to call your attention to my letter of 10th April last, duplicate of which I enclose, and as this communication was written at the request of your Department, and understanding at the time when I had lodged my application for a special lease that there was no need for fulfilment of labour conditions, and having made application to the Lands Department for a special lease in place of the mineral lease referred to, and as I am now in possession of a notice to appear before the Local Board at Scone on 29th instant with respect to my application, I therefore trust you will see your way clear not to proceed any further in the matter."

After a lapse of nearly two months, the Mines Department notified that unless the labour conditions are fully complied with within fourteen days the lease will be cancelled, which notification is most extraordinary, as the position is in no way altered, and the Department were fully aware by my letter of 21st August that I was incurring considerable expense attending the Land Court at Scone.

With respect to obtaining a special lease, of which they were duly advised by letter from me on 10th April instant, in this letter I advised my desire and intention to cancel the mineral lease, and the receipt of which letter was duly acknowledged. I understood from the Mines Department that on application for the special lease from the Lands Department there was no further need to comply with any labour conditions, and then only was labour suspended for the time being, and now that a special lease has been granted by the Local Land Board with the knowledge and without objection of the Mines Department, I trust that you will consent to the cancellation of the mineral lease so that I may obtain the special lease on the area, which I understood would be permitted if the Land Board granted my application for a special lease.

I would mention that the object of transferring the lease from the Mines to the Lands Department is to obtain a title to the lease and prevent being continually harassed in our operations and endeavours to bring the business in hand to a successful issue, and it is important to note that we have asked for no concession from the Government, and we have agreed to pay the same rental to the Lands Department as we have paid to the Mines Department.

I have incurred considerable expense not only in payment of rental to the Government and for labour employed, but also in bringing the material under the notice of agriculturists and in making tests as to its value for destroying insect-life with prospects of success, in which case it should prove a boon not only to this Colony, but to agriculturists in all parts of the world. It is now sought to interfere with my rights and the conduct of the important business I have in hand, which would be a great injustice if permitted, as my efforts and intentions are strictly *bonâ-fide*, and my enterprise in the matter will, I trust, be found to merit your favourable consideration.

I have, &c.,

E. SEABORN MARKS  
(per D.M.).

## No. 15.

### *Resumé* of Case.

Mineral Lease No. 8,531.—E. S. Marks.

MR. E. S. MARKS is the lessee of mineral lease 8,531, for portions 110 and 111, parish of Wingen (the Burning Mountain), to mine for sulphur, alum, and iron, and the labour conditions require two men to be employed.

In November, 1898, C. J. Muston reported this lease for non-compliance with the labour conditions. After due inquiry, the complaint was disallowed, the Warden having reported that the necessary labour was employed.

In April, 1899, Mr. E. S. Marks asked to be allowed to surrender his mineral lease, and stated that he had applied to the Lands Department for a special lease including the same area. The reasons given for this action were, that the mineral lease was held for the purpose of investigating the medical properties of the loam, and its effects in destroying insect pests on plants, &c., and that one or two men could produce a sufficient quantity of the material in a few days to satisfy the demand for six or twelve months, and consequently he found it impossible to fulfil the conditions of the mineral lease.

In July, 1899, this lease was reported by Mr. W. C. Muston, supported by Mr. R. A. Price, M.P., and the lessee was called upon, on 17th August, 1899, to show cause why the lease should not be cancelled for non-compliance with the labour conditions.

On 21st August the lessee replied that as he had lodged an application for a special lease under the Lands Act, and notified this Department of his action, he understood that there was no necessity to comply with the labour conditions of the mineral lease, and asked that the matter be not further proceeded with pending decision of Local Land Board on his special lease application. The Minister approved, on 29th August, 1899, of the complaint standing over until action on the application for special lease was complete.

In September, 1899, Mr. Muston wrote, protesting against the granting of the special lease application, on the ground that valuable mineral land would be locked up, and urging that his complaint should be entertained and the mineral lease cancelled.

The Minister approved of the Government Geologist being asked to state whether the minerals contained in the area in question are such as can be mined for under the Mining Acts, and whether Mr. Marks should be allowed to secure the land under special lease from the Lands Department.

The Government Geologist asked Professor David, who had recently examined the Burning Mountain, Wingen, for an expression of opinion.

Professor David stated that the occurrence of the mineral material (sulphur, sulphate of iron, &c.) is extremely limited, being confined to very narrow cracks in the sandstone formations overlying the burning Greta coal seam below. In his opinion the market for this material must be very limited, and it would not pay anyone to hold the ground as a mineral lease, and that a special lease under the Lands Act would be the fairer form of tenure.

The Government Geologist concurred in the opinion expressed by Professor David. Mr. Pittman states that the substance which is being collected is locally called "Wingen," and is manufactured into an ointment which is used for healing purposes, and it is not likely, therefore, that there could be a very large output for it, and the enforcement of the labour conditions attached to an ordinary mineral lease would appear to be inequitable and the tenure unsuitable.

In view of these reports, the Minister decided (3rd October, 1899) to allow the special lease under the Lands Act to go on.

Mr. Muston subsequently called at the Department and asserted that he was in a position to put the labour on and work the mineral lease profitably and continuously, if he could secure possession. The Lands Department was accordingly asked to stay action on the special lease.

Mr. Muston, under letter dated 17th October, 1899, stated that he is prepared to find bonds to the extent of £200, for two years, that he would carry out the labour conditions imposed under the mineral lease. He further expressed his willingness to the lessee being given fourteen days' notice to put full labour on, provided the lease was cancelled if work was not resumed within that time.

In view of the representations made by Mr. Muston the lessee was informed (14th October, 1899) that this Department objects to the area in question being held under any tenure other than a mineral lease, and that if the labour conditions were not fully complied with within fourteen days the lease would be cancelled.

The lessee, in reply, strongly urges that he be allowed to surrender his mineral lease and secure the area under special lease from the Lands Department. He points out that the application for the special lease was made with the knowledge, and without objection, by the Department. He further states that the property was lying idle for some years, until he applied for a lease, during which time the material was being removed by other parties without license or payment. It is alleged that every effort is being made to prove the best form for preparing the material for every-day use, when it is intended to erect a large plant and employ the necessary scientific and other labour for working the deposit, and until this point is settled work on the lease must be erratic.

On inquiry at the Lands Department it has been ascertained that, subject to the determination of the mineral lease, the Local Land Board has recommended that an area of 66 acres be granted as a special lease to E. S. Marks for the purpose of "removing loam" at a rent of 4s. per acre per annum (£13 4s.). It will be noticed that this is an area of 26 acres in excess of that held as a mineral lease, and that the rent to the Crown represents an additional sum of £5 4s. per annum.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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## MINE AT BRINDABELLA, OWNED BY THE BANK OF NORTH QUEENSLAND.

(PETITION FROM WILLIAM REID, OF BRINDABELLA, PRAYING THAT HE MAY BE REPRESENTED BY COUNSEL OR ATTORNEY, OR IN PERSON, BEFORE THE SAID COMMITTEE, WITH THE RIGHT TO CALL WITNESSES, AND EXAMINE AND CROSS-EXAMINE ALL WITNESSES THAT MAY GIVE EVIDENCE BEFORE SUCH COMMITTEE.)

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*Received by the Legislative Assembly, 30 November, 1899.*

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To the Honorable the Speaker and Members of the Legislative Assembly of New South Wales, in  
Parliament assembled.

The Petition of William Reid, of Brindabella, in the Colony of New South Wales,—

HUMBLY SHOWETH :—

1. That on the twenty-first day of November, in the year of our Lord one thousand eight hundred and ninety-nine, your Honorable House appointed a Select Committee to inquire into and report upon the alleged mal-administration of Warden Maitland.

2. That your Petitioner humbly prays that he may be represented by counsel or attorney, or in person, before the Select Committee appointed to inquire into and report upon the said matter, with the right to call witnesses and adduce evidence, and to examine and cross-examine such witnesses as may give evidence before the Select Committee.

And your Petitioner, as in duty bound, will ever pray.

WILLIAM REID.

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1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## GOVERNMENT METALLURGICAL WORKS, CLYDE.

(RETURN RESPECTING.)

*Printed under No. 15 Report from Printing Committee, 21 December, 1899.*

RETURN to an *Order* made by the Honorable the Legislative Assembly of New South Wales, dated 12th December, 1899, That there be laid upon the Table of the House,—

“A Report made by the Board, appointed by the late Government, with  
“respect to the Government Metallurgical Works, Clyde.”

*(Mr. Nobbs.)*

## SCHEDULE.

NO.		PAGE.
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## No. 1.

Minute approving of appointment of Messrs. Power and Charleston as a Board to inquire into the working of the Government Metallurgical Works.

Department of Mines and Agriculture, Sydney, 10 May, 1899.

So much comment has been made from time to time as to the effectiveness of these works that it is desirable an independent report on the whole subject should be obtained. The object of the establishment and the scope of these works have, I believe, been misunderstood, and it is desirable, therefore, that a comprehensive report on the whole matter should be laid before the public. Until this is done the misunderstanding will go on, and the complaints will continue as in the past. I have given much consideration to the matter, and think that, to secure a thoroughly satisfactory report, it is desirable two gentlemen should be appointed, one to deal with the metallurgical and scientific aspect of the question, and the other the practical.

I have endeavoured to submit the names of competent gentlemen, unconnected with similar private works, to make a report of the kind indicated. After considering a number of names, I have arrived at the conclusion that Mr. Frederick Danvers Power would satisfactorily carry out the professional or scientific side of the question, and Mr. J. K. Charleston, of Sunny Corner, the working or practical part. Both are gentlemen of recognised ability in their special lines. The former is a mining engineer, metallurgist, and surveyor, late President of the Institute of Australian Mining Engineers, member of the American Institute of Mining Engineers; Life Fellow of the Royal Geographical Society; Member of the Amalgamated Mining Engineers' Association of Australasia (Ballarat Branch); late Examiner in Mining at the University of Melbourne; and besides is the author of a work on Mining and Metallurgy. He is also a Life Member of the Institute of Mining and Metallurgy of London.

380—

[580 copies—Approximate Cost of Printing (labour and material), £10 0s. 0d.]

Mr.

Mr. Charleston has been long connected with the practical part of mining, and would make an excellent associate with Mr. Danvers Power in thoroughly inquiring into the question.

I have consulted Mr. Power and Mr. Charleston, and they are willing to undertake the work on the payment of a fee of twenty-five guineas each. This I consider reasonable.

If the Minister see fit to have the works reported upon in the way proposed, these gentlemen will be instructed to thoroughly inquire into all the operations of the works since they started, and deal with the objections that have been raised by Members of Parliament and others. They will be given a free hand in every way; all documents will be placed at their disposal, and they will be at liberty to obtain information or evidence from any source they choose. In addition to reporting upon the works as they stand, they should be asked to say whether they are in any way defective, and whether they can suggest any direction in which they may be made more effective and useful to the mining community.

D. C. McLACHLAN,

Under Secretary.

Approved: Ask them to get to work at once.—J. Cook, Secretary for Mines, 11/5/99.

## No. 2.

### Copy of Instructions issued to Messrs. Power and Charleston as to scope of Inquiry, &c.

New South Wales, Department of Mines and Agriculture,

Sir,

Sydney, 16 May, 1899.

I am directed by the Secretary for Mines and Agriculture to inform you that it has been decided to obtain a joint report as to the nature of the appliances in use at the Government Metallurgical Works at Clyde, and particularly as to their efficiency in saving the precious and other metals contained in the ores sent there for treatment, and that Mr. Secretary Cook has selected your name, with that of Mr. F. Danvers Power, to make the report.

With that object in view, he desires that you will report as to the scope of the works, and as to whether they satisfactorily accomplish the objects for which they were established.

At different times they have been subjected to considerable criticism, and it is his wish that you should look into the defects which it is alleged exist, and report whether in your opinion there are any just grounds for the complaints of inefficiency and delays in treatment that have been made. To enable you to do this all papers in the possession of this Department will be placed at your disposal, and it is Mr. Cook's wish that you shall have the fullest liberty in making the inquiry and arriving at your conclusions.

In addition to reporting upon the works as they stand, he desires that you will point out any way in which they are defective or wanting in sufficient appliances, and also say whether there is any direction in which you consider the works can be made more effective or useful to the mining community.

I may point out that the works are not designed to treat ores in what may be termed a commercial way, but were established for experimental work in the concentration of ore and its treatment by the various methods which exist other than that of smelting. The primary objects of the establishment of the works were,—

- (1st.) To prove the economic value of ores.
- (2nd.) To ascertain the best methods of extracting the metal from the ore, or of reducing the ore to a marketable commodity.
- (3rd.) To demonstrate the methods by which the by-products can be profitably saved; and,
- (4th.) To impart the fullest information to mine-owners and others in the several methods of treating the various kinds of ore, so that—
  - (a) Owners of mines might be saved wasteful expenditure of capital in the construction of unsuitable works or the purchase of inefficient appliances.
  - (b) That valuable mines might not be abandoned as worthless through lack of the knowledge of the methods requisite to develop and extract their wealth.
  - (c) To afford working miners the fullest information, at reasonable cost, of the composition of their ores, and the best and readiest means of treating them; and,
  - (d) To give inventors of new methods and appliances which might be deemed worthy of trial an impartial test of the value of their inventions.

The Minister further desires that you shall specially look into and report upon the several comments made by Mr. Hurley and other Members of Parliament, and state whether you consider there is any reasonable justification for the comments made. A full report of the Parliamentary proceedings will be duly placed before you.

Mr. Cook has decided that you shall be allowed a fee of twenty-five (25) guineas for this report, and should you require to visit any portion of the Colony during the course of the inquiry, the Department will furnish you with a free pass over the railways and defray any attendant expenses.

I am to add that a similar letter has been addressed to Mr. F. Danvers Powers, who is associated with you in making this report.

I have, &c.,

D. C. McLACHLAN,

Under Secretary.

J. K. Charleston, Esq., Sunny Corner.

(Duplicate of above letter sent to Mr. F. Danvers Power.)

## No. 3.

### Report of Messrs. Power and Charleston.

Sir,

68½, Pitt-street, Sydney, 16 June, 1899.

In accordance with your instructions, communicated to us by letter, dated the 16th May of this year, we have made an exhaustive inspection of the Government Metallurgical Works, at Clyde, and have also examined the papers in connection with them. We now beg to hand in the following report:—

On

*History.*

On the 2nd July, 1886, a deputation waited on the Hon. Jas. Fletcher, the then Minister for Mines, and proposed that the Government should erect smelting, roasting, and refining furnaces near Sydney for the purposes of treating about 100 tons of argentiferous lead and copper ores per diem, the plant to be eventually extended so as to embrace the treatment of antimonial, stanniferous, and other ores. It was stated that such works, run as a national institution, could be made self-supporting by saving home expenses; besides this, it would be a suitable place where students could learn practical metallurgy, and that the works would be availed of by small mine-owners who could not afford to put up works of their own. The deputation further remarked that "if test works only were erected they could not be made self-supporting, nor yet give material impetus to metalliferous mining."

The original idea and scope of the works, as outlined above, was not adopted, but on 11th May, 1888, while the Hon. F. Abigail was Minister for Mines, the Cabinet approved of the following objects:—

1. To prove the economic value of the ores.
2. To ascertain the best methods of extracting the metal from the ores, or of reducing the ore to a marketable commodity.
3. To demonstrate the methods by which the by-products can be profitably saved.
4. To impart the fullest information and practical instruction in the several methods of treating various kinds of ores.

So that—

1. Owners of mines may be saved from the wasteful expenditure of capital on the construction of unsuitable works, or the purchase of inefficient appliances.
2. That, so far as preventable, capital may not be invested in worthless mines.
3. That valuable mines may not be abandoned as worthless through lack of skill requisite to develop and extract their hidden wealth and
4. To afford inventors of new methods or appliances, which may be deemed worthy of trial, an impartial test of the value of their inventions.

Before starting the works, a Board, consisting of Messrs. J. Cosmo Newbery, T. W. Edgeworth David, A. Liversidge, A. Leibius, and Edward F. Pittman, was asked to advise on the matter. They submitted their report on the 27th August, 1892, to the Hon. T. M. Slattery, the Minister for Mines at that time, recommending that smelting works be not established, as—

1. The cost of treating each parcel separately would be too great.
2. The result would be of little economic value, as the necessary fluxes might not be in the neighbourhood of the mine.
3. The small experimental furnaces in use at certain Schools of Mines are purely for class instruction, and are unsuited for bulk samples.

There had been much wild talk about erecting works for the treatment of all kinds of ores, as at Swansea and Frieberg, by some who had never seen those places, or troubled to investigate the matter. The neighbourhood of Swansea has been selected by several companies and private individuals as suitable for metallurgical works, on account of being a convenient harbour and near a coal-field. At Frieberg and Clausthal the German Government own mines, and have erected works to treat their ores. The idea was not to usurp the business of private individuals, but to find employment for able-bodied men; for being surrounded by possible enemies, the Government desires to retain in the country as many of her trained soldiers as possible.

Both Welsh and German works purchase ores to blend together for economic purposes; these are purchased on assay, and those who sell are not informed of the treatment employed. In fact it would be little use if they were, as local circumstances at the mines are not likely to be similar to those at the works. In quoting Welsh and German works as models it must be noted that there is no one works in those countries where all kinds of ores are treated.

The avowed objects of the Government Works at Clyde was not to treat ore on a commercial scale, or to interfere with private enterprise; but to treat experimentally small parcels of ore in order to determine the best method of extracting their valuable contents, with a view to advising miners as to the best and most suitable plant to erect in connection with their mines.

From this it will be seen that it was not expected the works should pay their way directly; but that the benefit to the Colony for the outlay would be in the working of the mines that would otherwise be closed down, together with the stimulus to other industries more or less dependent on mining.

After due inquiry into the qualifications of several candidates, Mr. Jas. Taylor was recommended to the position of Government Metallurgist, and was engaged for a period of five years, dating from 11th February, 1893, on which day he arrived in Sydney. This time has since elapsed; but the services of Mr. Taylor have been retained.

According to the agreement made between the Agent-General, representing the Government of New South Wales, and Mr. Jas. Taylor, in connection with the latter's appointment as Government Metallurgist, the following were mentioned as included in his duties:—

1. The superintendence of the erection of the Metallurgical Works, and the direction and control of such works when erected.
2. The introduction, testing, and development of processes and methods for the treatment of metallic ores (especially auriferous and argentiferous), with a view to the economic recovery therefrom of metal and other substances possessing a commercial value.
3. The instruction of smelters, miners, and others in the various methods and processes of treatment. The precise nature and extent of the said duties shall be left for fuller definition to the Honorable the Minister for Mines, and if the Government of the said Colony should require it, the said James Taylor shall enter into a further agreement in which such duties shall be fully set forth.

A considerable delay in erecting the works was experienced from the commencement—changes in the Government, straitness of the finances, and the proposal to restrict the limits of noxious trades to some unknown distance from the metropolis were the chief factors. In the meanwhile Mr. Taylor visited several of the mining-fields of New South Wales, so as to make himself acquainted with the requirements of the mines.

After inspecting several possible sites, and nothing coming of the proposed noxious-trade limit, the present position at Clyde was selected. This comprises an area of 4 acres 3 roods 20 perches, situated on the Duck River, a small tidal stream flowing into the Parramatta River, up which barges drawing 5 to 6 feet can come at high tides. There is no wharf or landing-place on the property in connection with this stream, but up to the present there has not been any occasion to use this channel for navigation purposes, the works being connected with the main western line by a siding. The land, where not bounded by water, is fenced in by a galvanised-iron fence.

That portion of the works for dealing with gold was first erected, and in October, 1896, the works, though far from complete, started operations.

#### *The Plant.*

The following apparatus are comprised in the existing plant:—

- A Pooley's platform scales capable of weighing up to 1 ton.
- A No. 1 Gates' crusher set to crush ore to  $\frac{3}{4}$ -inch cube.
- One bucket elevator to raised crushed ore to the ore-bins overhead.
- One platform hoist for bags of ore, &c.
- Two ore-bins with a capacity of 10 to 12 tons each.
- Two Clarkson's rapid samplers Nos. 1 and 5 for fine and coarse sampling. These mechanical samplers do away with any personal error in hand sampling, and can be regulated so as to take varying proportions of the parcel.
- A Fraser's and Chalmer's sample-grinder for dealing with small parcels.
- A John's No. 2 disintegrator, used for reducing the coarse sample taken after passing through the Gates' crusher before it is put through the small sampler.
- A large-size Tustin mill with a nominal capacity of 16 tons per twenty-four hours' continuous work, but it is only worked at the rate of 2 to 3 tons per eight hours, and so far has been found equal to all demands made on it. The reason this class of mill was bought instead of the ubiquitous stamper mill was because it was more suited for application to either wet or dry parcels, besides which ore from small parcels can be more readily cleaned up than in a battery, and this is a very important point. Ore in this mill is generally crushed to pass through a 30-mesh woven wire with holes 0.026 inch across.
- A copper plate table with the usual quicksilver ripples and well.
- Two Frue vanners—one smooth belt, the other with a felted belt. The former collects No. 1 concentrates, which are less in bulk but richer in contents as a rule than the latter, which collects No. 2 concentrates.
- One tailings-pit 8 feet square and 2 feet deep.
- Four triangular slime pits made by dividing two wood-lined pits of the same dimensions as the tailings-pit diagonally. The tailings-pit catches the sand, and the pulp passes over into the first slime-pit at one angle, and as it spreads out the current is diminished and the slimes have an opportunity of settling; this, when repeated in the other pits, leaves so little in the water that although it is discoloured only a thin skin of slimes has precipitated outside the pits from the beginning, so small in fact that there has never been any occasion to clean it away, and grass can be seen growing through it. These pits are cleaned out by hand and the solid material placed on one side.
- One 4-foot Berdan pan used for amalgamating.
- Wash-up troughs, dishes, quicksilver buckets, retorts, &c.
- A Roberts' alluvial washer.
- Small vertical steam-engine for driving Frue vanners.
- A high-pressure compound Tangye engine, with 9-inch and 14 $\frac{1}{2}$ -in. cylinders and 20-inch stroke, using 120lb. pressure of steam. This is the main driving-engine.
- A Babcock and Wilcox water tubular high-pressure boiler of 46 nominal horse-power.
- A Worthington feed-pump.
- A reverberatory calcining furnace, consisting of three steps, hearths each 10 feet square. The flue from this furnace, as also that of the boiler, is so arranged that the heat from them can be utilised to dry wet ores.
- Four chlorination vats, 7 feet in diameter and 3 $\frac{1}{2}$  feet in depth. Of these, two are used for leaching and two for precipitation.
- A chlorine generator.
- A small trial chlorination plant capable of treating about a hundredweight of ore.
- A tub for holding scrap iron in which ferrous sulphate is prepared.
- Two vats for scrap iron in which copper in the solutions is precipitated.
- A vessel for containing sawdust or charcoal through which the spent chlorine solutions are allowed to flow before going to waste.
- A 400-gallon iron tank in which cyanide solutions are made.
- Four cyanide vats, two of which are for leaching the ore—one for the strong solution, and one for the alkaline wash. They are all 7 feet in diameter and 3 feet 6 inches deep, with the exception of one leaching-vat, which is 8 feet 6 inches in diameter and 2 feet 9 inches deep above the filter bottom.
- Two rectangular cement sumps underground.
- A Worthington pump for circulating solutions.
- Two zinc boxes.
- A wind furnace for smelting gold. This smelting of gold is done in the shed instead of in the assay office, so as not to run any chance of contaminating the assays.
- A muffle furnace.
- A pulsometer for elevating tailings, &c.
- A forge, anvil, and tools.

The processes capable of being used by this plant are shown in the accompanying tree.

Up

Up to the 30th April, 1899, the following parcels have been treated at the Government works by the different processes :—

Amalgamation, 434·35 tons.  
Chlorination, 70·88 tons.  
Cyaniding, 91·54 tons.

Total of all sorts, not counting those simply crushed and sampled, or portions that were also treated by chlorination or cyaniding, 572·27 tons.

The value of the gold extracted was £3,114 3s.

Fees received, including what the Prospecting Board paid on behalf of impecunious senders of ore, £672 16s.

#### *New Machines and Models.*

The owners of new machines who desire to have their inventions tested are permitted to erect them at these works at their own expense. Besides finding the space, the works supplies the motive power, and gives any assistance which will not interfere with the proper working of the ordinary processes.

The following is a list of the machines thus tested :—

Garland and Murray's centrifugal amalgamator.  
A three-head rapid stamper battery.  
Wynne and Tregartha's plates.  
Hill and Bryden's gold saver.

Besides these there is a working model of Clarkson and Stanfield's dry concentrator, on loan to the works.

#### *Staff.*

Besides the Government Metallurgist, the men actually employed at the Metallurgical Works consist of :—

One working foreman.  
One furnace-man.  
One chlorinator.  
One labourer.

These are, of course, variously employed, according to necessity. There is always some work going on at the works, so there has not been any occasion to knock off any of the hands for the past twelve months.

Mr. Taylor is to be seen at the works every morning, and again in the evening, on his way home, if he has been obliged to go to Sydney in connection with his other duties.

In the assay office there are six analysts and assayers and three labourers.

#### *Parcels of Ore.*

The following parcels of ore have been sent to the Metallurgical Works for treatment, from the commencement up to the 30th April, 1899 :—

In 1896	...	...	...	...	22 parcels.
In 1897	...	...	...	...	63 "
In 1898	...	...	...	...	72 "
In 1899	...	...	...	...	15 "
Total ... ..					172 "

This shows a gradual annual increase.

Most of these parcels were under 5 tons. Of the above number, forty-four were between 5 and 10 tons, and only nine were of 10 tons or over. Parcels under 1 ton are only crushed, sampled, and assayed, as they are too small to treat in the plant.

Thirty-three of the 172 parcels, or over 19 per cent. were paid for by the Prospecting Board.

The majority of the parcels were sent in to be treated for gold; but there were a few for antimony, copper, lead, tin, and wolfram. As there were no means for extracting these metals, the parcels were crushed, sampled, and, in some cases, concentrated, and the value determined, and the ore reported upon, together with advice given as to the best way to dispose of it.

Each parcel sent in is taken in turn, no matter whether it is paid for by the owner or the Prospecting Board.

Where any possible error may have existed on the part of the Department, the authorities have always shown their desire to relieve the miners as far as possible by refunding fees, testing parcels free of cost, &c. In the case of W. Quinn and party, a letter addressed to W. P. Crick, Esq., M.L.A., dated the 28th March, 1898, states that "the Department is prepared to treat 6 tons" (being the amount originally sent), "belonging to them (Quinn and party) free of cost for treatment, and also to bear the cost of carriage from the mine to the works." Which it did. Again, in the case of Messrs. Howard and Clark, of Slippery Creek, it was agreed on the 31st December, 1896, to pay them cash for the assay value of the ore sent, as its treatment was not satisfactory, owing to the ore being unsuitable for the plant available. This was one of the first parcels received, and it came to hand before the works were as well equipped as at present.

It is usual for the public to have inflated ideas of the value of their ores; therefore assayers and the owners of custom works seldom get credit for returning full value of the parcels of ore. The same opinion appears to hold good with regard to the Government works, though some of the complaints are frivolous, *e.g.*, when Quinn and party wanted 9 dwt. 7·1,712 grains of silver handed over, being the total amount of about 6 tons of ore, which only assayed 1 dwt. 12 grains per ton, having a total value of about 1s.

The Department does not desire to compete with customs works, and therefore will only accept up to 12 tons (or two truck-loads) from the same source, except in cases of doubt or special difficulty. Nevertheless, it is to be feared that many parcels are forwarded, not because the owners desire to know how to treat them, but because they want the gold extracted, and a Government certificate to show possible purchasers.



A report giving an account of the treatment and assays of the various products is written out and sent to the owner of each parcel, and, if desired, interim reports are forwarded from stage to stage.

Up to 30th April, 1899, parcels have been received from over a hundred different localities of New South Wales, the positions of which are shown on the accompanying map.

#### *Delays.*

There are many causes that have militated against quick returns from the parcels of ores sent to the works, and as the sender of the ore dates his expectations from the day he despatches the parcel, the time seems longer to him till he receives the official results than that which was actually required to deal with the ore; and when he unreasonably compares the time taken in experimentally treating the ore with that required by custom works to sample and assay a parcel of ore they buy right out, the delay seems still worse.

1. At first there was a delay, as is usual in all new works, on account of various necessary adjustments. Even now certain machinery would have to be shifted in order to treat ore in some particular way, and that all means time.
2. Occasionally a parcel of ore will be delivered elsewhere, as in the case of J. L. Campbell from Goulburn, when it was wrongly addressed, and no advice of its despatch sent to the Government Metallurgist.
3. Sometimes, as in the case of W. E. Myring, the ore was not treated immediately on receipt, as the necessary fee was not forwarded. Since complaints have been brought forward by Members of Parliament, parcels have not been held over on this account, and as a consequence what was feared has happened, viz., some parties have refused to pay their dues when the value of the gold won did not cover it, *e.g.*, W. H. Carroll's ore from the Manning River, which was received on 22nd September, 1897, and reported on 30th September, 1897.
4. When several parcels arrive about the same time they have to take their turn.
5. The Government Metallurgist had other work to attend to, and had not time to write out the reports, even when the treatment was completed. Among other duties that took up the Metallurgist's time may be mentioned:—
  - (a) He had to lecture on metallurgy at the University for a year. This is now dispensed with.
  - (b) Several weeks were spent in dealing with the cyanide question.
  - (c) He has to look into new patents dealing with metallurgical subjects, and so far has investigated over 136.
  - (d) He has to visit and report on metallurgical processes elsewhere.
  - (e) He has had to inspect machinery at different places.
  - (f) He has had to examine candidates for the position of Assistant Demonstrator in Metallurgy for the Technological College, and also for the Assistant Analyst and Assayer at the works.
  - (g) He has occasionally visited mining-fields since the works have been started, *e.g.*, Broken Hill and Parkes; but during his absence Mr. Mingaye, the Analyst and Assayer to the Mines Department, looks after the works; but the reports are not written until the Government Metallurgist returns.
  - (h) Much time has been taken up in replying to Parliamentary questions.
6. When there is a rush of work in the Assay Office, and the works' samples have to take their turn or are difficult to treat, parcels of ore may be delayed pending the results.

Three weeks may be taken as the usual time required to treat a parcel of ore; but this naturally varies with the nature of the ore. The treatment proceeds eight hours a day. The engine-driver comes a little earlier than the others in the morning to get up steam, and while this is being done the first quarter of an hour is occupied in dressing the plates, oiling bearings, &c. The treatment of a parcel of ore is arrested in its various stages while assays are being made.

The following will give an idea of the length of time necessary to deal with a 6-ton parcel of ore by the different processes, if not subject to any delays:—

#### *(a) Free Milling.*

	Days.	Hours.
Coarse crushing and sampling . . . . .	1	...
Assaying the sample . . . . .	1 to 3	...
Reducing in the Tustin mill, and passing over plates and vanners, say 2 tons a day . . . . .	3	...
Cleaning-up . . . . .	...	2
Overhaul . . . . .	...	1
Drying concentrates . . . . .	1 to 2	...
Sampling, bagging, weighing, and assaying two lots of concentrates . . . . .	1 to 3	...
Syphoning off water from tailings and slime-pits, emptying pits, and wheeling tailings and slimes away . . . . .	...	3 to 4
Assaying tailings and two kinds of slimes . . . . .	1 to 3	...
Treating the gold saved on the Wynne and Tregartha plates in the Berdan pan for six hours, panning-off, and retorting the whole of the quicksilver . . . . .	1½	...
What flows off from the Berdan pan constitutes No. 3 concentrates; it is sampled, dried, bagged, weighed, and assayed . . . . .	1 to 3	...
Calculations and report . . . . .	1	...
Total . . . . .	11½—20 plus 6—7	All

All assays are made in triplicate, and are repeated until they agree. If the assay is only 2 dwt. or under, it is not considered worth proceeding with, and the owners are communicated with. If the complete treatment is not carried out, half the fee is returned. Should the assay indicate that the parcel is worth treating, the work is proceeded with without waiting for the assays to agree, samples being panned-off to determine the nature of the stone, and the size-screen to be used. Certain work may be going on in the plant while assays are being made in the laboratory; but in cases where the manipulation of a parcel must await the result of assays, or where the men and machinery are available, other parcels are taken in hand.

## (b) Chlorination.

	Days.	Hours.
Drying the ore ... ..	1	...
Coarse crushing and sampling ... ..	1	...
Assaying ... ..	1 to 3	...
Dry crushing, 2 tons daily... ..	3	...
Conveying to furnace and calcining, $\frac{3}{4}$ tons per day ... ..	8	...
Cooling ore and filling two 3-ton vats ... ..	...	6
Gassing ... ..	1 to 3	...
Leaching and washing ... ..	1	...
Precipitating ... ..	1	...
Collecting slimes, drying, and smelting ... ..	2	...
Sampling and assaying residues ... ..	1 to 3	...
Report and calculations ... ..	1	...
Total ... ..	21 to 27	plus 6

A grab sample is taken after passing all the ore through the Tustin mill, and is assayed as a check on the previous proportional sampling.

The calcination of the ore is slow, as the fire is banked up every night, the ore only being stirred seven hours out of the twenty-four, so this irregular work cannot be as satisfactory as if continuous;\* also a little time is lost in the morning by getting up the ore to the necessary temperature. To put on extra hands in such cases is unadvisable, and to break up the present staff into three shifts would retard other work, though it has been done on occasion when desired to push on with chlorination.

If the owner is not present to take possession of his bullion, it is sent to the Bank or Mint to be assayed and sold. This may take any time from three to fourteen days, thus causing a further delay before the miner gets his returns.

## (c) Cyaniding.

	Days.	Hours.
Drying the ore ... ..	1	...
Coarse crushing and sampling ... ..	1	...
Assaying ... ..	1 to 3	...
Dry crushing, 2 tons daily ... ..	3	...
Conveying to furnace and heating ... ..	0 to 2	...
Cooling and filling two vats ... ..	...	6
Treatment in vats and precipitation on zinc ... ..	4 to 14	...
Emptying vats ... ..	...	4
Assaying tailings... ..	1 to 3	...
Calculations and report ... ..	1	...
Total ... ..	13 to 29	plus 2

As it would be too costly in such small parcels to dissolve up all the zinc so as to obtain the gold, and since all the gold could not be obtained by rubbing, as is practised on mine plants, the Department has decided to pay for gold in the ore according to the difference between the assay of the ore before and after treatment. The ore is sometimes heated before cyaniding in order to aid in the percolation of clayed ore, but this is not usually the case. The rate of percolation varies very much with different parcels of ore, and this again makes the length of time taken in treating a parcel a varying quantity.

When the ore to be treated is the concentrates or tailings of parcels that have already been amalgamated on the premises, the preliminary operations above mentioned are, of course, unnecessary, as having already been done.

It must be borne in mind that experimental work cannot be carried out as quickly as that of an ore that is known, for, besides various mishaps, all machinery is liable to, *e.g.*, burst screens, one has to discover the best adjustment of the machinery to any particular class of ore, and, in many cases, the parcel is so small that it is through before the best results can be obtained, and when once through it cannot be treated again with satisfaction. Again, in test work, processes often have to be tried that would not be used on mines on account of the time they take preventing economic results, *e.g.*, ores difficult to leach, but which can only be determined for certain by experiment.

## Cost.

The expenses of the Metallurgical Works proper, and those of the Assay Office, are so intimately connected that they are difficult to separate, more especially since they have some items in common; but the following figures will give a fair idea of the position of affairs.

The Assay Branch was in existence years before the works were started, and has been gradually growing. Not only is the chemical work of the Geological Survey carried out in this laboratory, but an enormous number of free assays are made for the public from all parts of the Colony. Now, as this establishment is not supposed to bring in any pecuniary return, it is only fair that its expenses should be deducted from the general expenses of the Metallurgical Works, which is debited with it.

Lists

\* It would not pay to be continuous like on a mine. We would have to triplicate our staff.—Note by U.S.

Lists of the assays and analyses made for the Geological Survey and for the Metallurgical Works are given below.

Metal determined.	12th Oct. to 31st Dec., 1896.	1st Jan. to 31st Dec., 1897.	1st Jan. to 31st Dec., 1898.	1st Jan. to 30th April, 1899
Gold and silver ... ..	1,424	5,243	4,394	1,255
Antimony ... ..	11	23	16	5
Arsenic ... ..	1	6	3	2
Analyses ... ..	49	120	111	58
Alumina ... ..	.....	.....	.....	7
Bismuth ... ..	2	23	11	1
Copper ... ..	86	530	466	199
Chrome ... ..	2	18	13	4
Cobalt ... ..	7	25	13	.....
Iron ... ..	6	45	87	37
Lead ... ..	21	74	55	24
Lime ... ..	.....	.....	.....	2
Miscellaneous ... ..	3	16	154	17
Manganese ... ..	4	26	33	12
Nickel ... ..	1	8	6	2
Phosphoric acid ... ..	3	.....	.....	20
Tellurium ... ..	.....	12	11	1
Titanium ... ..	1	.....	39	1
Tin ... ..	19	57	25	17
Silica ... ..	3	.....	.....	33
Wolfram ... ..	.....	4	6	9
Zinc ... ..	2	10	12	14
<b>Total number of samples ... ..</b>	<b>1,466</b>	<b>5,131</b>	<b>4,428</b>	<b>1,364</b>
<b>Total number of assays and analyses ... ..</b>	<b>1,645</b>	<b>6,240</b>	<b>5,455</b>	<b>1,720</b>

These determinations were made for the Geological Survey. Those for the Metallurgical Works during the same period, *i.e.*, since they commenced, are:—

Gold and silver ... ..	38	379	558	108
Acidity — extraction and consumption ... ..	.....	5	.....	4
Amalgam, &c. ... ..	9	59	.....	33
Antimony ... ..	1	2	.....	1
Bismuth ... ..	.....	2	.....	.....
Copper ... ..	3	12	3	1
Cyanide ... ..	.....	.....	132	62
Lead ... ..	3	6	2	.....
Moisture ... ..	5	12	5	.....
Miscellaneous ... ..	2	72	12	.....
Manganese ... ..	.....	.....	3	.....
Platinum ... ..	.....	18	6	.....
Tin ... ..	.....	27	5	.....
Wolfram ... ..	.....	6	.....	.....
Zinc ... ..	3	4	.....	.....
<b>Total number of samples ... ..</b>	<b>.....</b>	<b>518</b>	<b>720</b>	<b>209</b>
<b>Total number of determinations ... ..</b>	<b>64</b>	<b>604</b>	<b>726</b>	<b>209</b>

It will be seen that it is impossible to get at the exact cost of each determination, but it is safe to say that the majority of those carried out for the Metallurgical Works cost considerably less than those for the Geological Survey—for instance, the determination of the strength of cyanide solutions; still the only way open is to average the lot.

Those items which may be considered as common to the Assay office and works are:—

	£	s.	d.	£	s.	d.
Cost of land ... ..	587	17	9			
Cost of fencing ... ..	147	6	3			
Buildings ... ..	3,567	17	0			
				4,303	0	0
Those belonging to the Assay office:—						
Salaries of Assay staff ... ..	£3,182	0	0			
Wages of men employed in the Assay office ... ..	296	14	0			
	£3,478	14	0			
Less proportional cost for works assays ... ..	347	15	7			
				3,130	18	5

These

These figures do not include the cost of chemicals and apparatus, much of which was on hand when the Assay office removed to Clyde:—

	£	s.	d.	£	s.	d.
Salary of the Metallurgist. Though nominally head of the Assay office also; still, as he confines his attention to the works, this branch is debited with the whole of his salary ... ..	5,675	0	0			
Wages of the men ... ..	2,103	4	6			
Machinery ... ..	2,461	6	7			
Proportional cost of assays ... ..	347	15	7			
Cost of siding ... ..	216	16	6			
						10,804 3 2

*Conclusion.*

We find that Mr. Taylor, the Government Metallurgist, has carried out all the duties enumerated in his agreement with the Agent-General, in addition to others imposed on him since his arrival in the Colony.

The plant erected is suitable for testing small parcels by amalgamation, chlorination, and cyanide processes, and the machinery is kept in good working order. Here the public has an opportunity of having refractory ores experimented with by a trained metallurgist.

In test works the machinery adopted should be that which can be best adapted to the varying conditions under which it will be employed, and it is not laid out like that on mines, which is intended to treat but one class of material on a commercial scale. It is impossible without much expense to arrange a test plant in such a manner as to have everything convenient for all varieties of combinations to which it is capable of being applied\*.

To have works in which all kinds of ores can be treated would be a most costly and unwarrantable affair, as much of the plant would only be used once in a way. An instance in point is the Robert's alluvial washer, which was purchased to deal with a parcel of wash, but has never been used since. The subject of smelters has already been dealt with by the Board appointed to advise on the matter, which we endorse. It is not always advisable to erect machinery for the treatment of ore when only a limited number of parcels of that class is expected; still it is probable that were it known the appliances were available ore would be sent that is now withheld. By adding a set of rolls, coarse and fine jigs, hydraulic classifier and slime concentrator to the Gates' crusher, Tustin mill, and Frue vanners, one would have an ore-dressing plant capable of dealing with lead, copper, wolfram, chrome, tin, and other ores that require mechanical treatment. The Government Metallurgist speaks of adding a circulating apparatus to the cyanide plant, as also a filter-press to assist in the leaching of slimes. Two more vats that can be applied to other leaching processes are also advisable.

In works of this sort very little can be done in the way of saving by-products. Cupriferos solutions are passed over scrap iron, and spent auriferous liquors flow through charcoal or sawdust before being allowed to escape. The products go to the State, as it is out of the question to portion the minute quantities among the various small parcels treated.

Inventors have availed themselves of the works in order to test their machines, but students do not go there for practical instruction, as was anticipated, for during the term they are fully occupied with other studies.

These works are not supposed to be self-supporting; they never have been, and never will be. Most of the complaints about the plant are baseless, and were made after a hasty inspection of the works, which was visited with the evident intention of finding faults. Remarks from those who are biassed from the outset, and do not make a careful investigation, or will not take the trouble to ask for explanations of things they do not understand from the responsible head, cannot carry much weight.

Reasons have been given in this report why certain delays have taken place. Some of these have already been remedied, and as the work in hand is up to date others are not likely to occur again, unless a rush of work comes in. There are two points, however, that we think might be improved upon, considering that most parties sending ore pay for its treatment.

1st. That the first duty of the Government Metallurgist should be to attend to the treatment of ores at the works, and that his report be sent in within twenty-four hours of his possessing the necessary data.

2nd. That the works' assays be given precedence over the free assays, and not taken in rotation, so that the treatment of the ore can be proceeded with as quickly as possible.

We have, &c.,

J. KEMP CHARLESTON.  
FRED. DANVERS POWER.

To the Under Secretary for Agriculture,  
Mines Department, Sydney.

Places from which parcels of ore have been sent to the Government works:—

Albury.

Back Creek (near Rockley), Ballalaba (near Braidwood), Ballina, Barmedman, Bateman's Bay, Bear Hill (near Hillgrove), Beechwood, Ben Bullen, Binelong, Bolivia, Boonoo-Boonoo, Burragorang (near Camden).

Caloola Creek (near George's Plains), Cangi, Canowindra, Cape Hawke, Captain's Flat, Cargo, Cobar, Condobolin, Coolamon, Cooma, Cowra, Crow Mountain (near Barraba).

Double Peak (near Nymagee), Drake, Dubbo, Dungowan.

Eden.

Forest Reefs (near Orange).

Gally Swamp (near Carcoar), Garangula, George's Plains, Girilambone, Gloucester River, Gooda Creek (near Jeir), Goulburn, Grong Grong, Grafton, Gundagai, Gunning.

Hazelgrove (near Tarana), Hill End.

Inverell.

## Inverell.

Jerusalem Creek (near Grafton), Jugiong (near Grenfell), Junee.

Limbri, Lismore, Lucknow.

McAuley's Lead (near Grafton), Major's Creek, Mandurama, Mann River, Manning River, Millthorpe, Molong, Moorilda, Moruya, Mount Allen, Mount David, Mount Dromedary, Mount Victoria, Mudgee, Mumbil, Murrumburrah.

Nerriga, Newbridge, Norwood (near Goulburn), Nyngan.

Oberon.

Parkes, Peel, Pembroke (near Burruga), Pine Ridge (near Trunkey).

Richmond River, Rockley, Rocky Hall (near Eden).

Scone, Slattery's Creek, Sunny Corner.

Temora, Tenterfield, Timbillica, Tingha, Torrington (near Deepwater), Turlingjah (near Moruya), Turon River.

Uralla.

Victoria Flat (near Binda).

Wagga Wagga, Walcha, Wattle Flat, Wellington, Windeyer (near Mudgee), Wiseman's Creek (near Brewongle), Wolumla, Wyalong.

Yass, Young.

## No. 4.

## The Under Secretary for Mines to The Secretary for Mines.

21 June, 1899.

I SUBMIT herein the report made by Messrs. Charleston and Danvers Power, who were appointed to inquire into the Government Metallurgical Works at Clyde. The report must, on the whole, be accepted as satisfactory to the Department, although I fear that in this establishment we have taken up a class of work which will leave the Department open to complaints from persons who are disappointed with the returns they get from their stone. It is not, I believe, within the power of any man, or any works of this kind, to give universal satisfaction, because it is not possible in every case to make a bulk treatment of stone give the same result as a small assay sample of some few ounces in weight. Senders of ore to the works usually get the assay returns first, and because the bulk test, when the material is sent to the Metallurgical Works, does not give the same returns as the original assay they are dissatisfied, and blame the efficiency of the works or the management. It is not, however, the fault of the works, or, in my opinion, the management; but it is because the gold or silver, as the case may be, is not in the bulk parcel of stone as shown by the assay, and while we continue such an establishment I see no help for it but to look for these complaints.

The additional appliances mentioned by Messrs. Charleston and Power should be put into the works without delay, and I suggest that Mr. Taylor be instructed accordingly. He should also be directed to see that assays of material which has been paid for are to take precedence over the free assays, as suggested in the report.

D. C. McLACHLAN,

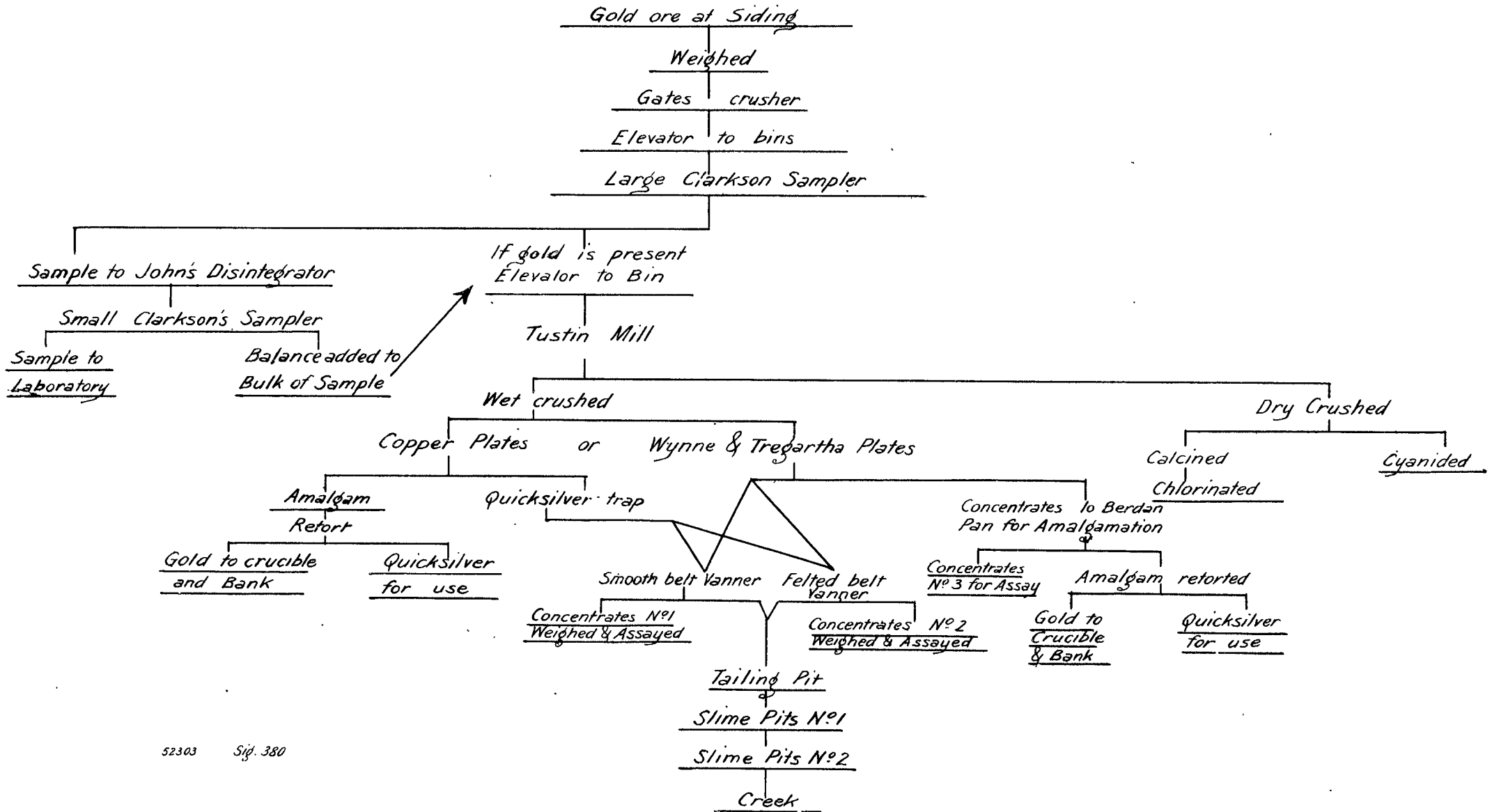
Under Secretary.

Approved.—J. COOK, Secretary for Mines, 22/6/99. Forward to Mr. Taylor to note and return at once; he should lose no time in arranging for the additional appliances.—D. C. McLACHLAN, Under Secretary, 23/6/99. Urgent.

[One Plan.]

# TREE

Showing the Processes by which Parcels of Ore can be Treated at the  
GOVERNMENT METALLURGICAL WORKS CLYDE.



52303 Sig. 380



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## DEPARTMENT OF MINES AND AGRICULTURE.

(REPORT OF THE STOCK AND BRANDS BRANCH FOR THE YEAR 1898.)

*Printed under No. 6 Report from Printing Committee, 19 October, 1899.*

The Under Secretary for Mines and Agriculture to The Secretary for Mines and Agriculture.

Sir,

I have the honor to submit the report of the Chief Inspector of Stock for the year 1898, which shows a decrease in horses, cattle, and sheep, owing to the severe drought.

## Veterinary Surgeon.

During the year Mr. J. D. Stewart, M.R.C.V.S., was appointed Veterinary Surgeon to the Stock Branch.

## Inspectors' Work.

The inspections made by the staff number 52,278, exclusive of the inspections of Queensland cattle on the Border—rather more than usual—which include horses, cattle, sheep, dogs, pigs, and inspections of pounds, commons, &c., and in this work Inspectors travelled an average of 4,329 miles each. 306 prosecutions took place under the different Acts, and 291 convictions were obtained.

## Horses.

The number of horses in the Colony at 31st December last was 449,989 being a decrease of 16,824 on the previous year.

No serious outbreaks of disease in horses have taken place. Parasitic blindness was reported from five districts.

## Cattle.

The cattle decreased through the drought to the extent of 60,339, and now stand at 1,886,390.

Several districts report pleuro-pneumonia. Cases of tuberculosis have been met with in most of the districts, and the cattle were destroyed.

## Tick Plague.

Unfortunately ticks are making progress towards our Border, but the advance, through the exertions of Queensland, assisted by Victoria and this Colony, has not been very great, only to a short distance south of Ipswich and Brisbane. Every effort is being made to prevent their entering this Colony from any other quarter. The Border is fenced and patrolled from Stanthorpe to Tweed Heads, the portion of the Border which it is considered necessary to close to sheep, cattle, and loose horses; and lest the ticks should cross the Border, preparations have been made for inoculating, and a commencement will be made as soon as the season will admit and there is green grass for the cattle while they are under the influence of the inoculation. Where cattle, sheep, or loose horses are admitted, they have to be accompanied by a declaration and certificate that they are clean and come from clean country, and are closely examined one by one at the Border before crossing.

\*207—A

Sheep.

[2,685 copies—Approximate Cost of Printing (labour and material), £55 6s. 2d.]

### Sheep.

The returns show a decrease of 2,711,893 on the previous year.

The large decrease is, of course, due to the drought.

A careful classification made of the different breeds shows the total number of merinos to be 37,725,965, comprising 27,691,723 combing, and 10,034,242 clothing; long-woolled sheep number 1,095,060, and cross-breds 2,419,979, making, together, 3,515,039.

Of all descriptions, the grand total at 31st December last, was 41,241,004.

During the year 247 stud rams and ewes were imported from London, America, and Germany, and passed the prescribed quarantine.

It will be seen that nearly the whole of the sheep are now paddocked, and that their quality is reported as improving in those portions of the Colony where the effect of the drought has not been so severely felt.

### The Lambing.

The actual lambing for the whole Colony was estimated at  $52\frac{1}{4}$  per-cent. The spring lambing gave  $65\frac{1}{4}$  per cent., and the autumn and winter lambing  $42\frac{1}{4}$  and  $44\frac{1}{2}$  respectively.

### The Clip.

3,643,450 lambs were shorn in the grease, and 139,000 washed; while 34,931,165 sheep were shorn in the grease, and the wool of 2,506,825 was scoured.

The average weights of the clip are estimated as follows:—

						Lambs.	Sheep.
						lb. oz.	lb. oz.
Grease	...	...	...	...	...	1 14 $\frac{1}{8}$	6 0
Scoured	...	...	...	...	...	1 2 $\frac{1}{2}$	2 15

The total clip for the Colony is estimated at 223,968,833 lb., being a decrease of 312,813 lb. on the year 1897.

Of the total mentioned, 183,822,643 lb. are estimated to have been sent to Sydney, 32,856,323 lb. to Melbourne, and 7,289,862 lb. to Adelaide.

The sheep were comparatively free from disease during the year. Outbreaks of anthrax still occur in several districts, but owners are vaccinating with decided success, and the deaths from this deadly disease are decreasing.

It is very satisfactory to report that the sheep in the whole of the Colonies, including Tasmania and New Zealand, are now free from scab; Western Australia, being the last to be free from that pest, was officially declared so in October last.

### Pigs.

The number of pigs in the Colony is 247,061, a number very far short of what there ought to be.

### Dogs.

Fifty-four dogs were quarantined during the year, but of these twenty-two were "ships' dogs," and only remained in quarantine until the vessels to which they belonged left the port.

### Travelling Stock Reserves.

Owing to the drought many of these reserves were quite bare of grass, and as it assumed serious proportions, travelling in many cases became impossible, and the sheep perished on their runs.

The advisability of withdrawing the principal travelling stock reserves from lease, and proper provision made for their protection, is every day more apparent, and is a subject demanding early and serious consideration.

### Registration of Horse, Cattle, and Sheep Brands and Marks.

About the average number of brands were registered during the year, and the total number of Horse and Cattle Brands registered since the Act came into force in 1866 up to 31st December last, was 79,790, and the number of sheep brands were as follows:—Fire-brands, 5,721; tar-brands, 22,118; and ear-marks, 13,423.

### Public Pounds.

There are 326 pounds open. They are periodically inspected, with the result that there are now very much fewer complaints in regard to the conduct of pounds than formerly.

### Noxious Animals.

The receipts under the Pastures and Stock Protection Acts during 1898 reached £32,720 17s. 4d., while the amounts expended by the different Boards in the Colony for scalps of animals destroyed, and other expenses, amounted to £28,910 13s. 10d.

In only three districts were the full rates of assessment levied.

The number of the different animals destroyed, and paid for, is shown in Appendix M to this Report.

The Boards are still urging amendments in the Pastures and Stock Protection and other Acts.

Among the Appendices, some interesting information is given by the Chief Inspector with regard to the Export Trade in Australian Mutton, Experiments in Cross-breeding, and other subjects of interest to pastoralists.

A large, elegant handwritten signature in black ink, reading "W. C. Lachlan". The signature is written in a cursive style with a long, sweeping underline that extends to the left and then curves back under the main text.

Under Secretary, Department of Mines and Agriculture.

### The Chief Inspector of Stock to The Under Secretary for Mines and Agriculture.

Sir, Department of Mines and Agriculture, Stock and Brands, Sydney, 1st September, 1899.

On the 1st February last I submitted a Progress Report for the year ending 31st December, 1898, giving the approximate number of the horses, cattle, and sheep then in the Colony; and I have now the honor to submit for your consideration my complete Report for that year on the working of this Branch, which is, as usual, based very much upon Inspectors' estimates, owners still showing very little inclination to furnish data. It will be seen that there is a very large decrease in the number of all descriptions of stock. This, of course, is attributable to the excessively severe drought from which almost every portion of the Colony suffered. There has been no such general protracted drought for more than fifty years. With the exception of a comparatively small part of the north-eastern and extreme north-western portions of the Colony, and some portions of Monaro and of the Upper Billabong, no part of the Colony escaped. In the Eastern Land Division of the Colony the losses were greatest in the middle portion. In the Central Division, the losses were very heavy, and they were greatest in the northern portion. In the Western Division, the losses were very light in the northern portion, very heavy in the middle, but not so heavy in the southern.

As the issue of my report has, through press of work and shortness of staff, been delayed, I have included information of a later date than that in the body of the report in regard to the tick pest and other subjects which are of interest to stock-owners, in the Appendices.

I have, &c.,

ALEX. BRUCE,

Chief Inspector of Stock.

### APPOINTMENT OF VETERINARY SURGEON.

Owing to Mr. Chief Veterinary Inspector Stanley's time being fully taken up with the work connected with the Health Department, it became necessary to appoint a Veterinary Surgeon in connection with the Stock Branch. For this position, Mr. James Douglas Stewart, M.R.C.V.S., was selected, and since his appointment he has, as will be seen from his reports, besides carrying out his other duties, been devoting a large portion of his time to the initiation of inoculation for tick-fever.

### INSPECTORS' WORK.

The Colony is now divided into sixty-five Sheep Districts, and there are fifty-two Staff Inspectors employed, who have made the following inspections during the year 1898:—

Stock, including horses, cattle, and sheep	...	...	...	28,905	inspections.
Reserves	...	...	...	5,618	„
Public Pounds	...	...	...	647	„
Commons	...	...	...	827	„
Dogs	...	...	...	1,731	„
Pigs	...	...	...	2,281	„
Under Pastures and Stock Protection Act	...	...	...	9,197	„
Under Public Watering-places Act	...	...	...	1,489	„
Under Diseased Animals and Meat Act	...	...	...	1,583	„
Total	...	...	...	52,278	„

being an average of 1,005 inspections by each Inspector.

The total number of stock inspected was,—118,022 horses, 942,402 cattle, and 21,363,541 sheep. This shows an increase of 6,284 horses and 89,681 cattle, and a decrease of 2,513,690 sheep inspected during 1898, as compared with the previous year. This is exclusive of the inspections made by the Inspectors stationed along the Queensland Border.

#### *Flemington Sale-yards.*

As usual, the whole of the stock arriving at these yards were carefully inspected on each sale-day by an Officer of the Board of Health and an Inspector of Stock, and a considerable number were condemned as unfit for human consumption. The numbers of stock submitted to auction were as follows:—

Cattle, 113,508 head.

Sheep, 2,692,250 head,—

a weekly average of 2,182 cattle and 51,774 sheep. Compared with 1897, this is an increase of 22 cattle and 2,260 sheep per week. These inspections occasionally lead to the detection of stolen stock, as the Inspector's duty requires him to compare the brands and marks on the stock with those in the permits and travelling-statements accompanying them, which are filed in this office for reference by persons inquiring about stock supposed to have been stolen, and the identification of the owners of animals condemned at the abattoirs. Some of the permits and travelling statements collected by the Inspector at Flemington are still imperfect, especially as regards the brands and marks, and are useless in tracing stock or for production in a court of law. Should this continue the Inspector will be compelled to prosecute for non-compliance with the Act and Regulations.

#### *Inspectors' Mileage.*

During the past year the staff travelled over a distance of 225,142 miles while on duty, an average of 4,329 each per annum, or an increase of 171 miles.

#### *Prosecutions*

*Prosecutions and Convictions obtained.*

Under what Act.	No. of Prosecutions.	No. of Convictions.
Diseases in Sheep Acts ... ..	58	49
Imported Stock Acts... ..	10	10
Registration of Brands Acts ... ..	2	2
Pastures and Stock Protection Acts ... ..	189	185
Public Watering-places Act... ..	22	22
Impounding Acts ... ..	5	3
Diseased Animals and Meat Act ... ..	20	20
Total ... ..	306	291

Attention is again called to the neglect on the part of the Pastures Boards to compel defaulting owners to destroy the noxious animals on their holdings. If compulsion after caution was brought to bear on defaulters to a moderate extent by the Boards—and moderate compulsion can hurt no one seriously—simultaneous action would be brought about, and something like value for the money now expended would then be obtained, while the pest would, year by year, be reduced.

**HORSES.**

The number of horses in the Colony during the thirty-eight years previous to and including 1898 was as follows:—

Year.	No.	Year.	No.	Year.	No.
1861 ... ..	251,497	1874 ... ..	334,462	1887 ... ..	390,609
1862 ... ..	233,220	1875 ... ..	357,697	1888 ... ..	411,363
1863 ... ..	273,389	1876 ... ..	366,703	1889 ... ..	430,777
1864 ... ..	262,554	1877 ... ..	328,150	1890 ... ..	444,163
1865 ... ..	284,567	1878 ... ..	336,468	1891 ... ..	459,755
1866 ... ..	282,587	1879 ... ..	360,038	1892 ... ..	481,416
1867 ... ..	278,437	1880 ... ..	395,984	1893 ... ..	481,399
1868 ... ..	280,201	1881 ... ..	398,577	1894 ... ..	500,068
1869 ... ..	280,818	1882 ... ..	323,026	1895 ... ..	482,459
1870 ... ..	280,304	1883 ... ..	326,964	1896 ... ..	484,028
1871 ... ..	337,597	1884 ... ..	337,172	1897 ... ..	466,813
1872 ... ..	304,100	1885 ... ..	344,697	1898 ... ..	449,989
1873 ... ..	323,408	1886 ... ..	361,663		

being a decrease of 16,824 horses on the number returned for the previous year, which is accounted for by the severe drought which prevailed nearly over the whole Colony, less breeding, consequent on low prices and use of bicycles.

The number of horses as returned in each Sheep District of the Colony will be found in Appendix A, as also the number of cattle, sheep, and pigs.

*Breed of Horses.*

Under this head the Inspectors' returns give the different breeds of horses as follows:—

	Ordinary.	Thoroughbred.	Total.
Draught ... ..	122,769	18,018	140,787
Light harness ... ..	102,616	12,606	115,222
Saddle ... ..	167,218	26,762	193,980
Grand Total ... ..			449,989

*Australian and Foreign Horses Introduced and Imported.*

*Australian Horses*—From other Australian Colonies.—By sea: 29 stud horses. Overland: 23 stud horses, 61 stud mares, and 2,260 ordinary horses; total, 2,373.

*Foreign Horses*.—During the year 13 horses were imported from Great Britain and Ireland and other countries, and were subjected to the prescribed quarantine of fourteen days in Sydney (except in the case of two lots which arrived without complete certificates, when an additional term of fourteen days

days was imposed, in accordance with Sub-Clause 3 of Regulation No. 33 under Imported Stock Acts) before being allowed to go inland. Particulars as to number and breed of these horses are as follows:—

Name of Importer.	Address.	Where from.	Breed.											
			Thorough-bred.		Hackney.		Draught.		Trotting.		Arab.		Total.	
			Horses.	Mares.	Horses.	Mares.	Horses.	Mares.	Horses.	Mares.	Horses.	Mares.	Horses.	Mares.
James Cooke .....	Sydney .....	San Francisco.	...	...	...	...	...	2	1	...	...	2	1	
H. C. White .....	Havilah .....	London .....	1	...	...	...	1	...	...	...	...	1	1	
George Kiss .....	Sydney .....	Singapore .....	1	...	...	...	...	...	...	...	...	1	...	
Fitzgerald Bros.....	" .....	Hamburg .....	...	...	1	...	...	...	...	...	...	1	...	
J. Tulloch .....	Care of G. Kiss, Sydney..	Bombay .....	2	...	...	...	...	...	...	1	...	3	...	
C. G. Tindall .....	Sydney .....	London .....	...	...	...	1	...	...	...	...	...	1	...	
T. Reynolds .....	Tocal .....	" .....	1	...	...	...	...	...	...	...	...	1	...	
S. Cox .....	Mudgee .....	San Francisco.	1	...	...	...	...	...	...	...	...	1	...	
Total .....			6	...	1	...	1	1	2	1	1	...	11	2

*Horses fit for Sale, number Exported, Improvement, &c.*

In the several districts of the Colony, Inspectors' reports show that there are 17,391 draught, 18,485 light harness, and 21,186 saddle horses fit for market, while of this number 15,281 are considered suitable for requirements of India and China.

During the year 7,880 horses were exported, principally to India, Victoria, Queensland, New Zealand, Western Australia, Fiji, Java, and the Straits Settlements.

Reports from thirty-seven districts say that the horses are improving, owing to introduction of improved sires.

In nineteen districts there is no improvement, while in nine districts they are reported as deteriorating.

*Tax on Stallions.*

A tax on stallions is still asked for by owners, and, in the interest of horse-breeding generally, is I think highly desirable. Stallions should be registered and certified by a Veterinary Surgeon as sound.

**DISEASES AND AILMENTS OF HORSES.**

*Blindness in Horses.*

From five districts, principally on the Darling, horses to the number of 442 are reported as having been affected with parasitic blindness; but the ailment has yielded to the treatment prescribed by the Department, which is as follows:—

*Vermifuge.*

Arsenic—5 grains, carefully mixed in (say) 3 lb. bran, and give three doses to each horse at intervals of one week between each dose—each horse to receive 5 grains in each dose; or

Turps and Linseed Oil { 3 draughts for each horse at intervals of one week between } 1 pint linseed oil.  
 Linseed Oil { each draught. } 2 oz. turps.

*Tonic.*

To follow the vermifuge if the disease has been allowed to make considerable progress:—

Black antimony	...	...	...	2 drams	} 1 dose.
Tartar emetic	...	...	...	1 dram	
Sulphate of iron	...	...	...	3 drams	
Common salt	...	...	...	$\frac{1}{2}$ oz.	
Powdered sulphur	...	...	...	$\frac{1}{4}$ "	

Dose to each horse at intervals of three days for three weeks, to be given in chaff or bran damped.

In the localities in which the horses are attacked, licks of salt and sulphur should be provided for them in troughs in the paddocks, and the horses could be enticed to the licks by a little bran and chaff.

*Australian String-halt in Horses.*

The horses in five districts are reported as having been affected with this ailment during the year.

The majority of the horses, however, recovered when the spring set in.

Mr. Chief Veterinary-Inspector Stanley and Mr. Veterinary-Surgeon Robinson consider this a parasitical disease, and are of opinion that the curative treatment is to expel the parasites by the administration of anthelmintics, and dose after dose may be required for this purpose. It is necessary to remember that brood after brood have to be poisoned; and that when they are ensconced in a living being, whose tissues are also liable to suffer from the introduction of drastic drugs, it is impossible to effect our object without perseverance; and to prevent reinfection it is advisable to move the patients to a sound paddock or, better still, into a yard or stable, to feed liberally, and also constantly supply salt with their food.

Preventive measures are very important. With this object, avoid putting an affected animal into a paddock at all favourable for the development of worms. Infected paddocks should not be used by horses, even temporarily; half an hour's grazing may affect them, especially during the spring and autumn. The first grass after summer will scour animals, and has been known to cure them, because at that season the parasites are prepared for exit. Microscopical examination shows one affected animal introduced, though he may be eventually cured, means later on (all circumstances being favourable) a hot-bed of infection for future tenants of the paddock. The



The following prescription is recommended as an anthelmintic and tonic, viz. :—

Common salt	...	...	...	...	...	...	...	2 lb.
Powdered sulphur	...	...	...	...	...	...	...	2 "
Black antimony	...	...	...	...	...	...	...	1 "
Tartar emetic	...	...	...	...	...	...	...	$\frac{1}{2}$ "
Sulphate of iron	...	...	...	...	...	...	...	1 "

Doses, divided into ounce-doses and given in the feed, which may be varied by the administration of a draught every alternate day, composed of linseed oil (raw) 1 pint and spirits of turpentine 2 oz.

#### *Influenza.*

This disease is reported to have affected the horses in one district. For its character, symptoms, and treatment, see Appendix B.

#### *Ophthalmia.*

This disease has not been reported as affecting the horses during the year. Its nature, and treatment recommended by Mr. Chief Veterinary-Inspector Stanley, is described in Appendix C, and is applicable to all stock.

The skin disease (*prurigo*) is reported from one district; and anthrax (supposed to be) from three districts.

With the exception of the above ailments the horses throughout the Colony have been exceptionally free from disease during the year.

Owners are cautioned, where their stock are not removed from the paddocks where poisoned pollard is laid for rabbits, that they should see that the pollard pellets are small, as both horses and sheep are liable to pick them up when laid large or in lumps.

The estimated losses in horses during the year from various causes, principally through drought, amount to 20,060.

### CATTLE.

The returns of cattle in the Colony during the thirty-eight years ending 31st December, 1898, stand as follows :—

Year.	No.	Year.	No.	Year.	No.
1861	2,271,923	1874	2,856,699	1887	1,575,487
1862	2,620,383	1875	3,134,086	1888	1,622,907
1863	2,032,522	1876	3,131,013	1889	1,741,592
1864	1,924,119	1877	2,746,385	1890	1,909,009
1865	1,961,905	1878	2,771,583	1891	2,046,347
1866	1,771,809	1879	2,914,210	1892	2,147,074
1867	1,728,427	1880	2,580,040	1893	2,155,500
1868	1,761,411	1881	2,597,348	1894	2,290,112
1869	1,795,904	1882	1,859,935	1895	2,023,768
1870	2,195,096	1883	1,640,753	1896	2,043,707
1871	2,014,888	1884	1,425,130	1897	1,966,729
1872	2,237,660	1885	1,317,315	1898	1,886,390
1873	3,794,327	1886	1,367,844		

From the above it will be seen there was a decrease caused by the great drought of 80,339 cattle during the year 1898, and an increase of 263,483, as against the decennial year 1888.

The number of cattle in each of the Sheep Districts of the Colony will be found in Appendix A.

196,031 cattle were introduced from other Colonies during the year, and 54,619 exported, being an increase in the number introduced over the number exported of 141,412; of the number introduced 188,383 came from Queensland.

#### *Breeds of Cattle.*

	Pure and Stud.	Ordinary.	Total.
Shorthorns	48,785	611,186	659,971
Hereford	26,486	183,388	209,874
Devon	9,190	52,425	61,615
Black-polled	799	7,394	8,193
Red-polled	259	117	376
Ayrshire	4,695	25,868	30,563
Alderneys	1,756	4,649	6,405
Holstein	88	317	405
Jersey	2,459	8,453	10,912
Guernsey	7	.....	7
Kerry	5	.....	5
Dexter-Kerry	2	.....	2
Crosses (first crosses)	7,368	890,694	898,062

Grand Total ... .. 1,886,390

The crosses are estimated as follows :—

Shorthorn and Hereford	293,277
Shorthorn and Devon	154,013
Hereford and Devon	73,999
Shorthorn and Black-polled	21,501
Ayrshire and Shorthorn	39,758
Alderney and Shorthorn	891
Jersey and Shorthorn	3,686
Holstein and Shorthorn	32
Unrecognisable	310,905

Total ... .. 898,062

*Australian*

*Australian Cattle Introduced and Imported.*

AUSTRALIAN CATTLE.—*Overland*—487 stud bulls, 457 stud cows, 55,501 ordinary cattle; total, 56,445.

*By Sea*—124 stud bulls and cows.

*Foreign Cattle Imported.*

The following lots of cattle passed through the prescribed term of quarantine (which is now forty days) in Sydney, prior to being removed inland:—

Name of Importer.	Address.	Where Imported from.	Short-horn.		Scotch.		Hereford.		Jersey.		Guernsey.		Kerry.		Dexter.		Ayrshire.		Red Poll.		Devon.		Holstein.		Total.		
			Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.
Pastoral Finance Association.	Sydney .....	London..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
C. Templeton .....	Melbourne.....	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Dr. Hay .....	Coolangatta .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
A. A. Dangar .....	Baroona .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
C. G. Tindall .....	C/o Rabone, Fez., & Co., Sydney.	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Australian A. Co. ..	Sydney .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
L. Dugdall .....	Myrning, Victoria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
N.S.W. Government	Sydney .....	..	..	4	7	..	..	..	4	6	3	6	3	4	2	2	2	5	3	2	..	..	..	..	..	21	32
N.S.W. Government	Agricultural Dept., Sydney.	Germany	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	6	3	6	..
C. J. Chirside .....	Victoria .....	London..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
J. McCulloch .....	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Dr. Hay .....	Coolangatta .....	Germany	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
			13	7	1	..	1	..	7	9	3	6	3	4	2	2	2	5	3	2	1	..	3	8	39	43	

*Increase and Decrease of Cattle in the several Districts.*

On reference to the number of cattle returned for each district as given in Appendix A, it will be seen that there is an increase in twenty-six districts, which is attributed to the extension of the dairying industry, additional settlement, increased breeding, large numbers introduced from Queensland, and more complete returns.

In the remaining thirty-nine districts they have decreased, in some to a very slight extent and others very considerably, through losses by drought and less breeding.

*The "Cast" of Fat and Store Cattle.*

It is estimated that the "cast" of fat cattle for market during the coming year will be 236,620, and store cattle, 204,320. From seventeen districts the fat cattle are principally sent to Victoria; from three districts they are principally sent to South Australia and Tasmania; and the remaining districts supply the markets of Sydney, Maitland, Mudgee, Bathurst, Orange, Goulburn, Tamworth, Albury, Western Australia, and New Caledonia. The principal markets for store cattle are Muswellbrook, Maitland, Goulburn, and Wagga Wagga.

*How kept.*

The number of cattle kept wholly in paddocks is returned as 1,533,596; on open runs, 240,506; and the balance, 112,288, are depastured both ways.

*Improvement and Deterioration.*

In thirty-nine districts the cattle are said to be improving; in twenty districts they are stationary; and in six districts deteriorating. The principal reasons given for the improvement are—introduction of good stud stock; more attention and care in selection and breeding of stock, more particularly those for dairying purposes; also closer culling and keeping in paddocks. The reason given for deterioration is inattention to breeding, some owners breeding from all sorts without respect to breed or quality, and using the same blood for years.

*Their Diseases and Ailments.*

*Pleuro-pneumonia*—Inspectors' reports show that this disease existed in thirty districts and that the cattle on ninety-five runs were affected; while the other districts are reported to be free from the disease. Inoculation was practised on 117 holdings as a preventive with good results.

*Cumberland Disease*.—From five districts the number of cattle reported to have died from this form of anthrax is 175.

*Symptomatic Anthrax or Blackleg* is reported to have carried off 1,428 head in six districts.

*Cancer and Actinomycesis*.—1,531 cattle are reported to have died in thirty-eight districts from these diseases.

*Tuberculosis*.—Cattle to the number of 4,587, suffering from this disease, are reported from forty districts as having died or were killed and boiled down.

*Ophthalmia* occasionally assumes an epidemic form, and the number of cattle attacked is in some cases considerable, causing much temporary inconvenience to stock from blindness. Outbreaks have been reported from eight districts, and the deaths numbered 479. For treatment, see Appendix C.

*Poisonous Plants*.—From seven districts deaths to the number of 1,181 are reported through eating supposed poisonous plants, but they were, it is believed, due in most cases to hoven, arising from starving cattle gorging themselves with succulent vegetation.

*Tick-fever*.—Statement with reference to the steps taken in this Colony to prevent the introduction of Ticks, and the progress and treatment of the disease in Queensland, as well as the initiation of inoculation against tick-fever, will be found in Appendix D.

*Diseased Animals and Meat Act.*

The number of cattle condemned under this Act is given in Appendix E, kindly furnished by the Board of Health. SHEEP.

## SHEEP.

The number of sheep in the Colony during the thirty-eight years ending 31st December, 1898, stands as follows:—

Year.	No.	Year.	No.	Year.	No.
1861 ... ..	6,119,169	1874 ... ..	22,797,416	1887 ... ..	46,965,152
1862 ... ..	6,558,896	1875 ... ..	25,353,924	1888 ... ..	46,503,469
1863 ... ..	7,169,126	1876 ... ..	25,269,755	1889 ... ..	50,106,768
1864 ... ..	9,082,463	1877 ... ..	21,521,662	1890 ... ..	55,986,431
1865 ... ..	9,650,106	1878 ... ..	25,479,484	1891 ... ..	61,831,416
1866 ... ..	11,644,593	1879 ... ..	30,062,910	1892 ... ..	58,080,114
1867 ... ..	15,066,377	1880 ... ..	35,398,121	1893 ... ..	56,980,688
1868 ... ..	16,000,090	1881 ... ..	36,591,946	1894 ... ..	56,977,270
1869 ... ..	16,848,217	1882 ... ..	36,114,814	1895 ... ..	47,617,687
1870 ... ..	16,218,825	1883 ... ..	37,915,510	1896 ... ..	48,318,790
1871 ... ..	16,766,012	1884 ... ..	31,660,321	1897 ... ..	43,952,897
1872 ... ..	17,873,696	1885 ... ..	37,820,906	1898 ... ..	41,241,004
1873 ... ..	18,990,595	1886 ... ..	39,169,304		

For number of sheep in the several Sheep Districts, *see* Appendix A.

*Increase and Decrease.*

This shows a decrease for the whole Colony of 2,711,893, occasioned by the prolonged drought.

The number of sheep imported during the year was 700,718, and the number exported 1,311,880, an increase in the exports over the imports of 611,162 sheep.

In Appendix F there is a statement kindly furnished by the Government Statistician, which accounts for this decrease.

For losses from causes other than by drought, *see* Appendix G.

*The different Breeds.**Merino.*

## Combing.

	Rams.	Ewes.	Wethers.	Lambs.	Total.
Pure and stud—Superfine ...	54,978	675,644	286,580	238,572	1,255,774
Ordinary ... ..	76,043	2,012,973	1,663,754	658,725	4,411,495
					5,667,269
Pure and stud—Medium ...	49,622	1,135,866	482,096	386,700	2,054,284
Ordinary ... ..	121,152	5,298,491	3,662,254	1,486,828	10,568,725
					12,623,009
Pure and stud—Strong ...	29,657	987,906	505,161	323,832	1,846,556
Ordinary ... ..	73,045	2,936,630	3,385,436	1,159,778	7,554,889
					9,401,445
Total, Combing ... ..					27,691,723

## Clothing.

Pure and stud—Superfine ...	11,601	150,530	148,827	67,950	378,908
Ordinary ... ..	19,083	641,159	559,349	203,056	1,422,647
					1,801,555
Pure and stud—Medium ...	13,146	298,366	195,582	88,997	596,091
Ordinary ... ..	45,835	2,464,313	1,640,263	603,481	4,753,892
					5,349,983
Pure and stud—Strong ...	7,343	338,273	299,998	119,896	765,510
Ordinary ... ..	17,735	885,750	921,096	292,613	2,117,194
					2,882,704
Total, Clothing ... ..					10,034,242

Total number of Merino Sheep ... .. 37,725,965

The decrease of merino sheep for the year is 2,339,971, or about 6 per cent.

*Long-woolled Sheep.*

	Rams.	Ewes.	Wethers.	Lambs.	Total.
		Forward ...	... ..	... ..	... .. 37,725,965
Pure and stud—Lincoln ...	20,596	108,170	61,016	45,032	234,814
Ordinary ... ..	18,516	124,307	168,972	56,955	368,750
		Total, Lincoln ... ..	...	...	603,564
Pure and stud—Border Leicester	3,455	29,530	53,807	16,990	103,782
Ordinary ... ..	6,277	58,935	88,925	39,377	193,514
		Total, Border Leicester ... ..	...	...	297,296
Pure and stud—English Leicester	1,832	18,953	4,706	9,363	34,854
Ordinary ... ..	3,357	38,358	24,608	26,114	92,437
		Total, English Leicester ... ..	...	...	127,291
Pure and stud—Southdowns	260	908	878	575	2,621
Ordinary ... ..	273	1,975	2,098	1,380	5,726
		Total, Southdowns ... ..	...	...	8,347
Pure and stud—Shropshire Downs	769	4,599	6,352	1,604	13,324
Ordinary ... ..	168	2,854	3,668	2,031	8,721
		Total, Shropshire Downs ... ..	...	...	22,045
Pure and stud—Hampshire Downs	10	.. ..	.....	.....	10
Ordinary ... ..	30	.....	.....	.....	30
		Total, Hampshire Downs... ..	...	...	40
Pure and stud—Romney Marsh	1,561	10,362	8,248	6,188	26,359
Ordinary ... ..	837	4,257	3,764	1,254	10,112
		Total, Romney Marsh ... ..	...	...	36,471
Pure and stud—Cotswold ...	5	.....	.....	.....	5
Pure and stud—Dorset Horn	1	.....	.....	.....	1
		Total number, Long-woolled Sheep	...	...	1,095,060

*Cross-bred Sheep.*

Crosses of the above breeds } and Merino, principally } Lincoln with Merino.	15,358	913,432	1,006,915	484,269	2,419,979
		Total, Long-woolled and Crosses			3,515,039

The decrease of long-woolled and cross-bred sheep for the year is 371,922, or about 10 %.

Grand total ... .. 41,241,004

*Sexes and Classes.*

Rams ... ..	592,545
Ewes ... ..	19,142,546
Wethers ... ..	15,184,353
Lambs ... ..	6,321,560
Total ... ..	41,241,004

*Australian and Foreign Sheep Introduced and Imported.*

*Australian Sheep Overland from other Colonies.*—Stud sheep, 4,882; ordinary, 691,700; total, 696,582.

*By Sea from other Colonies.*—3,882 stud sheep were introduced from the other Australian Colonies by sea; particulars of those sold at the annual stud sales are given in Appendix H.

*Foreign*

*Foreign Sheep.*

During the year, 247 stud rams and ewes were imported from London, America, and Germany, and passed through the prescribed quarantine of sixty days in Sydney before being allowed to be removed inland.

Particulars as to number and breed of Foreign Imported Sheep are as follows:—

Name of Importer.	Address.	Imported from—	Merino.				Long-woolled.		Total.	
			German.		American.		English.			
			Rams.	Ewes.	Rams.	Ewes.	Rams.	Ewes.	Rams.	Ewes.
Hermann Haege .....	68½ Pitt-st., Sydney.....	Germany...	10	...	...	...	...	...	10	...
E. Bissell .....	do do .....	America ...	...	...	37	10	...	...	37	10
Clarke Bros. ....	Care of Pitt, Son, & Badgery, Ltd., Sydney.	" .....	...	...	34	93	...	...	34	93
George Noonan .....	Care of Hill, Clark, & Co., Sydney.	" .....	...	...	33	16	...	...	33	16
H. C. White .....	Havilah, near Mudgee ...	England ...	...	...	...	...	1	11	1	11
Brunton & Co. ....	Clarence-st., Sydney .....	" .....	...	...	...	...	2	...	2	...
	Total .....		10	...	104	119	3	11	117	130

*The "Cast" of Fat and Store Sheep.*

The annual "cast" of fat sheep for the ensuing season is estimated at 4,389,130, and store sheep, 3,731,170.

*How Sheep are kept.*

Paddocked ...	...	...	...	...	...	...	...	40,296,357
Shepherded ...	...	...	...	...	...	...	...	381,354
Both ways ...	...	...	...	...	...	...	...	563,293
								41,241,004

*Quality of the Flocks.*

In forty-three districts an improvement in the sheep is reported, the principal reasons given being more attention to breeding, paddocking, introduction of high-class rams and ewes, and more careful classing and culling.

In eleven districts the sheep are said to be stationary, and in eleven districts they are deteriorating.

*Lambing.*

From a return of the autumn, winter, and spring lambings obtained from the Inspector for each Sheep District, the average percentage of lambing for the whole Colony is estimated at 52½ per cent., *i.e.*, calculating the number of lambs marked on the number of ewes put to the rams. The spring lambing was the highest, averaging 65½ per cent., while the autumn and winter lambings averaged 52½ and 44½ per cent. respectively. The estimated number of ewes put to the ram during the year was 14,489,816, and the number of lambs returned as marked during the autumn, winter, and spring lambings was 7,566,868.

*The Clip.**Average per Sheep.*

*Lambs.*—The number of lambs shorn in the grease was 3,643,450; the number washed, 139,000; total lambs shorn, 3,782,450.

*Sheep.*—The number of sheep shorn in the grease was 34,931,165; and scoured, 2,506,825; total sheep shorn, 37,437,990.

The average weights of the clip are estimated as follows:—

							<i>Lambs.</i>	<i>Sheep.</i>
							lb. oz.	lb. oz.
Grease ...	...	...	...	...	...	...	1 14½	6 0
Scoured ...	...	...	...	...	...	...	1 2½	2 15

*Total Clip.*

Total clip in the Colony for the year 1898, according to the number of sheep, would be:—

34,931,165 sheep shorn in the grease; average clip, 6 lb. 0 oz. per sheep	=	209,586,990 lb.
2,506,825 " scoured	"	2 " 15 " " = 7,363,798 "
3,643,450 lambs shorn in the grease	"	1 " 14½ " per lamb = 6,859,933 "
139,000 " scoured	"	1 " 2½ " " = 158,112 "

223,968,833 lb.

The estimated total weight of the clip as shown above is below that of the previous year by 312,813 lb., owing principally to the large decrease in the number of sheep and lambs shorn. This, again, was occasioned by the exceedingly severe drought which affected the greater portion of the Colony.

Condition

## Condition of Clip.

In a few of the districts, including the Upper Billabong, Mudgee, Liverpool Plains, and New England the clip was sound and in good condition. In a great many of the others which suffered from drought the wool was unsound and dust-stained. This was especially the case in regard to clips in the greater part of the south-western portion of the Colony.

## Exportation of Clip.

The clip grown in the Colony of New South Wales is shipped principally to England, America, France, Germany, and Japan, and considerable portions of it is so from the ports of the three neighbouring Colonies, as well as from Sydney and Newcastle. The portions of our clip thus shipped from the other Colonies is often mistaken as the produce of those Colonies, more particularly for that of Victoria and South Australia.

The following is an estimate of the clip sent to Sydney, and also the proportion sent across the Border to Melbourne, Adelaide, and Brisbane for the years 1897 and 1898 :—

Port of Shipment.	1897.			1898.		
	Greasy.	Washed.	Total.	Greasy.	Washed.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.
Sydney .....	180,329,890	6,077,859	186,407,749	177,846,389	5,976,259	183,822,648
Melbourne .....	28,841,536	919,320	29,760,856	32,038,440	817,883	32,856,323
Adelaide .....	7,207,152	749,930	7,957,082	6,562,094	727,768	7,289,862
Brisbane .....	155,959	.....	155,959	.....	.....	.....
	216,534,537	7,747,109	224,281,646	216,446,923	7,521,910	223,968,833

This shows a decrease in the quantity of wool shipped during the year from the ports of Sydney and Newcastle of 2,585,101 lb., as compared with that shipped in 1897.

This decrease is no doubt attributable to the very large increase in the quantity of New South Wales wool shipped from Melbourne during the year. It will also be noted that none of the clip was sent to Brisbane.

## Classing of Clip.

In forty-one districts the clip is reported as having been fairly to well classed. In the other districts it is not considered to have been so, and the reasons given were—that owners consider it does not pay, that prices obtained are no better, want of convenience, clips not large enough to warrant expense, and the difficulty of obtaining competent wool-classers.

## Wool-presses.

A great number of different kinds of presses are used; those most in favour are Ferrier's Patent, Langley's, Lough Bros., Ritchie's, Wilding's, and Williams and Robinson's; rack screw and pinion presses are used. There is still room for improvement in the mode of pressing, especially by the owners of small clips.

## Woolpacks.

The woolpacks used are mostly Calcutta and Dundee, of various sizes, from 4 ft. 6 in. x 2 ft. 2 in. to 5 ft. 3 in., and the weight from 10 to 12 lb.

On forty-six holdings the wool is dumped before leaving.

## Sheep-brands and Marks.

During the year 1898 the number of Sheep Brands and Ear-marks recorded, transferred, and cancelled were as follows :—

Recorded.		Transferred.		Cancelled.		Total Registered.
Fire Brands ...	182	Fire Brands ...	57	Fire Brands ...	59	5,721
Tar do ...	1,019	Tar do ...	150	Tar do ...	176	22,118
Ear-marks ...	840	Ear-marks ...	134	Ear-marks ...	133	13,423
Total ...	2,041	Total ...	341	Total ...	368	41,262

## Ear-marking and Tattoo Branding.

In all districts the system of ear-marking sheep is now generally carried out. Tattoo-branding is mostly used by owners of stud-sheep, not as yet to any great extent in the case of ordinary flock sheep, but where tried it has been found to be a good preventive of sheep-stealing.

## Destruction of Wool by Tar and Paint Brands.

During the year a trial was made by two of the District Inspectors with some English marking ink supplied by Messrs. John Bridge & Co., Sydney, for the purpose of testing its qualities as a branding material, and was favourably reported both as regards permanency and slight damage to the wool.



## DISEASES IN SHEEP.

*Scab.*—The flocks in this Colony and in the Colonies of Queensland, Victoria, South Australia, New Zealand, and Tasmania, and Western Australia are now free from scab. No case of scab has been met with in the latter Colony since May, 1895, and it was officially declared to be clean in October last.

*Anthrax.*—This disease appears to be spreading, and owners are now availing themselves of the facilities offered for vaccinating their sheep, which has been the means of lessening the mortality. A statement (Appendix I) is attached showing the vaccinations made during the year.

With respect to the appointment of a bacteriologist the matter is still in abeyance, as through the kindness of the President of the Board of Health the services and advice of Dr. F. Tidswell, M.B., Ch.M., D.P.H., principal assistant medical officer, has been obtained by the Department with respect to tick-fever and other infectious and contagious diseases.

*Foot-rot.*—Six districts report foot-rot among the sheep, but only to a slight extent, the past season not being favourable to its spread. Remedies for foot-rot will be found as Appendix J.

*Fluke.*—Owing to the dry season this disease also has been less prevalent than in previous years. The losses from fluke reported from twelve districts amount to 27,353. To prevent its spread, owners are urged to free their land from surface water by running plough furrows where practicable and helping them with the spade. The preventives used by owners were salt, tar, and turps, sulphate of iron and Liverpool salt, and salt and sulphur.

*Parasitic Worms.*—Eleven districts report the sheep as having been infested with worms to the extent of about  $4\frac{2}{3}$  per cent.; in five districts the sheep were infested with stomach, lung, and tape worms; two districts with stomach and tape worms; and in four districts with stomach-worms only.

The following results have been gathered regarding the efficacy of the various drenches and licks used for sheep for worms:—

*Drenches.*

*Arsenic.*—For the stomach and tape worms the arsenic and soda drench is still reported as the most effective, and has been by far the most generally used. It has, however, been recommended that potash, as being less severe on the lining of the stomach, should be substituted for soda in its preparation. The arsenic and soda drench is reported by several of the Inspectors as having been also efficacious for lung-worms. No authenticated information has been received of this drench affecting the health of the sheep or injuring the wool.

*Turpentine.*—Turpentine, with various mediums, has been very generally given for stomach, tape, and lung worms, with good results, when repeated.

*Hayward's Specific* is reported as having given satisfactory results where used.

*Weaver's Drench* is reported to have been used in a few districts with fairly satisfactory results.

While it can be said that a decided improvement follows the administration of most of the drenches generally used, it is a fact that even in the case of the most effective the *post-mortem* examinations disclose that generally where the sheep are at all badly infested some worms are still alive; and this again, it is believed, arises from the owners delaying too long in drenching, and allowing the worms to have too great a hold on the sheep before they are drenched. The consequence is that some worms are left, which keep the sheep from thriving, and, with the introduction of fresh eggs from the water and pasture—if the weather is at all favourable for the development of the worms—in the course of a few months the sheep are as bad as they were before they were drenched. To make the cure effective, therefore, sheep which have been badly infested should, on receiving one drench, be kept as near the drenching yards as possible, and receive a second drench in the course of twelve or fourteen days after the first.

But, while licks and drenches should be provided and given at as early a date and as often as required, owners should give their earnest attention to the removal of what may be termed the contributing causes of the pest by avoiding overstocking, attending to the proper nourishment of the lambs and weaners, burning off old pasture, and getting rid by draining off surface and stagnant water, as suggested in Vol. II, part 2, of the *Agricultural Gazette*.

*Licks.*

It is reported that the following licks have been used with good results:—

Salt and sulphur.	Salt, sulphate of iron, and Hayward's Specific.
Salt and sulphate of iron.	Salt, tar, and turpentine.
Salt and turpentine.	Pottie's Preventive Lick.
Salt, sulphate of iron, and turpentine.	Salt and lime.
Salt, sulphur, and sulphate of iron.	Salt, sulphur, and lime.

It is scarcely necessary to point out that a lick, if it is efficacious in warding off an attack of worms, is far preferable to a drench; and as owners in all but the true saltbush country are now aware that it pays them well to give their sheep a liberal supply of salt, it would add very little to the trouble or expense to give once a month with the salt some of the other ingredients here mentioned which they found from experience was to any extent effective in protecting their sheep from the worm-pest.

*Sheath Disease in Wethers.*

A considerable number of fresh outbreaks of this disease have been reported during the year.

Full particulars as to the nature of the disease, its treatment, and prevention, as furnished by Mr. Veterinary-Surgeon W. Scott, will be found in my Annual Report for 1895, as Appendix H.

## PIGS.

On 31st December, 1898, the number of pigs in the Colony stood at 247,061, being an increase of 39,323 on the returns for the previous year.

Three thousand five hundred and ninety-eight pigs were introduced by sea and land from the other Australian Colonies and England.

Eleven thousand four hundred and ninety-six pigs were exported during the year.

Forty-two pigs were killed on board, as the owners would not quarantine them.

There was a decrease in the number of outbreaks of swine fever in Great Britain and Ireland during the year 1898 as compared with previous years. *See Appendix Q.*

I regret to have to report that an outbreak of this disease has occurred in New Zealand. The introduction of pigs from that colony has been prohibited.

## DOGS.

Thirty-two dogs which arrived from England and other places outside the Australian Colonies passed through quarantine during the year.

Twenty-two "ships' dogs" were quarantined during the stay of vessels in port, and seven "ships' dogs" were destroyed.

All "ships' dogs" and other stock on board foreign vessels for the use of the passengers and crew are now quarantined during the stay of the vessel to which they belong in port, whether in Sydney or at Newcastle.

One hundred and seventeen Colonial dogs were introduced at the Port of Sydney from the other Colonies, and 429 dogs were inspected prior to exportation.

*Diseases in Dogs.*

Rabies is reported as having decreased in the United Kingdom during the past year. *See Appendix Q.*

For report on Regulations *re* introduction of Foreign Dogs, *see Appendix R.*

TRAVELLING STOCK (*Reserves, Roads, Tanks, Wells, &c.*).*Trespass on Reserves.*

In thirty districts the travelling stock and camping reserves are reported as having been trespassed upon, generally only to a slight extent, and in thirty-five districts they are reported as being free from trespass.

From forty-seven districts it is reported that 7,577,230 sheep have travelled through during the year in search of grass and water. From nine districts the number of loafing sheep is given at 166,000.

Owing to the continued drought the number of sheep on the road were more than treble that during the previous year, and the reserves, especially where leased, were found quite inadequate for this extra traffic.

The Stock Boards Council of Advice have taken up this matter with a view to the reserves and the stock traffic being placed on a more satisfactory footing, and have, at the request of the Minister, submitted for his consideration the principles on which they consider a measure for dealing with travelling stock reserves and travelling stock should be framed. *See also Appendix S* on this subject.

*Marking of Travelling Stock and Camping Reserves.*

Fair progress has been made with regard to the marking of travelling-stock and camping reserves, there being at present about 1,430 miles surveyed and about 50 miles in course of survey. The routes marked are:—

1. From Boggabilla, *via* Yetman, Warialda, and Cobbadah, to Breeza.
2. From Moree, *via* Millie, Narrabri, Boggabri, Breeza, and the Liverpool Range, to the Bulga Mountains.
3. From Walgett, *via* Coonamble and Mendooran, to Uarbry.
4. From Coolah, *via* Uarbry, to Rylstone.
5. That portion passing through Terry-hie-hie Holding.
6. From Boggabri, *via* Turrabeile or Cox's Creek, to Coolah.
7. Mungundi to Moree.
8. Along the Mara Creek from the Barwon River upwards.
9. Along the Bogan to travelling stock reserve on the Murda Creek.
10. From Breelong to Dubbo.

In course of marking:—

That from Jennings to Tamworth.

With a view of making these surveys of practical benefit to drovers, stock-owners, and others, lithographs are being prepared showing sections of the roads in lengths of between 20 and 30 miles.

Lithographs of the roads, Boggabilla to Cobbadah, in six (6) sections; Moree to Cobbadah, *via* Gurley Holding, in one (1) section; Walgett to Uarbry, in five (5) sections; and Liverpool Range to Putty, in five (5) sections, are now on sale at the Head Office, and also at the local Stock Offices, at 1s. per section.

*New Stock Roads required.*

In twelve districts new roads are required for travelling stock, and to obtain these action has been already taken in ten districts.

*New Stock Reserves required.*

In twenty districts new reserves and alterations of existing ones for travelling stock are required. In forty-five districts there are sufficient reserves ; but in a great many cases the reserves are under annual lease, and are kept very bare of feed.

*New Wells, Tanks, or Dams.*

In twenty-five districts the inspectors report that new wells, tanks, or dams should be constructed by the Government at places which they indicate.

## REGISTRATION OF HORSE AND CATTLE BRANDS.

*Brands registered.*

The number of horse and cattle brands registered up to 31st December, 1898, was 79,790. The number of brands registered during the year 1898 was—Horse brands (alone), 134; cattle brands (alone), 395; and horse and cattle brands, 1,058; making a total of 1,587.

This shows an increase of 68 in the total number of brands registered during the year as compared with 1897. There is also an increase in the number of brands transferred and cancelled.

*Brands transferred.*

The brands registered during the year 1898 as transferred were—Horse brands, 13; cattle brands, 21; horse and cattle brands, 113; total, 147—being an increase of 12 on previous year.

*Brands cancelled.*

The brands cancelled (horse and cattle) in 1898 were 198.

*Addresses changed.*

The number of addresses of owners changed in 1898 was 65.

*Compliance with the Act.*

In all the districts the provisions relating to registration and the other requirements of the Act are reported as being fairly carried out.

*Benefits of the Act.*

The inspectors, in alluding to the benefits of the Act, report that it prevents duffing, stock-stealing, facilitates identification, assists in recovering lost stock, and otherwise is a great convenience and protection to stock-owners.

Two new systems of branding have been brought under notice, and are reported on in Appendix K.

## POUNDS.

*Number and Inspection.*

At the end of the year there were 326 pounds in operation in the Colony. The whole of the pounds are inspected periodically by the Stock Inspectors.

*State of Yards.*

Forty-seven of the pound-yards are reported to be old; some require renewing, being unfit for the safe custody of stock; while others need repairs. The remainder are said to be in a fair and good condition.

*Keeping and Depasturing Pound Stock.*

The provision for the proper sustenance of impounded stock, which has to be made by the Pound-keeper at his own expense, according to the reports received, is satisfactory. As a rule, poundkeepers in the country districts have now paddocks for the stock.

*Management of Pounds.*

The poundkeepers are reported to be performing their duties, upon the whole, in a satisfactory manner, and the appointment of inspectors of stock as inspectors of pounds has had a very beneficial effect.

## NOXIOUS ANIMALS.

*The Districts in which the Pastures and Stock Protection Act is in force.*

The Act has been brought into operation in all the districts, and during the year work has been done to the extent shown in Appendices L and M.

*Receipts and Expenditure under the Act.*

The amount of assessment paid by stock-owners in 1898 was £32,720 17s. 4d.; and the amount expended £28,910 13s. 10d. Two districts are reported to be in debt to the amount of £109 4s. 1d.

In three districts full rates were levied, in fifty-eight districts less than full rates, while in four districts no rates whatever were levied.

During

During the year the bonuses paid by the Boards for scalps ranged as follows:—For kangaroos, from 2d.; kangaroo rats,  $\frac{1}{2}$ d. to 3d.; wombats, 6d. and 2s. 6d.; wallaby, from 1d. to 4d.; wallaroo, from 1d. to 2d.; paddymelon, from  $\frac{1}{2}$ d. to 3d.; bandicoot, 1d. to 2d.; hares, from 1d. to 6d.; native dogs, from 5s. to 30s.; pups, 2s. 6d. to 10s.; wild pigs, 3d. to 6d.; eagle-hawks, 6d. to 2s. 6d.; crows, 1d. to 6d.; and foxes, 2s. 6d. and 20s.

*Increase and Decrease.*

Kangaroos are reported to be increasing in seven districts, wallabies in twelve districts, native dogs in ten districts, hares in eleven districts, and wild pigs in five districts. In twenty-five districts kangaroos are reported to be decreasing, wallabies in fifteen districts, native dogs in fifteen districts, hares in thirteen districts, and wild pigs in six districts.

*Number destroyed.*

The number of kangaroos destroyed during the past year was 13,827; of kangaroo rats, 86,758; of wallabies, 570,165; of wombats, 170; of bandicoots, 366; of paddymelons, 37,797; of wild pigs, 15,439; of hares, 442,319; of foxes, 358; of native dogs, 12,000; of opossums, 75,230; of eagle-hawks, 4,688; of crows, 66,335; of emus, 288.

*Steps taken for their destruction.*

In the majority of the districts, hunting with dogs, drives, shooting, trapping, and poison have been adopted with satisfactory results. In forty districts poison has been used, mostly for dogs, with fair to best results, and from ten districts it is reported that the results have not been satisfactory, the dogs being too cunning to take baits.

LOSSES FROM NATIVE AND TAME DOGS.

The losses through native dogs for the year are estimated at 185,635 sheep, valued at £42,446; and from tame dogs 74,344 sheep, valued at £19,238; making a total loss of £61,684. A stricter enforcement of the law with respect to stray dogs, and the registration of dogs, is urgently required.

COMMONS.

There are now 351 Commons in the Colony, the average acreage of which is about 4,000 each.

*Number of Commoners, Stock, &c.*

The average number of Commoners to each Common is estimated at seventy-six, and the average number of stock kept on each Common at 100.

Many of the Commons are unfenced, consequently are trespassed upon by travelling and other stock.

FRESH LEGISLATION.

*Amendments suggested by the Boards.*

The agitation for the passing of the Consolidated Stock and Pastures Bill still continues, and among other amendments in the law asked for it is suggested that bonus be paid for rabbit scalps; that the Government should contribute a higher rate of subsidy to the funds of the Boards; that rabbits be declared noxious animals; that the Boards should have the administration of the Rabbit Act; and that a measure should be passed dealing with noxious weeds and plants. Owners should be compelled to lay poison for noxious animals; triennial elections of directors; compulsory bonus for all noxious animals.

*Consolidated Diseases in Stock Bill.*

This measure has also been framed, and would have been in readiness for introduction when Parliament met; but now that a Royal Commission has been appointed to inquire into the diseases affecting stock and the legislation for dealing with them, it will have to be deferred until the Commission has concluded its labours.

Among other things, the Bill as framed provides for the establishment of a Central Board or Council of Advice, and a contribution from the owners of large stock towards the expense of the Stock Branch.

*The Registration of Brands Bill.*

Copies of the draft of this Bill, which was prepared in accordance with the resolution of the Intercolonial Stock Conference held in Melbourne in 1898, has been forwarded to the other Colonies for their consideration and report. The draft has also been submitted to the Stock Boards and Council of Advice for any suggestions they had to make. These have been received, and, so far as deemed advisable, have been incorporated in the Bill, together with additional provisions dealing with mustering, stock stealing prevention, and the regulating of travelling stock which were revised by the Council of Advice; and the Bill will be ready for introduction when the opportunity occurs of submitting it to Parliament.

MISCELLANEOUS.

*Cultivated Grasses.*

In thirty-one districts cultivated grasses have been sown for pasture during the year, the most successful being lucerne, prairie, rye grass, and clover.

*Number and Division of Runs.*

The number of open or unenclosed runs in the Colony is 6,188; the number enclosed is 39,871; the number partially subdivided is 14,785; and the number properly subdivided is 22,697.

*Improvements,*

*Improvements, Fencing, Dams, Tanks, and Wells.*

The number of miles of fencing throughout the Colony is estimated as follows:—736,178 miles without wire netting, at an average cost of (say) £34 6s. 6d. per mile, amounting to £25,265,230, and 48,765 miles with wire netting, average cost at (say) £67 2s. 6d. per mile, amounting to (say) £3,273,708.

The number of dams used for stock purposes is estimated at 50,913, at an average cost of (say) £41 4s. 9d.; number of tanks, 56,342, at an average cost of £139 17s. 3d. each; and the number of wells used is estimated at 9,141, at an average cost of £125 14s. each.

Cost of fencing, £30,727,920; cost of dams, £2,099,717; cost of tanks, £7,885,870; cost of wells, £1,149,219; making a total of £41,862,726, as representing the amount expended by way of improvements, &c.

*Plants and Weeds.*

## Prevalence.

In fourteen districts *trefoil burr* grows to a very large extent; in eleven districts, to a considerable extent; in sixteen districts, to a slight extent; and in twenty-one districts there is none reported.

In twenty-six districts *variegated thistle* is reported to a slight extent; in twelve, to a considerable extent; in five, to a very large extent; and eighteen districts are reported as free from it.

In twenty-two districts *black thistle* is reported to a slight extent; in sixteen, to a considerable extent; in six districts, to a very large extent; and eighteen districts are reported to be free from it.

In eight districts the land is reported as being infested to a very large extent with *Bathurst burr*; in thirteen districts, to a considerable extent; in twenty-nine districts, to a slight extent; and in fourteen districts the land is not infested.

In nineteen districts other noxious weeds grow to a slight extent; in fourteen districts, to a considerable extent; in sixteen districts, to a very large extent; and in ten districts there is none reported.

## Legislation for Noxious Weeds.

Legislation is urgently required for dealing with noxious weeds and plants, more especially the Bathurst burr, the prevalence of which is inflicting very serious loss on travelling stock. A Bill has been prepared by the Minister for Lands to deal with the matter.

## Cost of clearing Commons, Reserves, &amp;c., of Weeds.

The cost of clearing the Commons of noxious weeds throughout the Colony is estimated by inspectors at £24,193; the police paddocks, £1,081; the travelling stock reserves and droving roads at £183,778; amounting in all to (say) £209,052.

## PREVENTION OF SCAB IN SHEEP ACCOUNT.

A detailed statement of receipts and expenditure by the Department in connection with the above Fund for year 1898 will be found in Appendix N hereto, and will be published annually in the same form.

For statement of the salaries paid to the different inspectors from the above account, see Appendix O. See also Appendix P, which gives salaries of secretaries under Pastures Boards.

## DISEASES IN STOCK IN THE UNITED KINGDOM.

It will be seen by tabulated statement under Appendix Q that there was a very considerable decrease during the year in infectious and contagious diseases in Great Britain and Ireland.

## FROZEN MEAT TRADE.

Messrs. W. Wedell & Co., in their report for 1898 (from which the figures I have here collected are taken), state it was anticipated that, with the settlement of the labour troubles and the general improvement in trade in the United Kingdom, better prices would be obtained for frozen mutton in 1898 than in 1897.

This actually took place, although the importations exceeded those of 1897 by 189,000 carcasses.

The total importations aggregated 6,422,153, being an increase for the year of 189,000, and representing a daily consumption of some 18,000 carcasses. Of this 1,263,422 (being a decrease of 144,000) came from Australia, 2,818,289 (being an increase of 115,000) from New Zealand, and 2,340,442 (being an increase of 245,000) from River Plate.

Of the Australian mutton, 1,253,422 carcasses were landed in London and only 10,000 at Manchester. The whole 2,818,289 from New Zealand were landed in London, while of the River Plate only 275,152 carcasses were sent to London, 1,842,465 went to Liverpool, and the balance, 222,825, were sent to Cardiff and other ports.

*Australian Mutton.*

The decrease in the Australian shipments is accounted for by the continuous general drought with which the colonies have for nearly four years been afflicted.

This has not only reduced the output of Australian mutton, but it has also affected the quality, and, combined with the Argentine competition and the want of co-operation among our shippers, has led to Australian mutton realising prices which, although a shade higher, on the whole, than 1897, have, after paying expenses, left comparatively little to the producer.

For a good many years our mutton realised decidedly higher prices than the River Plate. Gradually the price of that mutton improved, and for some time the prices of Australian and Plate mutton were about the same. Now, however, the prices River Plate mutton brings are generally higher than Australian, and this has occurred through the extensive introduction of English sheep, principally Lincoln, into the Argentine.

With more favourable seasons, greater attention to breeding and fattening, shipping only prime sheep, and more co-operation among our exporters in the transit and sale of our mutton in London, there is no reason why we should not regain the position we previously held as regards our great competitors in the Argentine, or at least come again on equal terms with that country on the London market.

#### BREEDING OF CROSS-BREDS.

It is said that, owing to the rise in the price of merino wool, it is the intention of a good many sheep-breeders, who were thinking of trying cross-breeding, to give up the idea, and that even some of those who had commenced using the English rams were about to revert entirely to the merino.

Before they finally decide which course they will adopt, it is suggested that the owners whose holdings are well adapted for cross-breeding, and especially those who have gone into wheat-growing, should give such opinions as the following due consideration:—

1. That it was mainly the superabundance of merino wool, combined, to some extent, with the fashions, that brought the price of that description of wool so low from 1892-3 to 1896-7; and that, if a general rush were made for growing merino wool in the Argentine as well as in Australia, lower prices would be likely to follow.
2. That there is already a movement, though, perhaps, not a very general one, in the Argentine to revert to the merino, and, with the large number of sheep in that country, it would not take long before the effect is felt in the London market if the change were to become general, as it is likely it would if the rise in the price of merino wool is maintained.
3. That, with proper management on those properties where wheat-growing is extensively carried on, and where sheep must be kept to maintain the fertility of the soil, the owner will obtain a better return from cross-breds than merino, especially if care is taken to put merino ewes with a good quality of wool to the English rams—even if merino wool should continue to bring the excellent price it now does—seeing that the cross-bred mutton brings a higher price than merino, and the cross-bred wether is ready for market a year earlier than the merino.

As connected with this subject, I here give the result of Mr. W. E. Abbott's valuable experience in the breeding and fattening of cross-bred sheep, as he has undoubtedly removed what has hitherto proved a great stumbling-block to many of our sheep-owners and farmers in taking to cross-breeding. I allude to the difficulty of finding substitutes for the turnips, rye-grass, and clover which have done so much for the New Zealand farmer, but which can only be grown in a comparatively few portions of this Colony with success. In place of these, he has been feeding and fattening with pumpkins, prairie grass, lucerne, and rape, which can, to a fairly successful extent, be grown in all parts of the Colony, except where the New Zealand crops can be so. No better crop than lucerne can be grown, and extensive areas are now being laid down in Riverina and other parts of the Colony after two or three crops of wheat, before the soil is at all exhausted. There is no doubt a good deal of land in the Colony where the subsoil is unfavourable for lucerne; but there the other green crops grown by Mr. Abbott, and a good many others which have not as yet been tried, would, according to the climate and soil, give fair to good returns, and put the owners of land in a position to turn off prime fat sheep and lambs which would manure the land and maintain its fertility. Such a system would enable owners to produce really fine milk lambs at 5 or 6 months fit for export—a trade which pays well, and is most unlikely to be ever overdone.

Besides this, Mr. Abbott, although he makes no claim for doing so, has solved a still more important matter—that is, the question of a profitable rotation on fair to middling good land, which, if adopted, would put a stop to the ruinous practice, which may be said to have hitherto prevailed, of growing wheat year after year on the same land without manure till it is run out and ruined. By growing such crops in rotation as Mr. Abbott mentions, and feeding them off with sheep, which do very much more than pay their way, the heart and fertility are not only preserved in the soil, but, with the occasional application of a little artificial manure of the right description, which more than repays the cost in additional yield, are actually increased.

The following is an extract from the statement made by Mr. Abbott on this subject, as it appeared in the public Press to which the foregoing remarks apply:—

#### *“Fattening Sheep for Freezing.”*

“After four years of experimenting at Wingen, he found the raising of green crops to feed sheep was the most profitable form of farming. These included pumpkins, prairie grass, lucerne, and rape. The great advantage was that one man and his dog could harvest 10,000 acres, and there was no heavy cost of carriage to pay, as the sheep carried themselves to the nearest railway station, or to the freezing works at Aberdeen. The result of the system in New Zealand was that practically all the fat sheep raised were produced by the farmers. In a small place in the Canterbury District, he one day saw 16,000 store sheep sold in lots of 500 to the small farmers. The result of this important method of farming in New Zealand was that, although the whole colony only carried 18,000,000 sheep, she exported three times as much frozen mutton as New South Wales with 40,000,000. That was the whole secret of New Zealand being at present more prosperous than any of the other Australian colonies, for the man who exported was not the only person who profited by the undertaking, as the value of the exports came back in either money or goods, and all members of the commercial community benefited. Mr. Abbott's best record so far is eighteen sheep to the acre of rape, and these were sold as freezers at Aberdeen.”



The following is a Statement of the Boiling-down, Chilling, Freezing, and Preserving Works in the Colony and of their Capacity, and the Work done during 1898.

Name of Establishment	Boiling				Chilling				Freezing				Preserving				Sundries	Remarks
	Capacity @ diem		Number treated		Capacity @ diem		Number treated		Capacity @ diem		Number treated		Capacity @ diem		Number treated			
	Cattle or Sheep		Cattle or Sheep		Cattle or Sheep		Cattle or Sheep		Cattle or Sheep		Cattle or Sheep		Cattle or Sheep		Cattle or Sheep			
Aberdeen—Australian Chilling and Freezing Co (Limited)	200	3 000	219	382	150	2,000		12,994	100	1,500	7,483	46,934	100	1,500	392	17,658	Tallow 1 225 tons Mutton 10 tons Meat 8 694 cases	
Albury—Meat Works (Walder & Walder)	100	2,000	200	14,000									30	500	400	17,000	Murray cod	All exported
Bahrun—Boiling down	10	1,000																
Bathurst—Hereford Lstate Boiling down (Cobb & Co)	50	500																Not in operation
Do Alloway Bank do (J J Sullivan)	25	300																Not in operation
Bonike—Meat Preserving Co (Limited)	150	2,500	6,573	70,984	50	1,000	1 000	33,868					150	2,500	6 573	75,984		
Canathool—Stock Owners Company of N S Wales (Limited)		2,000				1,300												
Coonah—Buryan Boiling down Works		2,000																
Do Middle Flat do do		600																
Corowa—Boiling down Works (Limited)		900	3 833															Cattle not treated
Dairling Harbour—Geddes But & Company (Limited)					400	3,500		no record	130	2,000	2,728	90 304						
Deniliquin—Ravenhill 110/ten Meat Company		2 000		35 265						2 000		106,645		2 000				
Do Oddy & Sons Boiling down Works		2,000		20,000														
Do H Ricklison's do do		1 000		7,300														
Do J M Cuev's do do		350		2,750														
Dubbo—Refrigerating and Boiling down Co (Limited)	100	1,500		13,000	50	900	91	40 000										Wool s not working
Luston Station—Boiling down Works		300																
Forbes—Stock Owners Company of N S Wales (Limited)		2,500				1,350												
Gunnedah—Pastoral Finance Company, Sydney	100	2 000	30	1,950	50	1,200		20 712										
Hay—Boiling down Works		2,500																
Menindie—Boiling down Freezing, and Meat Preserving Company (Limited) 5 Mile Point	300	3,500			60	600							100	2,700				Not in operation
Morima—G G Claughton's Boiling down Works		2 000																
Do John Stokes do do		1 000																
Molong—Ben Boiling down Works	40	600																Not in operation
Do Buryan Boiling down Works	20	300																Not in operation
Do Buchimbah do do	13	200																Not in operation
Narrandera—Refrigerating Chilled Meat Works	30	2 000			30	800												Not in operation
Narrabri—Nume Refrigerating Preserving, and Boiling down Company's Works	100	2 000	91	12,231	50	500												
Narrabri—Geddes But & Co	70	1,400	85	13,563	35	600							40	450				Not carried out
North Sydney—Pastoral Finance Co									2,000		242 000							
Nyngon—Stock Owners Company of N S Wales (Limited)	150	2 000			70	900												
Ramothme—Australian Meat Works	120	1 400											120	1 400				
Sydney—Meat Preserving Company														7,000	3 789	957,618		
Do Fish Food and Ice Company						1 500			13 000	1,068	303,306							*Shortly to be increased to 6,600 Large quantities of milk, butter, fish, poultry, &c, chilled and frozen
Glen Innes—Wm Hodges					40	200	92	1,020										
Lenterheld—Geddes But & Co	50	500			55	500												
Towiang—W H Wheatley's Boiling down Works	50	750		680														
Wagga Wagga—Lake Albert do do	80	800																
Wentworth—Lake Victoria do do		5,000																
Wentworth Creek—Stock Owners Company of N S Wales (Limited)	100	2,000			50	900												Not in operation
Wilcannia—Menindie Boiling down, Freezing, and Meat Preserving Company's Branch		2,500											0					
Young and District—Chilled Meat and Produce Storage and Export Co (Ltd)	200	2,000																
	2,113	58 900	11,031	197,105	1,125	17,700	1,189	108 94	230	10,500	11,779	1,089,219	540	18 550	11,154	1,008,260		

Total Capacity of the Works in the Colony

Capacity for Boiling per diem—2,113 cattle or 58 900 sheep  
 Do Chilling do 1,125 do 17,750 do  
 Do Freezing do 230 do 10 500 do  
 Do Preserving do 540 do 18,550 do

Capacity for Boiling per annum—633 900 cattle or 17,670,000 sheep  
 Do Chilling do 337,500 do 5 325,000 do  
 Do Freezing do 69,000 do 3,150 000 do  
 Do Preserving do 162,000 do 5,665,000 do

## THE STOCK BOARDS COUNCIL OF ADVICE.

During the present year the Council has been placed on a more permanent footing by the formation of "The Stock Boards Convention of New South Wales," having for its objects, general and united action on the part of the Pastures and Stock Protection Boards to assist the Minister in dealing with diseases in stock, and in the administration of the laws relating to the pastures and stock of the Colony, and to promote, in every legitimate way, the live-stock industry.

The Council had during the year under consideration many very important matters, and, although not much progress has been made in obtaining the amendment of the Acts which they have been urging on the Government, the opinions of the Boards on these questions have been ascertained and a great deal of valuable materials have been collected which will be turned to account in preparing the measures which are being framed to carry out these amendments, and will be ready to be submitted to Parliament when the opportunity occurs. There is no doubt that the experience and advice of its members will be of great assistance to the Department and the Minister.

*Subjects dealt with by the Council.*

The Condemned Stock Fund.

Appointment of a Royal Commission on the Diseased Meat Question.

Anthrax.

Starving stock rates.

Strict enforcement of the Dog Act.

Removal of emus from list of protected birds.

Increased subsidy for destruction of noxious animals.

Travelling stock routes.

Assessment on large stock.

Pastures Boards' correspondence free.

Rabbits be declared noxious animals under the Pastures and Stock Act.

Amended regulations under the Pastures and Stock Protection Act.

Additions to the Brands Bill.

APPENDIX A.  
RETURN of Stock in the several Sheep Districts.

Districts.	Year 1897.					Year 1898.				
	Acreage.	Horses.	Cattle.	Sheep.	Pigs.	Acreage.	Horses.	Cattle.	Sheep.	Pigs.
Albury .....	851,876	7,106	16,405	619,661	.....	856,121	7,699	14,686	573,535	.....
Armidale .....	3,043,735	12,922	92,719	1,331,651	.....	3,368,588	13,290	94,508	1,613,052	.....
Balranald .....	3,513,495	1,746	3,149	386,384	.....	3,817,007	1,937	3,211	404,246	.....
Bathurst .....	1,498,396	14,974	36,021	511,330	.....	1,425,661	12,899	31,569	559,039	.....
Berrima .....	275,464	3,733	26,144	42,667	.....	250,310	3,612	23,801	40,588	.....
Bombala .....	667,110	2,928	19,791	424,408	.....	600,678	2,827	19,652	427,287	.....
Bourke .....	8,862,079	7,903	18,692	2,038,194	.....	8,412,286	6,592	14,422	1,430,822	.....
Braidwood .....	425,328	4,454	36,547	72,996	.....	444,889	4,225	33,237	85,210	.....
Brewarrina .....	3,270,433	4,516	7,979	1,019,181	.....	3,422,585	3,935	6,123	1,016,422	.....
Broulee .....	345,271	3,058	32,086	1,660	.....	327,600	3,004	31,627	1,488	.....
Cannonbar .....	2,973,348	5,319	17,962	1,310,018	.....	2,714,825	4,826	15,732	1,124,863	.....
Carcoar .....	1,010,129	6,567	18,760	729,544	.....	990,618	6,592	14,775	663,160	.....
Casino .....	1,611,837	10,131	149,980	897	.....	1,611,837	7,934	147,562	620	.....
Cobar .....	6,763,700	3,560	7,292	1,003,290	.....	6,763,700	2,775	4,941	720,096	.....
Condobolin .....	4,651,164	4,275	6,992	943,479	.....	3,973,907	4,557	6,963	1,055,374	.....
Cooma .....	1,674,085	8,617	49,784	808,577	.....	1,820,751	7,972	50,579	874,387	.....
Coonabarabran .....	3,493,194	6,056	14,406	942,461	.....	3,515,231	6,132	13,692	493,974	.....
Coonamble .....	2,775,064	6,991	18,313	1,733,478	.....	2,748,834	6,188	14,247	1,637,160	.....
Corowa .....	704,794	4,501	6,488	524,000	.....	704,794	5,190	5,834	423,326	.....
Deniliquin .....	2,196,705	5,433	9,703	980,981	.....	2,261,242	5,504	9,996	1,032,567	.....
Denman .....	311,305	4,328	28,127	32,302	.....	328,102	4,648	36,030	35,725	.....
Dubbo .....	2,955,521	11,787	24,668	1,559,880	.....	2,805,674	12,613	22,811	1,694,812	.....
Eden .....	573,300	4,354	56,239	3,056	.....	529,678	4,455	54,066	3,131	.....
Forbes .....	2,710,938	9,799	17,773	1,268,529	.....	2,601,756	9,803	14,829	1,276,042	.....
Glen Innes .....	2,343,586	13,573	90,278	725,740	.....	2,457,270	13,945	91,470	771,682	.....
Goulburn .....	971,500	8,531	44,401	291,508	.....	1,028,967	8,084	44,482	391,873	.....
Grafton .....	1,077,785	15,960	78,510	2,436	.....	1,077,785	16,480	86,917	1,199	.....
Gundagai .....	1,250,498	8,975	41,159	907,590	.....	2,463,830	10,343	51,862	1,136,900	.....
Hay .....	4,500,086	6,549	6,804	1,284,950	.....	4,370,369	5,018	4,781	802,757	.....
Hillston .....	3,717,616	2,946	3,812	671,691	.....	3,815,205	3,058	3,471	617,900	.....
Hume .....	1,197,806	5,633	24,799	577,125	.....	1,223,379	5,475	25,051	667,171	.....
Ivanhoe .....	5,445,661	1,619	2,176	608,573	.....	5,457,323	1,381	2,096	558,154	.....
Jerilderie .....	1,265,678	4,877	4,199	693,779	.....	1,269,176	3,421	2,700	437,796	.....
Kiama .....	316,195	6,629	58,270	1,933	.....	247,269	6,332	55,195	4,594	.....
Maitland .....	652,966	13,403	67,882	2,163	.....	660,149	13,147	67,902	1,985	.....
Menindie .....	9,373,464	3,527	7,020	669,759	.....	9,204,471	3,126	8,634	650,776	.....
Merriwa .....	673,484	4,636	12,076	418,432	.....	691,214	4,808	13,254	478,693	.....
Milparinka .....	7,404,314	3,021	5,595	591,233	.....	7,505,427	2,868	6,764	610,760	.....
Molong .....	1,651,523	9,554	15,119	928,057	.....	1,669,526	9,799	14,023	975,854	.....
Moree .....	2,894,741	8,601	46,888	1,311,966	.....	4,752,256	6,883	30,827	923,592	.....
Moulamein .....	1,598,300	1,449	3,660	436,687	.....	1,619,039	2,005	4,694	522,924	.....
Mudgee .....	1,544,197	11,536	4,008	648,335	.....	1,654,914	11,024	41,469	713,526	.....
Murrurundi .....	821,229	7,619	29,008	461,652	.....	836,275	7,879	31,430	526,261	.....
Narrandera .....	2,727,576	5,545	12,255	958,330	.....	2,727,576	5,393	9,195	584,624	.....
Narrabri .....	1,274,935	4,070	11,260	619,610	.....	1,217,168	3,500	8,037	363,235	.....
Pictou .....	222,775	4,065	24,128	4,283	.....	222,775	3,908	24,315	4,682	.....
Pilliga .....	1,367,019	2,606	7,249	503,754	.....	1,084,583	2,113	4,958	346,584	.....
Port Macquarie .....	565,121	9,561	52,150	708	.....	555,622	9,694	58,668	1,199	.....
Port Stephens .....	601,358	7,064	45,285	1,473	.....	448,929	5,512	41,667	1,088	.....
Queanbeyan .....	962,935	4,161	22,525	534,671	.....	885,292	3,559	17,798	532,027	.....
Singleton .....	466,843	6,389	44,612	26,761	.....	506,895	6,633	54,775	40,025	.....
Sydney .....	4,032,700	20,000	19,100	3,000	.....	4,032,700	19,500	18,750	2,800	.....
Tamworth .....	4,017,204	26,261	95,655	2,374,763	.....	4,023,549	26,156	74,945	2,444,370	.....
Tenterfield .....	1,620,181	8,305	88,473	147,427	.....	1,891,475	8,225	90,120	164,401	.....
Tweed-Lismore .....	303,329	8,348	50,728	94	.....	289,720	9,036	55,745	650	.....
Urana .....	1,010,128	3,193	3,112	671,666	.....	1,028,977	2,989	2,789	540,042	.....
Wagga Wagga .....	2,432,004	12,905	29,149	1,288,714	.....	2,432,004	12,598	20,078	1,162,049	.....
Walgett .....	4,608,693	7,812	12,230	1,901,243	.....	4,608,693	6,360	8,133	1,538,030	.....
Wanaaring .....	5,928,800	2,159	4,151	756,137	.....	5,836,593	2,077	3,273	715,644	.....
Warialda .....	3,453,000	12,709	76,483	1,319,761	.....	2,955,153	11,529	62,233	1,281,043	.....
Wentworth .....	5,943,126	1,736	2,673	355,213	.....	5,965,480	1,673	2,654	360,076	.....
Wilcannia .....	9,981,858	4,069	7,520	931,628	.....	10,018,055	3,902	8,188	835,988	.....
Windsor .....	183,138	6,953	15,394	1,061	.....	189,354	7,130	16,348	1,770	.....
Yass .....	793,011	4,346	13,426	494,826	.....	823,293	4,110	12,174	544,210	.....
Young .....	2,193,990	10,860	31,487	1,525,441	.....	2,166,106	10,107	19,682	1,295,144	.....
Total .....	160,553,624	466,813	1,966,729	43,952,897	207,738	162,217,565	449,989	1,886,390	41,241,004	247,061

## APPENDIX B.

## INFLUENZA IN HORSES.

(By E. Stanley, F.R.C.V.S., Chief Veterinary Inspector.)

## Character.

It is a contagious equine fever, due to germinal matter invading the system, producing disastrous changes in the blood, which interfere with nutrition, excite congestion, and occasionally inflammation of important organs or tissues.

The germs of this disease are always lurking about, and epidemics are due to exceptional climatic changes that have a lowering effect on the health of horses, and at the same time favour the vitality of the disease germs.

The worst cases are amongst hard-working horses in overcrowded sheds, with bad sanitary surroundings; next come fat horses; and the least susceptible are horses that are in good working condition, cleanly kept, and well cared for. If such have the disease at all, it is in a mild form, and they speedily recover.

Symptoms.

*Symptoms.*

In the onset, loss of appetite, drowsy headache, pain in the limbs, general weakness; in many cases the eyelids are swollen, tears trickle down the face; there may be discharge from the nostrils, and occasionally coughing; the eye will be found scarlet and orange colour, the tongue furred, breath offensive, the heart beats feebly but quick, the pulse is small and weak, the dung is soft, and the urine high-coloured; there is a general rise of the bodily temperature.

As the disease progresses the symptoms will depend on its course, which is very variable, as the numerous names given to the disease indicate. The vital forces in many cases overcome the toxic effects and excrete the poison from the system. It is to assist this process that we have recourse to treatment.

*The Treatment.*

This should consist of rest, pure air, shelter from sun, rain, or wind, bran mashes, and cut green food with drachm doses of chlorate of potash, carbonate of ammonia, or nitrate of potash given in the drinking water. If the case has been taken early enough, and the surroundings are good, the fever will abate, and recovery be complete in a very few days.

Unfortunately many horses are worked at the commencement of the illness; then they are completely knocked up, and they present a variety of bad symptoms, owing to the mischief being located in individual organs, such as those of respiration, or the bowels, liver, spleen, lymphatic glands, or cerebro-spinal system. The location can only be diagnosed by the educated veterinarian, and every case should be treated to suit the nature and stage of the illness. Dropsical swellings are a favourable indication, but time and patience must be allowed for recovery. No case is cured until the horse is playful at exercise.

## APPENDIX C.

## EPIZOOTIC OPHTHALMIA.

*Nature and Treatment.*

This affection is usually seen in several cattle or sheep about the same time in various paddocks in the same district. However, as the majority recover, little notice is taken of the disease in the early stages; but that is just the time when proper treatment (if it were possible to apply it) would be of the greatest benefit.

It is in the acute stage, when the inflammation is severe, the animal being almost blind, that treatment is attempted. Now, at this particular stage, much harm is done by injudicious treatment. Even yarding animals, unless done very carefully, will do more harm than good.

The eye is a very delicate, sensitive organ to deal with; therefore, Nature is frequently the best restorer. She can be assisted by attending the animals' comfort, having food and water accessible to the nearly blind animals, keeping them perfectly undisturbed and in shady places.

It may happen that the animal becomes nearly blind in one eye, the other recovering. In such cases the disease becomes chronic, the cornea covering the eye remains a milky-white colour. Proper treatment in this form is sometimes beneficial in clearing the eye.

For animals that can be handled, the following applications are recommended for the eyes:—

For the first stage of the disease, 1 oz. of tincture of opium, 1 pint of water; or 1 oz. of liquor plumbi subacetate, 1 oz. tincture of opium, 2 pints of water. These may be applied two or three times daily.

For the second stage after the acute inflammation has subsided, 1 part of boracic acid, 60 parts of water; or 40 grains of nitrate of silver, 1 pint of water. These may be applied two or three times a week.

In the chronic stages, finely powdered burnt alum may be blown on the eye once a week.

## APPENDIX D.

## THE PREVALENCE OF TICKS IN QUEENSLAND, AND THE PROCLAMATIONS ISSUED AND MEASURES TAKEN BY NEW SOUTH WALES TO PREVENT THE INTRODUCTION OF TICKS OR TICK-FEVER.

*The extent of the Prevalence of Ticks in Queensland.*

SPEAKING in a wide and only approximately correct way, the following may be described as the infected, suspected, and doubtful portion of Queensland:—

All that country in Queensland bounded on the south by the Colony boundary from Tweed Heads to Maryland; thence to the rabbit fence near Dalveen; thence by that rabbit fence north-westerly to Chinchilla; and thence northerly to the north-east corner of Walloon Run, may be considered infected, suspected, or doubtful, as also all that part of Queensland lying north-east and north of a line starting from the last mentioned point, and running north-westerly to Emerald, on the Central Railway line; thence by that line to Longreach, and thence by a line north-westerly to the South Australian border at the north-west corner of Herbertvale Holding.

The nearest point to this Colony where ticks are known to exist is to the south of Ipswich, about 50 miles from the Border. Ticks have also obtained a footing in the neighbourhood of Brisbane, and they have so likewise at many points on the coast country between Brisbane and Rockhampton.

*Proclamations and Regulations issued prohibiting and regulating the Introduction of Stock from Queensland.*

The Colony of Queensland is, under our proclamations for preventing the introduction of ticks or tick-fever, divided into three portions (*see* map herewith standing as Appendix T), with the third portion subdivided again into three portions, named respectively:—The country in Schedule A; the country in Schedule A 1; the country in Schedule A 2; the country in Schedule A 3, and the country in Schedule A 4.

*Regulations re Stock in Country in Schedule A by Land.—Stock prohibited.*

Loose horses and camels, broken or unbroken; and all cattle, pigs, sheep, and goats.

*Stock*

*Stock Admitted, and Conditions.*

*Horses* in actual work, on production at our Border of declaration and certificate by inspector for district from which they come, and after inspection and smearing or dipping.

*Camels* in work on same terms.

*Stock in Country described in Schedule A 1 by Land.—Stock prohibited.*

Loose horses, and all cattle, sheep, pigs, and goats.

*Stock Admitted, and Conditions.*

Only *horses* in actual work are admitted, and they must be accompanied by a declaration by their owner and a certificate from the Inspector for the district from which they start that they are free from disease, and before crossing they must be inspected by an Inspector for this Colony, and dipped or smeared to his satisfaction with an approved disinfectant.

*Stock in the portion of Queensland described in Schedule A 2 by land.—Stock prohibited.*

Cattle, pigs, horses, and camels (except horses and camels in actual work) which have not been in the portion of Queensland described in Schedule A 2 for more than three months.

*Stock Admitted, and Conditions.*

Cattle, horses, camels, sheep, pigs, and goats are admitted if they have been three months in Area A 2, and if they are accompanied by a declaration by the owner and a certificate by the Inspector for the district from which they came that they are free from infection, after they have been inspected at our Border one by one on both sides in a crush and found free from infection, and if they come from the north-eastern and north-western half of this Area A 3 and A 4, they must have been subjected to another crush inspection before travelling into the southern half.

*Regulations re Stock from Queensland by Sea from country described in Schedule A and A 2.—Stock prohibited.*

All horses (except horses in actual work), and all cattle, camels, sheep, pigs, and goats.

*Stock Admissible by Sea.*

Horses in actual work under the following conditions:—

- (1.) That they are landed at Sydney.
- (2.) That the owner gives the Inspector notice of their arrival.
- (3.) That a declaration by the owner and a certificate from the Inspector for the district from which the horses come that they are free from infection, and have been dipped or smeared, is produced to the Inspector.
- (4.) That they are, on inspection, found free from disease, and smeared to the satisfaction of the Inspector.

*The Staff engaged in carrying out these Regulations.*

There are Acting Inspectors stationed at the following crossing-places, with Assistants:—

- 1 Tullabudgera (Tweed Heads), with three Assistants.
- 1 Grady's Creek and Mount Lindsay, with four Assistants.
- 1 Killarney, with seven Assistants.
- 1 Wallangarra, with two Assistants.
- 1 Boggabilla and Texas, with two Assistants.
- 1 Mungindi, with two Assistants.
- 1 Brenda.
- 1 Barringun.
- 1 Hungerford and Parragundy, with one Assistant.
- 1 Wompah; and
- 2 Inspectors on Buffer Line, South of Brisbane; that is to say, twelve Inspectors and twenty-one Assistants.

*The Assistants' time is principally occupied in patrolling the Border.*

To carry out these Regulations, and prevent the introduction of infected or suspected stock, about 120 miles of the most dangerous portion of the Border, including as it does the coast country from near Wallangarra to the Pacific Ocean at Tweed Heads, wherever it is not naturally impassable for stock, has been fenced with a five (5) barb-wire fence; and it will be seen, on reference to the Regulations applicable to the country included in Schedule A 1, that no stock of any description, except horses in actual work, are admitted from that portion of Queensland, and those only after inspection and smearing. The gates at which horses are admitted are kept locked, and only opened when horses which have been inspected and smeared in accordance with the Regulations are crossed. The gatekeepers reside at the gates in cottages built by the Department.

On this portion of the border there are four (4) Acting Inspectors, who have under them fourteen Assistant Inspectors and Gatekeepers, who patrol short portions of the Border, and two Travelling Inspectors, who examine the stock at some distance from the Border.

*Buffer Area.*

To the north of this portion of the Border, for a distance of about 40 miles in Queensland, is a buffer area, into which no cattle or loose horses are allowed to enter from the infectious or suspected portion of that Colony. To assist in maintaining the northern boundary of this buffer area, Victoria and this Colony each maintain two Inspectors, to whom portions of this line have been allotted.

*Outlay*

*Outlay in fighting the Pest.*

It is estimated that the Government have, up to the 30th ultimo, expended for salaries of inspectors and assistant inspectors, travelling expenses, fencing, experiments in inoculation, and in other ways, not less than £20,000 in preventing the introduction of ticks and tick-fever.

*Report by Dr. Tidswell.*

A very valuable report on Protective Inoculation against Tick-fever, and an account of an experimental inquiry into its effect on cattle, and on meat and milk, together with some notes on protective measures other than inoculation, by Frank Tidswell, M.B., Ch.M., D.P.H., Principal Assistant Medical Officer of the Government, was published in December, 1898.

*Initiation of Inoculation for Tick-fever by J. D. Stewart, M.R.C.V.S., Veterinary Surgeon to the Stock Branch.*

Mr. Stewart gives at considerable length the details of the initiation of inoculation against tick-fever in the Grafton, Casino, and Tweed-Lismore Districts. He held his first meeting at Murwillumbah, in December, 1898, and devoted the whole of his time to this work till he returned to Sydney early in May last.

The course he adopted was to arrange for meetings at the more important centres, at which he gave lectures on the cattle-tick and its life history; on tick-fever, its symptoms and pathology; and on the protection afforded by inoculation with blood from an animal that had recovered from the fever, occurring naturally or induced by inoculation. These lectures were accompanied by demonstrations illustrating and confirming the statements made in his lectures. Owners or superintendents who intended to practice inoculation on their own stock had practical lessons given them in performing the operation.

Owing to the risk of spreading tuberculosis through using blood from a diseased beast, the tuberculin test becomes a necessary portion of the process of inoculation. Consequently, Mr. Stewart also delivered lectures on tuberculosis, and the proper mode of using tuberculin, and conducted practical demonstrations on diseased carcasses.

At these meetings he arranged for the establishment, at the most suitable centres, of "salting depôts"—that is, places where the cattle, from which a supply of blood for inoculating was to be taken, were collected and carefully inoculated on two occasions, and afterwards tested with fevered and virulent blood, when, if the result was satisfactory, they were termed "salted," and their blood may be used for the general inoculation of other cattle.

Of these depôts six have been established, and from which a good supply of salted cattle has been distributed throughout the districts, and the inoculation will be proceeded with as soon as the weather and pasture are in such a state as will make it advisable to commence.

In the case of the larger herds the owners or superintendents will inoculate their own cattle, but in that of the farmers and dairymen the work will be done by trained officers of the Department who will charge a small fee for the service.

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INOCULATION FOR TICK FEVER AND APPLICATION OF TUBERCULIN TESTS.

Sir,

Stock Branch, Sydney, 4 August, 1899.

I have the honor to submit the following reports on the initiation, according to instructions received, in the North-Coast Districts of—

- (a) The protective inoculation of cattle against Texas or tick fever; and
- (b) The application of the tuberculin test.

Although these subjects are dealt with in separate reports, they were brought under the notice of stock-owners conjointly, by means of holding public demonstrations and by the establishment of "salting" depôts or centres for the treatment of cattle.

During the conduction of the series of operations, about two thousand (2,000) inoculations were made on forty-five different occasions, and the tuberculin test was applied to two hundred and sixty-six (266) head of cattle.

Strictly speaking, each occasion cattle were treated might be termed a public demonstration, as a number of stock-owners were invariably present. The term is, however, restricted to those occasions on which lectures were delivered, inoculations, tests, and *post-mortem* examinations conducted, by special arrangement with the various Stock Boards, Agricultural Societies, and Dairyman's Associations, who afforded us the necessary conveniences.

Stock-owners were informed by announcements in the local Press that public demonstrations were to be held at certain central places on stated dates, comprising two consecutive days.

Eighteen public demonstrations on the protective inoculation against tick-fever, and fourteen on the application of the tuberculin test were held.

On each occasion lectures were delivered, usually in the local Council Chambers, by invitation of the mayor of the town where the demonstrations were being held, or in some large hall kindly placed at our disposal. The Mayor of the town, or the President of the Local Board or Society, as a rule, occupied the chair. The practical part, such as inoculating, applying the test, and the holding of *post-mortem* examinations, was usually conducted at a neighbouring station or farm on cattle supplied by various owners.

The demonstrations were always well attended. On many occasions over 100 stock-owners were present, some of whom came long distances. The great interest which was manifested on each occasion clearly indicates that owners fully realise the calamitous consequences likely to befall them from an outbreak of tick-fever in their unprotected herds on the one hand, and to the danger their cattle and mankind in general are exposed to from the prevalence of tuberculosis on the other. The fact that thirty-five persons have qualified to hold licenses to practise protective inoculation against tick-fever accentuates these remarks. Apart from their direct practical benefit to stockowners, these demonstrations had an educational value, which was participated in by the general public. Moreover they constituted convincing proof of the vigilance of the Department to protect and conserve the interests of stockowners.

During



During the series Mr. A. A. Devlin, Inspector of Stock for the Tweed-Lismore and Grafton districts, and Mr. C. J. Vyner, M.R.C.V.S., Inspector of Stock for the Armidale district, were instructed with a view to their conducting operations in their respective districts. Mr. Inspector Devlin completed the salting treatment of the cattle stationed at Alstonville and Lismore, and is inoculating the young cattle of the dairy herds in the Tweed-Lismore district, while Mr. Inspector Vyner commenced operations in the New England district.

To the members of the Lismore, Casino, and Grafton Stock Boards and the local societies, and especially to Messrs. C. F. Tindal of Ramornie, T. Campbell of Murwillumbah, A. Campbell of Woorooloolgen, J. Campbell of Comira, Hindmarsh and Dunn of Lismore, and S. MacNaughton of McLean, for the assistance, conveniences, and accommodation afforded us during the conduction of operations, our best thanks are due.

Finally, it is desired to record the untiring aid and assistance rendered by Messrs. Inspectors Devlin and Vyner to our effort in expediting this important work, which necessitated lengthy journeys and incessant duties.

I have, &c.,  
JAS. DOUGLAS STEWART, M.R.C.V.S.,  
Veterinary Surgeon to Stock Branch, N.S. Wales.

Alexander Bruce, Esq., Chief Inspector of Stock.

#### REPORT ON THE INITIATION OF PROTECTIVE INOCULATION OF CATTLE AGAINST TEXAS OR TICK FEVER IN THE NORTH COAST DISTRICT.

The protective inoculation of cattle against tick-fever was initiated in the above district by a series of eighteen public demonstrations, and by the establishment of salting depôts or centres for the treatment of cattle.

Public demonstrations were held at the various chief dairy and cattle centres, including Murwillumbah, Lismore, Casino, Alstonville, Rous, Woodburn, Wollongbar, McLean, Ulmarra, Upper Copmanhurst, and Grafton.

At each demonstration an address on tick-fever and its protective inoculation was given. The history, etiology, symptoms, and pathology of the disease were fully dealt with, an avoidance of technical language being duly observed. The part played by the ticks in the transmission of the fever to cattle was carefully delineated. The adopted method of protective inoculation, and its effects on cattle were minutely described. The utility of dipping, smearing, and other preventive measures were discussed at length. The apparatus and appliances used in connection with inoculation were exhibited and explained in detail. The method of withdrawing blood from a "salted" animal, its preparation and injection into others, were practically illustrated.

Moreover, stockowners and others holding responsible positions in connection with stock who were desirous of acquiring a practical knowledge of inoculation were instructed at each demonstration. Every facility was offered, and many took advantage of these opportunities to learn. Those who, by training, rendered themselves competent inoculators received certificates which permitted licenses to inoculate being granted to them. In all thirty-two licenses have been granted, the holders of which have a knowledge of tick-fever and protective inoculation, and are familiar with the application of the tuberculin test.

Six "salting" depôts or centres were established throughout the district. Stockowners who desired to have a few head of cattle thoroughly salted (or highly protected), to furnish blood for the inoculation of other animals were requested by circular, and by announcements in the local papers to forward them to the most convenient centre. On their arrival at the depôts the names of the owners and a description of each animal were entered in the record book. Each animal was allotted a certain number and was branded numerically according to that number. Their identification was thus assured. The cattle which went through the complete treatment were branded I on near forearm.

Three centres or depôts were established on the coast to meet the requirements of the dairy herds, and three inland to provide for the station herds.

Forty-three (43) head of cattle were treated at Lismore, twelve (12) at Alstonville, four (4) at Murwillumbah, seventy (70) at Woorooloolgen, twenty-seven (27) at Camira, thirty-four (34) at Ramornie, and eight (8) at Wollongbar Experimental Farm.

The last lot of cattle was purchased and treated on behalf of the Department of Mines and Agriculture.

The treatment which the cattle at each depôt were subjected to, consisted in—

1. The application of the tuberculin test to ascertain their freedom from tuberculosis. The fact that about 5 per cent. of the apparently healthy young animals forwarded for treatment reacted to the test, alone justifies this precautionary measure.
2. A first inoculation of 5 c.c. of recovered blood.\*
3. A second inoculation of 10 c.c. of recovered blood.
4. A third inoculation of 10 c.c. of virulent blood.\*

An interval of from four to six weeks was allowed to elapse between each inoculation for recovery to take place in.

At each inoculation two or more quiet animals which had not been previously inoculated were treated in a similar manner to those being "salted" and held back as "test animals." By taking their temperatures daily until the fever set in, then twice daily (morning and evening) throughout the febrile period, "the reactional value" of the blood used was tested, or, in other words, its strength to produce a reactional fever was ascertained. According to the accepted view that the protection conferred against tick-fever is diverse to the degree of reactional fever produced, the efficacy of each inoculation was in this manner determined. The test animals were kept in some convenient place while the remainder of the cattle treated were allowed to rest undisturbed in well-grassed and watered paddocks.

In order to further ascertain the degree of protection conferred by each inoculation, a few of the inoculated animals were kept back and treated in a manner similar to the test animals. The temperature records obtained gave an indication of the protection conferred by previous inoculations.

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\* Virulent blood is blood taken from an animal that has the fever. Recovered blood is that taken after the fever.

From records so acquired, valuable comparisons may be made. Those obtained during the above series might be summarised as follows:—

- A. A reactional fever always followed the first inoculation.
- B. Aged cattle which reacted to a first inoculation did not react to subsequent inoculations with blood, which produced reactional fevers in "test" or clean cattle.
- (c) Young cattle invariably reacted to first and second inoculations of recovered blood, but suffered a milder fever on the second inoculation than that manifested by the "test" animals.
- (d) The final (3rd) inoculation, with virulent, had little or no effect on the cattle (young or old) previously twice inoculated, while it produced high fever, viz., from 106.6° F. to 108° F. in test animals.

On several occasions the infectivity of the blood of animals treated at the depôts was tested and found to be of high reactional value.

Consequently as the cattle which have been treated at these depôts are free from tuberculosis, and as their blood is infective, they may be regarded as desirable animals to inoculate from.

The blood used for the first inoculation at Murwillumbah was supplied by the Queensland Stock Institute. That used for the remainder of the series was furnished by five of the experimental cows which had been specially prepared by a series of injections with blood obtained from Queensland during the conduction of the North Head experiments by Dr. F. Tidswell, P.A.M.O., of the Head Department. Before commencing operations in the North Coast, these cows were ascertained to be free from tuberculosis by the tuberculin test, and the infectivity of their blood was demonstrated by inoculating clean cattle.

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#### REPORT ON THE APPLICATION OF THE TUBERCULIN TEST IN THE NORTH COAST DISTRICT.

The application of the tuberculin test as a means of diagnosing the presence of tuberculosis in cattle was, according to instructions, popularised by holding a series of public demonstrations at the various "salting depôts," and at the principal dairy centres within the North Coast District.

During the whole series the tuberculin test was applied to two hundred and sixty-six (266) head of cattle on twenty-six (26) different occasions, fourteen (14) of which took the form of public demonstrations.

The demonstrations extended over two days, and the test was applied in accordance with the printed instructions issued by the Stock Branch. The tuberculin was usually injected at 8 o'clock in the evening, and from 6 o'clock on the following morning, at intervals from one to three hours up to the eighteenth or twentieth hour after injection, the temperatures of the cattle under test were taken. Those that reacted were separated.

During the second day an address on bovine tuberculosis and its eradication was delivered. The preparation, application, and diagnostic value of tuberculin were also minutely described.

The numerous questions which were invariably asked after each address having been answered, an adjournment was made to some convenient place, where *post-mortem* examinations were held on the carcasses of animals that had reacted to the test, and the presence of the disease demonstrated. The significance of the diseased parts, and the danger to which the remainder of the herd had been exposed to, together with other important features, were as fully commented on as the circumstances justified.

At the initiation of the demonstrations, a considerable amount of prejudice was publicly proclaimed against the use of tuberculin by certain stockowners. Among other assertions they alleged that tuberculin produced or excited tuberculosis. This hypothetical objection received questionable support from certain publications in the Press at this particular time. In order to refute all assertions as to the alleged ill-effects following the use of tuberculin in healthy cattle, not only were the nature and preparation of this agent minutely described, but special attention was drawn to the fact that before tuberculin was sent out from the laboratories as a commercial article, it was subjected to a temperature exceeding that of boiling point on several occasions, and then filtered through porcelain. By this procedure, all germ-life within the fluid was destroyed, and all solid matter, such as dead micro-organisms and their spores, absolutely removed. To practically illustrate that the introduction of tuberculin into the system of healthy cattle had no exciting influence, the cases of the "salted" cows then in the district were cited. Each of these cows had received injections of tuberculin on several occasions at long intervals, and at no time have any of them given the slightest indication of a reaction, or been other than healthy. As the series of demonstrations advanced, and stockowners became more familiar with the test, all prejudice was overcome. They had opportunities of observing healthy cattle subjected to the test without the occurrence of any immediate harm, or the development of ill-effects subsequently. Moreover, they saw unhealthy and also apparently healthy animals react to the test, and the presence of tuberculosis demonstrated by *post-mortem* examinations. They also witnessed *post-mortem* examinations being made on carcasses of evidently unhealthy cattle who did not react to the test, without a trace of tuberculosis being revealed.

Notwithstanding the opposition that was first manifested, the tuberculin test gradually established itself, and towards the end of the series was received with favour, and its dictum accepted.

In the following *resumé* of the public demonstrations held in connection with the tuberculin test, certain cases which are of more than ordinary interest to stockowners are specially dealt with.

At Murwillumbah, on the Tweed, two demonstrations were held. The first took place on the 2nd and 3rd December, 1898, when seven head of cattle, including two cows, which were condemned by many stockowners as being tuberculous, were submitted to the test without a reaction occurring. Consequently the accuracy of the test was questioned. On the owner being approached, he willingly consented to have the two cows slaughtered, so that *post-mortem* examinations might be made to ascertain whether or not the animals were affected with tuberculosis. A carefully conducted examination of the organs and glands failed to reveal the slightest trace of this disease.

As a number of stockowners expressed a desire to witness a reaction, followed by a *post-mortem* examination, arrangements were made to hold another demonstration on our return to the Tweed River to conduct some inoculations. Consequently on the 6th and 7th December, 1898, the tuberculin test was applied to two cows and one bull. The bull was apparently healthy while both cows showed evidence of ill-health,

ill-health, and were in low condition. One had a persistent and painful cough, while the other had an enlarged posterior mammary gland, which discharged purulent material containing calcareous particles by means of a fistula opening. The diseased gland resembled a tuberculous gland more than an actinomycotic one. The former cow reacted, while the latter remained normal. The bull gave a slight transient rise in temperature which was not indicative, and doubtless due to excitement. A *post-mortem* examination was conducted on the cow which reacted, and lesions of tuberculosis were found in the glands of the throat, liver, and lungs, and in the structure of the lungs. The fact that the cow with the diseased mammary gland did not react to the test cannot be admitted as evidence of failure on the part of tuberculin in its specific diagnostic action. The significance is rather to be translated as indicative of either that the diseased condition was not due to tuberculosis, or if so, the cause was no longer an active process; the conditions presented being in keeping with Nature's method of recovery.

Two demonstrations were also held at Lismore, the first on the 6th and 7th of December, 1898, the second on the 13th and 14th of the same month.

At the first demonstration some difficulty was experienced in obtaining cattle for the purpose; eventually six head were obtained. No reactions followed the application of the test.

At the special request of the Lismore Agricultural Society approval was obtained to hold a second demonstration, on our return from inoculating on the Tweed River. On this occasion over 100 stock-owners attended. Four cows were subjected to the test, one of which reacted.

A *post-mortem* examination was held, and the presence of the disease demonstrated in the region of the throat.

On the 16th and 17th December, 1898, the fifth demonstration was held at Irvington, where eight head of cattle were subjected to the test, without a reaction occurring. It is worthy of note that the herds to which these cows belonged were kept under favourable conditions, being depastured in open paddocks carrying sufficient timber to afford shelter, while the cows were milked in a structure, perhaps, best described as consisting of bails and a cement floor covered in by a roof, the height of which permitted the sun's rays exercising their purifying effects unimpeded.

On the 22nd and 23rd December, 1898, four bulls were subjected to the test at Casino. An aged bull, though in good condition, was apparently tuberculous, having a typical cough and enlarged glands; one in the region of the right flank, and another situated in the scrotum above, and in front of the right testicle. Two of the young bulls were progeny of the aged bull, while the other one had occupied the same stable, which was a well-ventilated one. The result of the test was that the aged bull reacted, while the three 2-year old bulls remained normal. A *post-mortem* examination on the former revealed the presence of tuberculosis in throat and lungs, and at those positions where external manifestations of the disease were evident. While the tuberculous lesions were all typical of their kind, they possessed certain features which indicated that the animal's constitution had strenuously opposed the spread of the disease throughout its system for a considerable period. One can readily accept that little or no hereditary predisposition to the disease would be transmitted to the progeny of such a sire. Unfortunately such a case as the above is rarely met with.

The seventh demonstration was held at Alstonville on the 16th and 17th February, 1899. Ten head of cattle, consisting of two bulls, two aged cows, and four heifers, were submitted to the test.

Two heifers and the two bulls reacted. The former were manifestly tuberculous, and were brought forward so that *post-mortem* examinations would be assured. Tuberculosis was found present in both cases in the glands of the throat and lungs, and extensively throughout both lungs.

The case of each bull proved of more than ordinary interest for demonstration purposes. The older bull was a valuable animal, and a prize-taker. Some time ago he developed a lump in the throat, which was then thought to be caused by an injury from the horn of another bull. Subsequently the bull was operated on, and the lump removed. For some time the animal did well, but this condition was transitory, as other enlargements appeared in the region of the throat. Consequently the bull was brought to the demonstration, so that a professional opinion might be obtained. On examination the animal was found to be in good condition, and, with the exception of the throat affection, to be free from evidence of disease. In the throat several glands were found to be enlarged. The largest of the involved glands discharged purulent matter which matted the hair about the openings of small sinuous canals. On the owner being informed that the enlargement of the glands were most likely of tubercular origin, he desired the animal to be submitted to the test. A reaction having followed, the owner desired to know whether there was any chance of complete recovery if the enlarged glands were skilfully removed. On being informed that even if all evidence of the disease were removed the chances were that other glands, though then normal in size, were involved and would increase as time went on, and also that the disease probably existed in other structures, he decided to have the bull slaughtered.

A careful dissection of the throat revealed the glands of that region to be extensively affected with tuberculosis. As was anticipated, some of the affected glands were almost normal in size, and others were so deeply seated as to render their complete excision impossible without endangering the life of the animal. Moreover, the disease was also found to be present in the glands of the lungs.

The other bull was a young animal that had been recently purchased to improve the owner's herd. On learning that the demonstrations were to be held in the locality, the owner availed himself of the opportunity to have the animal tested. When informed that the bull had reacted, he requested that a *post-mortem* examination should be made. This was carried out with the result that tuberculous lesions were discovered in the glands of the throat and lungs in an early stage. The owner expressed himself pleased that the diseased condition of the animal had been thus timely detected.

The eighth demonstration was held at Woodburn on the 20th and 21st February, 1899, when seven head of cattle were subjected to the test, two of which reacted. *Post-mortem* examinations revealed the presence of tuberculosis in the glands of the throat, lungs, and liver in one heifer, and in the lungs, liver, and glands of throat, lungs, liver, and stomach in the other heifer.

The ninth demonstration was held at Upper Copmanhurst on the 6th and 7th of March, 1899, when seven cows and one bull from a select herd of dairy cattle were submitted to a test without the reaction occurring.

The tenth demonstration took place at Grafton on the 10th and 11th March, where the test was applied to two aged milch cows and seven heifers. Both of the cows had "lumpy throats," one having been under treatment (?) for a considerable time without success. The result of the test was that while the

the heifers remained normal both cows reacted. *Post-mortem* examinations demonstrated lesions of tuberculosis in the glands of throat, lungs, and liver, and in the structure of lungs and liver in one cow, and in the glands of throat and lungs in the other cow.

The eleventh demonstration was held at Rous on 26th and 27th April, when seven cows and one bull were tested. One cow reacted. The cow was in good condition although she was suffering from an enormously enlarged gland in throat which interfered considerably with her breathing. This enlarged gland was of tubercular origin, and the disease proved to be localised to the throat on *post-mortem* examination.

The twelfth demonstration took place at Maclean on the 5th and 6th May, where four dairy cows and one bull were tested. No reaction occurred. These cattle were highly bred and had been imported from Victoria and New Zealand by a gentleman who insists on only buying cattle that have withstood the tuberculin test.

The thirteenth demonstration was conducted on the 9th and 10th May at Ulmarra, where six head of cattle, consisting of two aged cows and four bulls, were submitted to the test. One cow had an enlarged throat, but the remainder of the animals were apparently healthy. This cow and two yearling bulls reacted to the test. *Post-mortem* examinations were carried out on the cow and one of the young bulls. In the cow the disease was localised in the throat, but in the bull tuberculous lesions were found in the glands of throat, stomach, liver, and lungs. The sire of the young bulls was slaughtered on account of tuberculosis, and they had been reared as poddies. Two significant facts.

The final demonstration of the series took place at Harwood Island, Clarence River, on the 23rd and 24th May, when a valuable bull was tested. The animal had been suffering from a difficulty in breathing for a considerable period, but recently the throat had increased in size. A decided reaction followed the injection of tuberculin, 107.2 degrees F. being registered on the 16½ hour. A *post-mortem* examination conducted on the following day in the presence of a large number of farmers demonstrated the presence of the disease in the glands of the throat and lungs.

The animals which reacted to the test constituted a fairly representative lot as regards age, sex, and condition to prove the efficacy of tuberculin as a diagnostic agent.

From the above *resumé* it will be noted that on no occasion did tuberculin give an erroneous positive indication as in each of fifteen cases which reacted to the test; the presence of tuberculosis was demonstrated by *post-mortem* examination. On two occasions the negative indications of the test were challenged, but a careful dissection failed to reveal a trace of the disease.

The disease was found in all its characteristic stages. In some cases the tuberculous lesions were small and confined to one or more glands, while in others it invaded whole organs and groups of glands.

Of the fifteen *post-mortem* examinations held in connection with these demonstrations, the presence of the disease was demonstrable in the throat in every instance; in the glands of lungs in 12 cases; of liver, 5; of stomach, 2; of scrotum, 1; of flank, 1; in the structure of lungs, 6; in liver, 2.

The fact that most of the animals had reacted, and in which tuberculous lesions were found in connection with the alimentary tract, were poddy reared, clearly points to the necessity of keeping milkers' calves separated from adult cows, and feeding them only on milk that has been boiled. Moreover, they should be allowed to live as much in the open pastures as is practicable.

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## APPENDIX E.

TABLE 1.

RETURN prepared by the Board of Health showing the number and proportion of Cattle condemned out of all those slaughtered at the Abattoir, Sydney, 1898.

Description of animals.	Number slaughtered.	Condemned diseased.		Condemned or bruised or unfit for food.	
		Number.	Percentage.	Number.	Percentage.
Bulls .....	193	32	17.09	5	2.6
Bullocks .....	51,941	2,093	3.8	3	.005
Calves .....	13,372	5	.03	3,467	25.9
Cows .....	22,198	1,022	4.6	13	.05
Pigs .....	52,443	2,559	4.8	12	.02
Sheep .....	1,140,697	187	.01	12	.001
	1,283,849	5,903	.....	3,512	.....

Quarters condemned as bruised or unfit for food, 9; tongues, 5. "Cattle" means all kinds of animals killed for food.

TABLE 2.

SHOWING the total number of Cattle condemned under the Diseased Animals and Meat Act, and the Noxious Trades and Cattle-slaughtering Act, at various Slaughter-yards, and for the Colony of New South Wales generally, 1898.

Abattoir .....	9,415
Flemington .....	260
Other Sale-yards and places (dairies included) .....	14,481
	<u>24,156</u>

"Cattle" means all kinds of animals killed for food.

## APPENDIX F.

INCREASE and Decrease of Sheep, year ended 31st December, 1898.

*(By the Government Statistician.)*

	No.
Sheep on 31st December, 1897 ... ..	43,952,897
Lambs marked during 1898... ..	8,316,697
Sheep imported during 1898 ... ..	700,718
	52,970,312
Slaughtered for food for local consumption (excluding sheep killed on stations and farms) ... ..	1,844,130
Do for food on stations, &c. ... ..	1,110,410
Do for meat-preserving ... ..	1,099,660
Do for freezing for export ... ..	1,095,568
Do for boiling down in boiling-down works ... ..	166,469
Do do do on stations ... ..	16,148
Lambs slaughtered for food for local consumption ... ..	166,714
Total slaughtered ... ..	5,499,099
Exported during 1898 ... ..	1,311,880
Killed by dogs ... ..	259,979
Loss by drought, ordinary mortality, and missing sheep ... ..	4,658,350
	11,729,308
Sheep on 31st December, 1898 ... ..	41,241,004
	Decrease on previous year ... .. -2,711,893

## APPENDIX G.

CAUSES OTHER THAN DROUGHT TO WHICH THE LOSSES IN STOCK HAVE BEEN ATTRIBUTED AND WHICH ARE TO SOME EXTENT PREVENTABLE.

The returns of sheep for the last five years show the severity of the all but continuous general drought from which the Colony has suffered. In 1894, we had 56,980,000 sheep; in 1895, there were 47,617,000; in 1896, in which the drought was not so general, we had 48,318,000; in 1897, there were 43,953,000; and in 1898, the number was 41,241,004.

This exceedingly serious decrease in the number of our sheep has been attributed to several causes besides the drought; and as undue weight is given to some of these causes, I will here point out where I think this has occurred, and offer some suggestions for preventing such heavy losses should the Colony unfortunately again suffer from such a protracted drought.

*(1.) Overstocking.*

A good deal has been said about this cause, and it has been set down by not a few writers on the subject as being next to the drought the chief cause for the losses in sheep. A little consideration will, however, I think, remove this impression, for if we turn to the returns of the four years preceding 1895, when the drought commenced, but excluding 1891, an exceptionally favourable year,—to make the comparison a thoroughly fair one,—that is 1890, 1892, 1893, and 1894, we find that during that period the average number of sheep was 55,288,000, while for the last four years the average number of sheep in the Colony was 45,546,000, which shows that the pasture lands of the Colony carried a higher number of sheep by about 10,000,000 in fair average years than during the four years, 1895 to 1898, that the drought prevailed; and that owners could not be fairly charged with overstocking, at any rate to any great degree, seeing they did not in stocking up put on more sheep than their previous experience had led to believe their holdings can carry.

*(2.) The Rabbit Pest.*

Next to the drought the rabbit pest in the greater part of the Colony where the drought prevailed was the principal cause of the losses in sheep.

The rabbits have had a most disastrous effect on the western and a large portion of the central divisions of the Colony; and if effective and simultaneous measures are not promptly taken now that the pest is reduced by the drought to a minimum in these parts of the Colony the rabbits will speedily increase

Now, therefore, would be the time to make a determined general attack upon the rabbits; and with that view, instead of waiting for the passing of the comprehensive Rabbit Bill which has been framed (and which should, nevertheless, be passed as soon as possible), the recommendation made by the Stock Boards Council of Advice to the Honorable the Minister should, I think, be acted on, and a short Bill of one or two clauses re-declaring rabbits noxious animals under the Pastures and Stock Protection Acts be passed. This would enable Pastures Boards in all parts of the Colony to take the necessary measures for compelling defaulting owners to destroy the rabbits on their holdings, and bring about simultaneous action, without which any attempt at coping with the pest is utterly futile. One female rabbit killed now would do far more good than the killing of twenty would six months hence, and there is no reasonable expectation that this lengthy new measure will become law within that time. The owners in the eastern portion of the Colony, where the pest is only just beginning, view this matter in the same light as those in the older infested districts, and are anxious to have rabbits restored to the Pastures Act so that they may cope with them before they become numerous. It is illegal for them, as the law now is, to expend Pastures moneys in destroying rabbits. If nothing is done till that Bill is passed, it is to be feared that the effect of the drought on the rabbits would have completely disappeared, and that they would soon be nearly as numerous as ever if, as we trust, we are entering on good seasons.

One of the most difficult questions which has to be faced with regard to the public lands is how the comparative fertility of what is termed the saltbush country, which has been lowered by at least a half by drought and rabbits, is to be restored; seeing that, although an owner here and there may have set himself systematically at work to effect this by regularly spelling portions of his run, the great majority will never adopt that course unless they are obliged; and it is suggested for consideration whether the Government, in order to restore the saltbush country to something like its pristine capacity as pasture land, should not systematically withdraw, say, one-fifth or one-sixth of the run for two years from lease, and not allow a hoof upon it; the portion withdrawn being allowed to fall back again, at the end of the two years, into the tenant's lease on the condition that he keeps it completely free from rabbits and other noxious animals while it is thus spelled.

### (3.) *The want of sufficient Water for the Stock.*

This is an almost universal want, for, even where a run is spoken of as well watered, and the season a fairly good one, the sheep will, perhaps, in the autumn, have to travel 5 to 6 miles to water, and in doing so lose to a large extent their condition as fast as they put it on, travelling to and from the watering-place, and take double the time they ought to do to fatten.

Then, again, in dry or drougthy times, the sheep have to go farther and farther out for feed, and as the tanks or dams dry up, or the wells fail, the distance the sheep have to travel for a drink becomes greater and greater between the part of the run where the feed is and the watering-place, and the sheep eventually perish; whereas, if there had been more permanent watering-places, they would have been able to reach the pasture and been saved. Want of water is, therefore, the primary cause of their death. No doubt in many cases, during the long and protracted droughts from which the Colony has suffered, the pasture and the scrub likewise failed; but still, with plenty of water, sheep would frequently pull through, while, when poorly provided with water, they are certain to perish.

It is scarcely necessary, therefore, to say that the want of water, notwithstanding the immense sums which have been laid out in making dams and tanks, sinking wells, and putting down artesian bores, has been one of the great causes of losses in sheep, and that one of the greatest possible improvements which could be made on a run would be to make it so thoroughly well watered as that the sheep would not in any season, not even during a drought, have to travel more than, say, 2 or 3 miles for a drink. For if this could be done, not only would every acre of pasture land then be turned to the best possible account, and water found to consume the whole of the pasture, but no better step could be taken to help on the permanent settlement on the land.

These advantages could, it is believed, where there is an artesian bore, be in a large measure secured by turning the water from the artesian bores (which are bound to be put down in considerable numbers, and to do so much for all the colonies) to better account than they have hitherto been in watering stock. So far as yet it is not known that any attempt at distributing the water over the run except by open drains has been made; and although very great benefit has been conferred by even this primitive and comparatively wasteful mode of distribution, it will be seen that the water could be taken to a very much greater number of places on the run, and turned to very much better account, if the bore could be put down at a point where there was sufficient elevation (it need not be much) to distribute the water in pipes to all parts of the run where it was required, so that the sheep would not have to travel too far for a drink.

In any such scheme of distribution the great desideratum is, of course, a description of piping which would answer the purpose and at the same time be comparatively light and the price per mile moderate.

A light steel patent piping, made by a manufacturer in the city, Mr. S. Zollner, of 443, Kent-street, tapering from 4 in. to 1½ in. bore, is of this description; and, although the cost is too high (£209 per mile) to admit of a proper system of distribution by pipes being adopted over the whole of a run so as to sufficiently water the different parts of it, a partial adaptation, say 3 or 4, or even 5, miles of this pipe-system might, in some cases, be used to force the water to where there was sufficient elevation from which it would find its way by gravitation at a comparatively small cost to points on a run at which it was wanted and which it could not otherwise reach.

### (4.) *The want of Railway Accommodation in the Drought-stricken Districts.*

If railway-carriage had been available in the Western Division of the Colony, and more particularly in the middle and southern portions of that division, and in the middle and southern portions of the Central Division, owners could have put their sheep on the train when they could no longer keep them on their runs, and removed them to where they could either have rented country or sold them to those who have pasture to keep them.

For instance, if the Cobar railway-line were extended to Wilcannia, the Condobolin line to Hillston, and the Hay line to Balranald, millions of sheep which perished during the late protracted drought could, with the concessions considerably granted by the Commissioners for starving stock, have been saved; and this, as well as the general benefit which railways would confer on the inhabitants in the districts through which they pass, the extent to which they would secure the trade to this Colony, and the return they make, should be kept prominently in view in deciding whether or not the extensions of railways to outlying portions of the Colony should be carried out; and it is hoped that, in the interest of what is the great producing industry of the Colony, ways and means will, at an early date, be found to carry the railways in the directions indicated.

### *Insufficiency of the Pasture on the Travelling Stock Reserves.*

It is well known that through the leasing and entailment of the travelling stock reserves and the difficulty of protecting them, there has not of late years been sufficient grass for *bona fide* travelling stock in ordinary favourable seasons; and, as this is the case, it can easily be conceived what state these reserves were in after a four years' drought. No doubt in such seasons it was impossible to have kept sufficient pasture on them for travelling stock; but if there had been anything like sufficient to meet their requirements at the commencement of the drought, a great many more owners would have removed their sheep to where there was pasture, and either rented country or sold them to those who had grass. Instead of that, as the reserves were almost from the first denuded of pasture, they had to allow their sheep



sheep to remain and perish. Even those that did leave their runs in quest of grass suffered considerable loss in reaching it, through the want of grass on the way, although in a good many cases assisted by the railway.

With some 6,000,000 or 7,000,000 sheep, and perhaps some 230,000 cattle, including both fats and stores, changing hands during the year, reasonable provision ought to be made for, say, two-thirds of the whole, which are not, and cannot, from their position or at the present railway rates, be carried by rail, by reserving from lease sufficient Crown lands for depasturing travelling stock on the leading driving roads of the Colony; and, as recommended by The Stock Boards Council of Advice, placing their practical management in the hands of the stock boards of the districts through which these roads pass. Then to provide the necessary funds for the protection and improvement of the reserves, a charge should be levied on all travelling stock, which the owner would pay to the inspector on obtaining a permit for the stock at a light rate per mile, calculated from the starting point to their destination. This charge, as collected, would be remitted to the Treasury, from which it would be returned to the boards for the districts through which the stock passed according to the extent of the mileage of the driving road in the respective districts, to pay the cost of protecting and improving the reserves through which they passed. In making their recommendation the Council of Advice stipulate that no rent be paid for the land contained in those reserves, otherwise the travelling charge would be higher than the owners of the travelling stock could pay, and besides, there would, in that case, be no funds available for ringing and scrubbing and clearing the reserves of noxious weeds.

It will thus be seen from what has been said that the deficiency of pasture on the travelling stock reserves is accountable, not only for a constant heavy loss to owners in ordinary seasons through the deterioration of their stock for want of grass on the way to market, but also in times of protracted droughts for the loss of hundreds of thousands of sheep which perish largely through the letting of these reserves. The revenue from this source is said to amount to £30,000, and is a considerable sum; but it is not necessary that very much of the reserves in the Western Division of the Colony, or in some parts of the Central, should be withdrawn from lease. When the reserve is not fenced off from the run, and the paddocks are moderately large, as they are in the portions of the Colony alluded to, travelling stock are fairly treated, and the existing system answers the purpose. Supposing then that in the case of one-half of the area now included in the reserves no alteration was required to be made, that would reduce the loss of rent to £15,000, and I think the question might fairly be put, What is this to give up in order to enable the pastoralists to take their produce in the shape of stock to market compared with the sum of over £500,000 voted annually for the construction and maintenance of roads and bridges almost wholly expended in the Central and Eastern Divisions to enable the producers in these divisions to take their produce to market.

All that the owners of stock, on whom the prosperity of the Colony mainly depends, ask for is the temporary use of the land, on which they may, at a comparatively trifling cost to the Colony, obtain some food for their stock as they travel to market. Stock require no macadamized roads, culverts, and bridges; and to either charge rent for the use of the land contained in the reserves, or to let them where the whole of the pasture is needed for travelling stock, and have them constantly "skinned" by the tenants as they now are in the greater part of the Central and the whole of the Eastern Divisions, is treating stockowners, compared with the other producers for whom so heavy an expenditure is incurred, to say the least, unfairly.

Besides this, it is to be recollected in dealing with the question of travelling stock reserves that a large proportion of the persons using these reserves are Crown tenants, and that, of course, if they continue to suffer loss as they now do in getting their stock to market, or, what is a more serious matter, lose them altogether during the drought through there being no feed on the reserves, these tenants will be unable to pay their rent, and what is made by rent of the travelling stock reserves will be more than lost in the reduction of that received for Crown lands. A good landlord, it has been properly stated, takes an interest in his tenant's well-being, and this should apply equally to the Crown as to a private individual.

#### APPENDIX H.

##### AUSTRALIAN Stud Sheep offered for Sale by Auction in Sydney during the Year 1898.

	Number of Rams.	Number of Ewes.	Total.	
			Rams.	Ewes.
By Messrs. Pitt, Son, & Badgery (Ltd.), on account E. N. Bissell, Esq., Vermont	42	5	42	5
Messrs. Goldsbrough, Mort, & Co. (Ltd.), on account various New South Wales breeders	224	14	.....	.....
Do on account of various Tasmanian breeders	1,504	36	.....	.....
Do on account various Queensland breeders	12	.....	1,740	50
Messrs. Weaver and Perry, on account various New South Wales breeders	251	73	.....	.....
Do on account of Hermann Haege, Gadegast, Germany	5	.....	256	73
Messrs. Hill, Clarke, & Co., on account various New South Wales breeders	213	32	.....	.....
Do on account various Victorian breeders	159	29	.....	.....
Do on account various Tasmanian breeders	558	62	.....	.....
Do on account various New Zealand breeders	117	21	.....	.....
Do on account of E. D. Morrison, Esq., Vermont	4	7	1,051	151
The New Zealand Loan and Mercantile Agency Co. (Ltd.), in conjunction with Warden Harry Graves, Esq., on account various New Zealand breeders	61	.....	.....	.....
Do on account various New South Wales breeders	4	.....	65	.....
Total	.....	.....	3,154	279

## APPENDIX I.

## VACCINATION for Anthrax.

So long as there is no legislation with regard to anthrax, and therefore no obligation on the part of owners or the experts operating to give details as to the result, all that can be done is to accept the returns on the forms here given, but it may be added, if a serious failure had occurred in any case, it would have been known to the inspector and reported to the Department.

## STATEMENT showing the Extent of the Vaccinations for Anthrax.

*Vaccinated by Messrs. McGarvie Smith and Gunn.*

Progressive Number.	Cattle.	Sheep.	Progressive Number.	Cattle.	Sheep.	Progressive Number.	Cattle.	Sheep.	Progressive Number.	Cattle.	Sheep.
1	.....	7,499	50	.....	1,461	99	.....	861	148	.....	7,471
2	.....	482	51	.....	97,784	100	.....	857	149	.....	8,304
3	.....	1,306	52	.....	8,719	101	.....	1,370	150	.....	1,970
4	.....	1,103	53	.....	5,394	102	.....	580	151	.....	1,191
5	.....	30,724	54	.....	19,105	103	.....	1,150	152	.....	6,446
6	.....	4,031	55	.....	6,120	104	.....	13,496	153	.....	57
7	.....	871	56	.....	5,717	105	11	6,198	154	.....	1,944
8	.....	12,872	57	.....	9,700	106	.....	10,331	155	665	.....
9	.....	11,107	58	.....	1,800	107	.....	3,319	156	.....	9,040
10	.....	2,588	59	.....	4,044	108	.....	3,090	157	.....	3,940
11	.....	3,657	60	.....	4,687	109	28	2,556	158	.....	5,550
12	.....	2,079	61	.....	34,168	110	.....	239	159	20	.....
13	.....	1,282	62	.....	6,000	111	.....	8,202	160	.....	7,114
14	.....	19,448	63	.....	2,806	112	.....	5,662	161	.....	300
15	.....	4,354	64	.....	1,791	113	.....	1,289	162	.....	320
16	.....	532	65	.....	2,463	114	.....	515	163	.....	478
17	789	19,885	66	.....	3,578	115	.....	2,600	164	56	.....
18	.....	9,515	67	.....	3,136	116	.....	885	165	.....	439
19	1,152	23,490	68	1,369	2,179	117	.....	13,218	166	.....	3,300
20	.....	1,069	69	.....	77,538	118	.....	5,226	167	.....	1,512
21	.....	2,020	70	.....	8,462	119	.....	723	168	.....	9,716
22	.....	17,434	71	48	.....	120	.....	1,529	169	.....	8,770
23	.....	1,480	72	.....	3,616	121	.....	1,390	170	.....	6,205
24	.....	7,967	73	.....	294	122	64	.....	171	.....	5,173
25	.....	350	74	.....	6,461	123	.....	1,413	172	.....	1,206
26	.....	1,800	75	.....	12,630	124	.....	7,383	173	.....	1,945
27	.....	2,296	76	375	.....	125	.....	6,108	174	.....	2,196
28	.....	6,870	77	99	971	126	.....	7,864	175	.....	40
29	.....	6,000	78	144	.....	127	.....	5,820	176	.....	82
30	.....	2,550	79	.....	5,095	128	.....	1,520	177	.....	149
31	.....	5,735	80	212	.....	129	.....	1,596	178	.....	2,050
32	.....	4,000	81	64	.....	130	.....	9,100	179	.....	1,676
33	.....	2,450	82	26	.....	131	.....	18,491	180	.....	3,225
34	.....	43,910	83	33	94	132	.....	6,850	181	25	.....
35	.....	13,993	84	40	1,830	133	109	3,360	182	.....	6,758
36	.....	45,364	85	13	.....	134	.....	3,850	183	.....	4,778
37	.....	10,010	86	674	.....	135	16	7,236	184	.....	485
38	.....	6,434	87	.....	1,350	136	249	7,031	185	41	2,628
39	.....	12,882	88	.....	5,233	137	25	14,632	186	.....	5,655
40	.....	18,932	89	24	.....	138	.....	4,150	187	230	.....
41	.....	7,778	90	.....	1,959	139	.....	1,645	188	323	.....
42	.....	9,846	91	4	1,413	140	.....	3,751	189	.....	1,089
43	.....	350	92	.....	249	141	5	.....	190	.....	794
44	.....	5,490	93	6	2,406	142	.....	6,250	191	18	.....
45	.....	1,588	94	26	.....	143	.....	1,226	.....	.....	.....
46	.....	492	95	.....	21,361	144	96	.....	Total..	7,109	1,166,106
47	.....	14,142	96	.....	830	145	.....	6,300	.....	.....	.....
48	.....	11,536	97	.....	10,941	146	.....	115	.....	.....	.....
49	.....	5,852	98	.....	8,278	147	.....	11,780	.....	.....	.....

P.S.—With only a few exceptions stipulated in the contract to vaccinate, the whole of the above were treated by "one inoculation only."

*Vaccinated by Pasteur Anthrax Laboratory of Australasia (Limited).*

Progressive Number.	Number Vaccinated.		Progressive Number.	Number Vaccinated.		Progressive Number.	Number Vaccinated.		Remarks.
	Horses.	Cattle.		Sheep.	Sheep.				
1	...	50	10	850	22	200	The whole of these horses, cattle, and sheep were subjected to a first and second vaccination.		
2	...	80	11	4,087	23	6,200			
3	...	40	12	750	24	330			
4	...	50	13	1,000	25	3,790			
5	...	40	14	4,000	26	7,800			
6	...	63	15	100	27	250			
7	10	5	16	2,300	28	5,600			
8	6	40	17	1,000	29	2,500			
9	...	70	18	150	30	3,900			
			19	6,500	31	5,540			
			20	900	32	1,000			
			21	2,525	.....	.....			
Total..	16	438	...	.....	...	61,27			

*Total Stock Vaccinated for Anthrax.*

	Sheep.	Cattle.	Horses.
By Messrs. McGarvie Smith and Gunn .....	1,166,106	7,109	...
By Pasteur Anthrax Laboratory of Australia .....	61,272	438	16
Total .....	1,227,378	7,547	16

## APPENDIX J.

## FOOT-ROT.

DRESSINGS recommended by Mr. E. Stanley, Chief Veterinary Inspector. (For further details see *Agricultural Gazette*, July, 1891):—

*Arsenic Dressing.*

Arsenic, from 1 to 2 oz.; potash, from 2 to 4 oz.; water, 1 gallon.

To be used in troughs for the sheep to walk through. The mixture to be boiled slowly for half an hour at least, till the arsenic is thoroughly dissolved.

*Sulphate of Copper (Bluestone) Dressing.*

Sulphate of copper, from  $\frac{1}{2}$  lb. to 1 lb., dissolved in a gallon of water, may be used instead of arsenic.

The following healing dressings may be used by hand after the above caustic applications:—

*Tar Dressings.*

Stockholm tar, 20 parts; carbolic acid, 1 part; or, Stockholm tar, 8 parts; bluestone in powder, 1 part; or, oil of tar, 10 parts; carbolic acid, 1 part; olive oil, 1 part.

*Lime Dressing.*

Quick-lime, sprinkled on a dry surface, and the sheep walked through it frequently, will be found very beneficial. Before any dressings are used, the whole of the loose horn should be pared carefully from the diseased feet. It is of the greatest importance that the sheep's feet should, on the dressing being applied, be kept thoroughly clean and dry for at least three hours afterwards. They should, therefore, on leaving the troughs, or being dressed, be passed directly on to a battened or wooden floor, if it can be got; and where neither of these is obtainable, they should be passed into a dry yard, in which there is a good coating of straw, cut grass, or dry bark taken from trees which have been rung, or, in fact, any other thing which will keep their feet clean and dry.

The following are the remedies reported by the Inspectors to have been used and the results:—

Application.	Result.	Application.	Result.
Arsenic in troughs .....	Good.	Corrosive sublimate and bluestone .....	Good.
„ bluestone and carbolic acid .....	Not given.	Carbolic acid .....	Good.
„ and bluestone.....	Good.	„ and oil and butyr of antimony .....	Good.
„ and lime .....	Fair.	„ acid, bluestone, and arsenic ...	Not given.
„ and saltpetre .....	Not given.	Kerosene.....	Good.
Bluestone and corrosive sublimate .....	Satisfactory.	„ and bluestone.....	Good.
„ and arsenic .....	Good.	Lime and tar .....	Not given.
„ and kerosene .....	Good.	„ and arsenic .....	Not given.
„ and lime .....	Good.	Sulphur and bluestone .....	Good.
„ and sulphur .....	Good.	Saltpetre and arsenic.....	Not given.
„ arsenic and carbolic acid .....	Good.	Tar and turpentine .....	Not given.
Butyr of antimony .....	Good.	„ and quick-lime .....	Good.
„ „ carbolic acid and oil... ..	Satisfactory.	„ and bluestone.....	Good.
Corrosive sublimate .....	Not given.		

*Specifics.*

Cooper's Dip .....	Satisfactory.	Quibell's Foot-rot Cure .....	Good.
Hayward's Dip.....	In some cases.	Graham's Foot-rot Powder .....	Not very satisfactory.
Little's Dip .....	Satisfactory.	Payton's Foot-rot Specific.....	Very satisfactory.
Pottie's Specific .....	Not stated.		

## APPENDIX K.

## NEW MODES OF BRANDING.

DURING the year two new modes of branding, each covered by a patent, have been brought under notice, and demonstrations given to show their efficiency and the little injury they do the hide. The one was termed "Clemor's Patent Steam Brand," and the other, "Gibson's Patent Brand Composition."

*"Clemor's Patent Steam Brand."*

His branding instrument consists of a small portable steam-boiler, heated by kerosene, to which is attached a flexible piece of piping, and at the other end a hollow brand of the required design, with a comparatively fine face, along which a narrow slit runs for emitting the steam, and the brand is imprinted in the usual way by applying it to the portion of the stock intended to be branded on.

The plant is small and convenient, both when used in a stationary position and on cattle in a crush, but this brand takes longer to make the impression than an ordinary hot fire-brand, and it is seldom made without blotching through the escape of the steam, caused by the movement or shrinking of the animal immediately it feels the effect of the steam.

This brand was put on cattle at Randwick in September last, is still quite legible, but it is a very plain one—the horseshoe—and it is questionable if a two-piece or conjoined letter brand had to be imprinted whether it would be legible on account of the steam escaping as described.

*Gibson's Liquid Brand.*

This is not properly speaking a new brand, but a liquid chemical preparation, which is imprinted on stock with a branding iron of the ordinary construction, but with the face somewhat wider, *i.e.*,  $\frac{1}{4}$  to  $\frac{3}{8}$  in., which is dipped in the liquid and pressed firmly and evenly on the beast.

While claiming that the brand made by this process is both legible and permanent, the patentees state that it possesses the following other advantages:—

1. A strong case to hold the stock is not necessary.
2. The fire is dispensed with.
3. The difficulties of wet coats and cold brand do not arise.
4. Fewer hands are required.
5. The value of the hide is no longer depreciated.
6. The application of the brand is painless.
7. It is easily and quickly imprinted; 128 cattle were branded in sixty-five minutes.

The claims as to the legibility and permanency of this brand are supported by testimonials from stockowners in New Zealand, who had used it on both horses and cattle some twelve and eighteen months previously. In regard again to the claim that the brand does not injure the leather, there are several testimonials from tanners given in that colony that it does not affect it.

The brand was tried at the Hawkesbury Agricultural College on 3 cows, 3 calves, 2 sheep, 3 lambs, 3 pigs, and 1 dog, with the result that so far the brand (a very plainly-shaped one) shows well on two of the cows, only fairly on the third, very well on two of the calves, only fairly on the third, and it has left no impression on the sheep, pigs, or dog.

While this is the case, Mr. P. R. Gordon, Chief Inspector of Stock, Brisbane, where a rather extensive test was made, writes that at first the result was not so satisfactory, but by strengthening the composition the branding appeared to be a success.

It will, however, be some time before the two most important points in this matter are set at rest—the claim that the process makes a permanent legible brand, and that it does not deteriorate the leather. If experience confirms these two claims there can be no question as to the value of the process.

APPENDIX L

STATEMENT of the number of the different kinds of noxious animals killed during years from 1881 to 1898; the amount of assessment collected, the amount of Government subsidy paid; and the total expenditure for each of these years.

Year	† Kangaroos Number killed	Wallabies Number killed	Native Dogs Number killed	Hares Number killed	Wild Pigs Number killed	Amount of Assess ment collected			Amount of Govern ment subsidy paid			Amount of Expenditure		
						£	s	d	£	s	d	£	s	d
1881	581,753	43,724	2,250			17,648	19	10	749	11	2	15,517	5	4
1882	1,452,829	347,842	6,980			45,772	12	8	25,299	19	2	61,191	14	3
1883	750,846	330,109	7,195			32,781	14	2	16,381	19	6	58,132	7	1
1884	1,403,233	473,609	7,336			48,069	15	8	21,606	10	6	62,121	0	0
1885	857,676	506,372	8,474	5,878	922	61,754	15	4	23,753	3	8	64,672	8	2
1886	1,106,473	594,603	9,560	28,623	562	41,585	0	0	16,168	3	0	67,783	6	6
1887	476,438	388,088	7,739	56,628	664	32,651	13	8	9,589	9	5	37,354	11	1
1888	688,352	653,285	9,619	176,732	12,041	25,474	2	10	9,117	7	6	52,121	9	6
1889	582,200	642,782	9,142	329,683	9,700	33,257	0	3	10,000	0	0	50,525	14	3
1890	267,769	506,161	9,955	397,439	5,292	33,649	0	11	8,792	0	0	39,663	11	6
1891	402,053	705,510	11,530	649,131	20,206	31,664	8	9	8,336	4	1	46,794	10	9
1892	433,578	726,669	11,838	786,230	45,173	37,733	19	8	8,408	17	4	49,987	4	5
1893	284,082	743,017	14,148	734,212	8,802	39,116	15	7	1,766	5	10	46,688	5	8
1894	250,455	796,667	11,279	708,581	25,851	39,466	13	3	1,826	10	1	44,695	6	3
1895	623,383	1,393,253	11,383	700,917	43,965	39,638	14	0	1,052	12	10	45,952	10	2
1896	241,447	655,309	13,138	551,548	23,300	38,252	2	8	1,590	12	3	35,933	18	8
1897	266,244	1,118,473	13,264	599,595	9,524	35,235	3	8	1,566	14	8	40,340	13	11
1898	100,585	570,165	12,000	442,319	15,439	32,720	17	4	3,790	3	2	28,910	13	10
	10,767,401	11,195,638	176,830	6,167,516	221,441	666,473	10	3	169,796	4	2	848,386	11	4

† Includes Kangaroo Rats

APPENDIX M.

STATEMENT of the Operations of the Pastures and Stock Protection Boards during the year 1898.

	Amount of Assessment collected	Amount Expended	Kanga roo	Kanga roo Rats	Walla bics	Wom bats	Padda melons	Bandi coots	Native Dogs	Hares	Opos sums	Pigs	Eagle Hawks	Crows	Emus	Foxes.
	£ s d	£ s d														
Albury	401 5 11	341 15 11							2							
Armidale	1,326 6 3	1,838 1 4		5,763	37,383				763	8,405						103
Barranald	61 9 0	145 19 9							76	31,314				3,763		19
Bathurst	985 7 10	1,043 5 10		7,346	86 325				70					3,108		
Berrima	214 19 9	317 14 4			12 681	28			39							
Bombala	453 0 2	166 0 0							207				228			
Bourke	756 1 2	275 14 2							363							
Bradwood	210 5 9	286 19 0							46	95,331						1
Brewarrina	182 4 0	63 17 9										2 115	114	1,165		
Broulee		207 14 6			809	9,986	12	415	86	2 107						
Cannonba	257 8 10	537 14 11			2,140	7 471			161			4,757		1 459		
Carcoar	6 7 6 9	823 7 7			6,745	31 311			29	26,111	65,162			1 967		
Casino	297 18 8	120 0 0														
Cobar	286 8 0	427 5 8				2,760			155							
Condobolin	519 19 11	894 13 4			392	25,988			465							
Cooma	224 18 0	282 4 9						785	201					41		
Coonabarabran	548 9 3	697 2 10							1,068							
Coonamble	755 4 0	510 12 5							91			563		11,804	272	
Corowa	301 6 5	2 7 3 9			324		219			2,158				323		154
Denilquin	288 4 0	136 13 6				42										
Denman	211 9 0	138 19 9			688	3 055			77	1,614				266		
Dubbo	1,591 5 9	929 1 11	943		1,238	44,714			466	5 590						16
Eden		236 12 4							152	20,759						
Forbes	1,475 11 9	871 4 9	1 000	10 557	32 405		3,203		121	16 869						
Glen Innes	916 10 8	1 003 11 6			8 777	23 637			572	10,189			245	2,045		
Goulburn	1,119 4 10	1,137 13 4			5 692				12	106,964						
Grafton		100 0 0			63	1,879			218							
Gundagai	1,800 4 9	1,388 18 2	500	4,729	1,000				180	24,086	10,000					
Hay	113 16 6	125 13 1							91							
Hillston	216 19 4	258 12 3							256							
Hume	363 3 11	268 6 2		2,698					92	12,325						
Ivanhoe	202 3 0	280 9 1							152							
Jenilderie	147 3 6	246 4 10												60		46
Kuama	253 7 2	215 18 11			4 582				9	2 909						
Maxland	330 15 0	1 6 15 8			147	8,399		1,341	151	2 267						
Memudie	481 13 11	654 11 0							808							
Merriwa	175 7 7	167 0 3			6,398				60	519			244			
Milparinka	106 7 0	136 15 9							382							
Molong	2,100 18 5	592 7 5		5 619	24 373				170	2 041				1,162		
Moree	1 712 7 5	1,291 12 10		2,674	93,744				110		3,125		936	2,628		
Moulamein	259 11 10	115 8 8													16	
Mudgee	618 12 6	770 0 9	10,850						350	17,996				3,980		
Murrumbidgee	673 1 7	583 13 1			27,576				127					2 1,974		
Narrandera	612 18 3	447 4 9							221				1,543			6
Narrabri	428 17 6	297 17 4			142				269				112	844		
Pacific	215 14 9	114 14 9							33	3,692						
Pilliga	282 10 10	195 14 0														
Port Macquarie	138 16 10	199 13 6			1,519		88	3,792	3							
Port Stephens	135 0 0	115 0 0			2 339				253	145						
Queanbeyan	381 7 5	305 4 7		1,426					98	21 499						
Singleton	348 5 1	194 15 8			4,488				164	4,152						
Sydney	205 11 2	169 6 6														
Tamworth		677 11 9			321											
Tenterfield	367 13 11	253 17 1			4,070	13,273			341		67		44	1,709		
Tweed-Lismore	223 10 9	114 1 2							575							
Urana	223 14 3	266 11 2	800	2,500						700			100			
Wagga Wagga	979 10 0	570 3 3		6,482				14,081	45	11,069			205	2,133		4
Walgett	523 2 3	481 8 5	166						92			4,879	190	6,310		
Wanaaring	439 18 10	222 2 10							444							
Warialda	949 19 0	611 2 2		4,242	59,606				285	88			221	1,498		
Wentworth	36 2 8	633 11 9							97							
Wilcannia	531 0 0	454 13 11			5,728				629							
Windsor	192 3 6	477 0 10							61	4,739						
Yass	399 3 5	294 6 3							14	28 563						
Young	1,848 14 10	811 17 4						14,011	1	47 318			504	19,096		9
Totals	32,720 17 4	28,910 13 10	13,827	86,758	570,165	170	37,797	396	12,000	442,319	75,230	15,439	4,688	66,335	288	358

APPENDIX N.

STATEMENT of RECEIPTS and EXPENDITURE in connection with the Trust Fund Account "Prevention of Scab in Sheep," from the 1st January to 31st December, 1898.

"As per Treasury Account."

To balance amount due Consolidated Revenue Fund on 1st January, 1898 .....	£ s. d. 8,436 17 8	By assessments, &c., received January to December, 1898 .....	£ s. d. 19,121 6 3
Payments, January to December, 1898 .....	24,575 8 10	Balance amount due Consolidated Revenue Fund on 31st December, 1898 .....	£14,715 17 1
		Less—Balance at Credit Trust Fund .....	824 16 10
	£33,012 6 6		13,891 0 3
To balance due Consolidated Revenue Fund .....	13,891 0 3		£32,012 6 6

DETAILED STATEMENT of AMOUNTS VOTED and EXPENDED for YEAR, JANUARY to DECEMBER, 1898.

"As per Mines Department Account."

Dr.								Cr.
No. of officers, 1897-8.	No. of officers, 1898-9.	Amounts voted.	Amounts as voted for 1897-8.	Amounts as voted for 1898-9.	Amount voted for year, July, 1897, to June, 1898, £26,072. Amount of above vote (£13,036) available for the half-year, January to June, 1898, as under.	Amount voted for year, July, 1898, to June, 1899, £23,512. Amount of above vote (£11,756) available for the half-year, July to December, 1898, as under.	Total amount available for year, January to December, 1898.	Amounts expended.
			£	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.
		<i>Salaries.</i>						
1	1	Chief Inspector, at .....	605	605				
1	1	Metropolitan Inspector, at .....	240	240				
1	1	Clerk, at .....	285	285				
1	1	" " .....	225	225				
1	...	" " .....	185					
2	2	" " .....	175	175				
...	1	" " .....		75				
1	1	Draftsman, at .....	260	260				
6	6	Inspectors, at .....	325	325				
14	16	" " .....	300	300				
15	17	" " .....	275	275				
15	11	" " .....	250	250				
1	1	" " .....	225	225				
1	...	Quarantine-keeper, at .....	110	110				
1	...	Messenger and caretaker .....	125	125				
1	...	Office-cleaner .....	52	52				
		<i>Contingencies.</i>			8,343 10 0	8,363 10 0	16,707 0 0	
		Travelling expenses to Inspectors .....	4,000	4,000				
		" " Sheep Directors .....	500	500				
		Allowance to Inspectors for stationery .....	225	225				
		Medicaments for dressing sheep .....	10	10				
		Rent of offices .....	800	800				
		Incidental expenses .....	1,000	1,000				
		To meet expenses of "The Stock Boards Council of Advice." .....	*250	250	3,392 10 0	3,392 10 0	6,785 0 0	
								Salaries..... 16,600 4 9
								Travelling expenses to Inspectors .....
								" " Sheep Directors .....
								Allowance to Inspectors for stationery .....
								Medicaments for dressing sheep .....
								Rent of offices .....
								" Stock Boards Council of Advice" .....
								Refund to Inspectors of salary reduced for year 1896-7 .....
								Incidental expenses—
								Salaries of Temporary Inspectors and Clerical Assistants .....
								Wages and Improvements to Quarantine .....
								Railway Fares and Freights .....
								Office Furniture .....
								Fuel and Office cleaning .....
								Rent of Telephones .....
								Government Printer .....
								Forage .....
								Law Costs .....
								Petty Cash .....
								Miscellaneous—Including office requisites, journals, and sheep for experiments.
								1,198 8 3
		To Balance, 31st December, 1898.....					1,183 18 8	£24,675 18 8
							£24,675 18 8	£24,675 18 8

P.S.—From the above Statements it will be seen that the Treasury and Mines Department Accounts do not agree, for the reason that the Treasury Account shows the actual amount disbursed, while that of the Mines Department represents amount of vouchers charged to the Vote, all of which, however, were not paid until after the 31st December, 1898.

\* This amount is charged to the sum of £2,600 voted on the Estimates for 1897-8.

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## APPENDIX O.

LIST showing names and addresses of Inspectors whose Salaries are paid from the "Sheep Account."

District.	Name of Inspector.	Address.	Salaries and Allowances.		
			Salary as Inspector.	Living Allowance.	Salary as Secretary Pastures and Stock Protection Board.
Albury .....	G. E. Mackay .....	Albury .....	£ 325	.....	£ .....†
Armidale .....	C. J. Vyner .....	Armidale .....	325	.....	60
Balranald .....	Walter Dargin .....	Balranald .....	275	16/10/-	53
Bathurst .....	G. S. Smith .....	Bathurst .....	250	.....	100
Bombala and Eden .....	R. W. Dawson .....	Bombala .....	275	.....	75
Bourke .....	D. W. F. Hatten .....	Bourke .....	325	32/10/-	.....†
Braidwood and Broulee .....	H. L. Mater .....	Braidwood .....	275	.....	35
Brewarrina .....	Blakeney Broughton .....	Brewarrina .....	300	18	60
Carcoar .....	C. B. King .....	Carcoar .....	275	.....	85
Cobar .....	J. Cotton .....	Cobar .....	300	30	100
Condobolin .....	J. G. Stanley .....	Condobolin .....	275	27/10/-	.....†
Cooma .....	C. Hudson .....	Cooma .....	275	.....	80
Coonabarabran .....	E. May-Steers .....	Coonabarabran .....	275	.....	80
Coonamble .....	T. W. Medley .....	Coonamble .....	250	25	100
Corowa .....	A. Campbell .....	Corowa .....	250	.....	.....†
Deniliquin .....	Joseph Weir .....	Deniliquin .....	300	30	.....†
Dubbo and Cannonbar .....	R. G. Dulhunty .....	Dubbo .....	325	.....	200
Forbes .....	W. G. Dowling .....	Forbes .....	300	.....	52
Glen Innes and Tenterfield .....	M. J. St. Clair .....	Glen Innes .....	300	.....	120
Goulburn .....	J. L. Henderson .....	Goulburn .....	250	.....	.....†
Grafton, Casino, and Tweed-Lismore .....	A. A. Devlin .....	Casino .....	300	.....	.....†
Gundagai .....	P. W. C. Palmer .....	Gundagai .....	250	.....	.....†
Hay .....	R. W. Broughton .....	Hay .....	300	18	.....†
Hilston .....	T. Cadell .....	Hilston .....	275	27/10/-	.....
Hume .....	W. A. Mackie .....	Germanton .....	300	.....	.....†
Ivanhoe .....	E. W. Proctor .....	Mossgiel .....	300	30	50
Jerilderie .....	J. A. T. Rochfort .....	Jerilderie .....	300	.....	50
Maitland and Port Stephens .....	W. J. Powell .....	West Maitland .....	275	.....	75
Menindie .....	Joseph Wilks .....	Broken Hill .....	300	30	150
Merriwa .....	W. H. Lowe .....	Merriwa .....	225	.....	.....†
Moree .....	E. V. Ffrench .....	Moree .....	275	27/10/-	.....†
Moulamein .....	J. W. Chantor .....	Barham .....	250	25	.....†
Molong .....	E. G. Finch .....	Molong .....	250	.....	50
Mudgee .....	C. J. Croker .....	Mudgee .....	250	.....	.....†
Murrurundi and Denman .....	J. W. Brodie .....	Murrurundi .....	275	.....	100
Narandera .....	W. J. Elworthy .....	Narandera .....	300	.....	120
Narrabri and Pilliga .....	A. H. Farrand .....	Narrabri .....	300	.....	.....†
Pieton, Berrima, Kiama .....	J. Yeo .....	Moss Vale .....	300	.....	50
Port Macquarie .....	H. E. Palmer .....	Kempsey .....	250	.....	50
Singleton .....	T. Knox-Hill .....	Singleton .....	250	.....	15
Sydney .....	R. D. Jones .....	Sydney .....	440*	.....	.....†
Tamworth .....	W. D. Dowe .....	Tamworth .....	325	.....	120
Urana .....	P. R. Brett .....	Urana .....	275	.....	50
Wagga Wagga .....	C. Lyne .....	Wagga Wagga .....	275	.....	105
Walgett .....	R. Moyle .....	Walgett .....	300	18	.....†
Wanaaring .....	T. T. W. Mackay .....	Hungerford .....	325	32/10/-	.....†
Warialda .....	R. Kirkpatrick .....	Warialda .....	275	27/10/-	.....†
Wentworth .....	D. A. Morgan .....	Wentworth .....	275	27/10/-	100
Wilcannia .....	M. J. C. Tully .....	Wilcannia .....	300	18	75
Windsor .....	C. W. Dargin .....	Penrith .....	250	.....	100
Yass and Queanbeyan .....	J. F. Turner .....	Yass .....	275	.....	55
Young .....	E. Meadows .....	Young .....	275	.....	.....†

\* 200 of this salary is paid from vote for "Imported stock."

† In these districts the Inspector is not Secretary.

APPENDIX P.

SECRETARIES TO P. AND S. P. BOARDS.

District	Name of Secretary	Address	Salary.
Albury	G. H. Roxburgh	Albury	£ 75 0
Armidale	C. J. Vyner	Inspector of Stock, Armidale	60 0
Balranald	W. Dargin	" " Balranald	53 0
Bathurst	G. S. Smith	" " Bathurst	100 0
Berrima	Jas. Yeo	" " Moss Vale	50 0
Bombala	R. W. Dawson	" " Bombala	75 0
Bourke	Jno. Hedrick	Bourke	52 0
Braidwood	H. L. Mater	Inspector of Stock, Braidwood	35 0
Brewarrina	B. Boughton	" " Brewarrina	61 0
Broulee	H. L. Mater	" " Braidwood	35 0
Cannonbar	R. G. Dulhunty	" " Dubbo	100 0
Carcoar	C. B. King	" " Carcoar	85 0
Casino	G. M. Elliott	Casino	50 0
Cobar	J. Cotton	Inspector of Stock, Cobar	100 0
Condobolin	R. W. D. Weaver	Condobolin	80 0
Cooma	Chas Hudson	Inspector of Stock, Cooma	80 0
Coonabarabran	E. May-Steers	" " Coonabarabran	80 0
Coonamble	T. W. Medley	" " Coonamble	100 0
Corowa	A. A. Piggm	Corowa	65 0
Deniliquin	Alex. McCullough	Deniliquin	100 0
Denman	S. J. Dowell	Muswellbrook	30 0
Dubbo	R. G. Dulhunty	Inspector of Stock, Dubbo	100 0
Eden	J. Underhill	Bega	65 0
Forbes	W. G. Dowling	Inspector of Stock, Forbes	52 0
Glen Innes	M. J. St. Clair	" " Glen Innes	60 0
Goulburn	J. T. Roberts	Goulburn	80 0
Grafton	T. T. Bawden	Grafton	50 0
Gundagai	H. T. Turner	Gundagai	75 0
Hay	E. H. Self	Hay	40 0
Hillston	Thos. Cadell	Inspector of Stock, Hillston	50 0
Hume	G. T. S. Wilson	Germantown	50 0
Ivanhoe	E. W. Proctor	Inspector of Stock, Mossiel	50 0
Jerilderie	J. A. T. Rochfort	" " Jerilderie	50 0
Kiama	J. Somerville	Kiama	50 0
Maitland	W. J. Powell	Inspector of Stock, West Maitland	75 0
Menindee	Jas. Wilks	" " Broken Hill	150 0
Merriwa	C. W. Busby	Cassilis	40 0
Milparinka	R. H. Duffield	Milparinka	26 0
Molong	E. G. Finch	Inspector of Stock, Molong	50 0
Moree	J. T. Crane	Moree	75 0
Moulamein	R. Hindson	Moulamein	50 0
Mudgee	T. J. Lovejoy	Mudgee	80 0
Murrurundi	J. W. Brodie	Inspector of Stock, Murrurundi	100 0
Narandera	W. J. Elworthy	" " Narandera	120 0
Narrabri	E. Morath	Narrabri	50 0
Picton	G. Bradbury	Picton	37 10
Pilliga	A. E. Powell	Pilliga	40 0
Port Macquarie	H. E. Palmer	Inspector of Stock, Kempsey	50 0
Port Stephens	J. R. Higgins	Copeland	30 0
Queanbeyan	J. F. Turner	Inspector of Stock, Yass	25 0
Singleton	T. Knox Hill	" " Singleton	15 0
Sydney	P. J. Byrne	Sydney	50 0
Tamworth	W. D. Dowe	Inspector of Stock, Tamworth	120 0
Tenterfield	M. J. St. Clair	" " Glen Innes	60 0
Tweed-Lismore	R. J. Spinks	Lismore	32 10
Urana	P. R. Brett	Inspector of Stock, Urana	50 0
Wagga Wagga	Chas. Lyne	" " Wagga Wagga	105 0
Walgett	A. E. P. Skinner	Walgett	50 0
Wanaaring	J. Fetherstonhaugh	Wanaaring	40 0
Warialda	W. B. Geddes	Warialda	75 0
Wentworth	D. A. Morgan	Inspector of Stock, Wentworth	100 0
Wilcannia	M. J. C. Tully	" " Wilcannia	75 0
Windsor	C. W. Dargin	" " Penrith	100 0
Yass	J. F. Turner	" " Yass	30 0
Young	F. A. Wildash	Young	150 0

APPENDIX Q.

THE following statement is compiled from "The Veterinary Journal," London, and shows the state of Diseases in Stock in Great Britain and Ireland:—

	Pleuro Pneumonia.	Swine Fever.		Glanders, including Farcey		Rabies in Dogs		Rabies in other Animals		Anthrax.		Foot and Mouth Disease
		Outbreaks	Swine slaughtered, diseased or exposed to infection	Outbreaks	Animals attacked	Outbreaks	Dogs destroyed having been exposed to infection	Outbreaks	Animals Destroyed	Outbreaks Reported	Animals Attacked	
December, 1898	None	169	2,660	43	79	11	26	1	...	31	83	
December, 1897	None	86	1,929	57	108	18	36	4	...	34	52	Nil.
Increase	.....	83	731	.....	.....	.....	.....	.....	.....	.....	31	.....
Decrease	.....	.....	.....	14	29	7	10	3	.....	3	.....	.....

## APPENDIX R.

REPORT ON REGULATIONS *re* FOREIGN DOGS, AND HOW THEY ARE CARRIED OUT IN THE SEVERAL COLONIES.1. *Why Special Regulations were issued for Dogs.*

IN 1882 the opinions of Dr. Burdon Sanderson and Veterinary Professor Fleming, at that time among the leading authorities in the United Kingdom in Human and Animal Pathology, were obtained through the Agent-General, London, as to the risk the Colony ran of rabies being introduced if the unrestricted importation of foreign dogs—that is, dogs from places outside the Australasian colonies—was allowed to continue, and the length of quarantine they considered safe; and they reported that the only real guarantee was absolute prohibition, but that if the Colony would not take such a decided course, their opinion was that the quarantine, in addition to the time occupied by the voyage, should not be less than six months, as authenticated cases of eight, ten, and even eleven months' incubation of the disease had occurred. Indeed Dr. Fleming puts the period of the incubation at twelve months, and he was supported in that view by Mr. Consulting-Veterinary Surgeon John Atkinson and Professor W. Hill, who were examined with him by a Select Committee of the House of Lords on Rabies in Dogs in 1887.

Acting upon this opinion the colonies of Queensland, New South Wales, Victoria, South Australia, Tasmania, New Zealand, and afterwards Western Australia, adopted a six months' quarantine for foreign dogs, and they still adhere to that term, but there has, as regards some of the colonies, been, and still is, a great difference as to the manner in which the quarantine for dogs is carried out.

2. *How the Regulations are now carried out by the different Colonies.*

For instance, while in New South Wales, Queensland, Tasmania, New Zealand, and in Western Australia foreign dogs are sent to the regular Government quarantine grounds, to which cattle, sheep, and pigs are taken, Victoria, and afterwards South Australia, adopted a system of private quarantines—that is, they placed that portion of the premises of the owner of the imported dog where he was kept in quarantine, and allow the dog to be kept there in his owner's charge.

The system thus followed by Victoria and South Australia has been, and still is, strongly objected to by all the other colonies, because it is opposed to the true principles of isolation and quarantine, and attended with serious risk of allowing hydrophobia to be introduced, and if it were introduced into either of these colonies the disease would soon spread to all the other colonies. The consequence has been that remonstrances have frequently been made by the other colonies against the course followed by Victoria and South Australia, but hitherto, unfortunately, without effect.

(3.) *Application by Kennel Club of New South Wales for Private Quarantines and review of the question.*

The question of private quarantines for foreign dogs was, several years ago, fully discussed, and supposed to be finally settled, but has recently cropped up again through the accompanying application by the President of the Kennel Club for private quarantines for foreign dogs on the grounds—

- (1.) Of their value.
- (2.) That private quarantine lines would be strictly maintained.
- (3.) That they would entail no risk.

At one time, in Victoria, importers of foreign dogs had only to make application to the Stock Department to get their places, if considered fit, notified as quarantines for foreign dogs; but the risk attending what may be termed a general notification of quarantines was brought under notice by questions in Parliament, and for some years, as Mr. Thompson, the President of the club, points out, these dogs have been quarantined at the residences of importers and owners of pedigree dogs. The same course is, I believe, followed with respect to foreign dogs in South Australia, and Mr. Thompson, on behalf of the members of the Kennel Club in this Colony, asks, in the application which he here makes, that the same privilege be granted to the importers of pedigree dogs in this Colony.

This is, no doubt, a privilege and saving of expense to the importers of foreign dogs; but why such a privilege should have been granted in the colonies mentioned to the owners of dogs and not the importers of horses, cattle, sheep, and other animals, no one has, so far as I am aware, offered any valid reason, and it is not only very inconsistent and unfair as regards the owners of other and far more valuable and useful animals, but the practice is highly dangerous.

As, therefore, the question is a most important one, and has, of course, a direct intercolonial bearing, I will deal with it at some length, and, in doing so, will consider the subject under the following heads:—

- (1.) The value and usefulness of the dogs compared with other domesticated animals.
- (2.) Whether private quarantines would be strictly maintained; and
- (3.) The consequences which may ensue should the quarantine not be strictly maintained;

and the slightest consideration will, I think, show that the arguments are overwhelmingly in favour of foreign dogs being sent to the regular Government quarantines, and that the dangerous practice of granting private quarantines should be at once stopped in all the colonies.

(1.) *The value and usefulness of dogs compared with other domesticated animals.*

As regards the value or usefulness, so far as the Colony is concerned, of foreign dogs as compared with other domesticated animals, such as horses, cattle, sheep, or pigs, dogs stand very low indeed; and on that score their owners can claim no consideration which is not bestowed on the owners of other imported animals.

As a rule horses, cattle, and sheep are more than ten times as valuable as dogs, and we never hear of the owners of horses, cattle, or sheep, on the plea that their stock are so very valuable, making the request that they should be allowed to quarantine them on their own or their friends' premises. The dogs while in quarantine in this Colony have good accommodation provided for them,—they are well-fed—get sufficient exercise—are carefully and cleanly kept—and are examined every week by a duly qualified veterinary surgeon.

No doubt the collie or sheep dog is a very valuable and useful animal, and the importation of the best specimens of the breed is to be encouraged; but while that is the case there is not a sheep-owner in the Colony who would not be glad to go to double the expense he now does in importing collies, if that would

would prevent the sporting men from importing and keeping sporting dogs, or dogs with sporting blood in them, which are in many parts of the Colony worrying and killing the sheep in such large numbers, and many of them pure-bred studs. Last year the returns from the inspectors showed that the enormous loss of (over 74,000) sheep was caused by tame dogs, in the large majority of cases attributable to sporting dogs or their get.

Such dogs as kangaroo dogs, pointers, setters, and several other breeds are doubtless of value, and are in some degree useful, but to compare them with horses, cattle, or sheep in value and usefulness is out of the question, and it is still more so for their owners to claim special privileges for them because they are sporting dogs, and the claim ought not, in my opinion, to be for a moment entertained. But to do so in a way to increase the risk of the introduction of an exceedingly painful and deadly disease is most inconsistent and reckless.

(2). Can we rely on Private Quarantines for dogs being strictly carried out?

As to the question whether private quarantines for dogs would or would not be as strictly maintained as Government, the slightest consideration will show that the chances of the regulations being broken where the dog is in a private quarantine is very much greater than in that of the Government quarantine; for not only are the position and surroundings in the case of the former such as to be likely to lead to a breach of the regulations, but the inducement is very much greater. To show this, I will take the case of the only private quarantine of the nature here asked for by Mr. Thompson granted in this Colony since, if even before, 1882. This private quarantine was granted to a gentleman who lived in one of the suburbs of Sydney, and who had several well-bred dogs. A portion of his place, with a building on it to accommodate the dog, was duly set apart as a quarantine on the clear understanding that the imported dog was to be kept strictly isolated for six months from every other dog. Instead of this, the inspector, on visiting the place some short time after the term of quarantine had commenced, found the imported dog running with the owner's (other) Australian dogs, contrary, of course, to the regulations, and the conditions of the bond the owner had given. Upon discovery his dogs were at once sent to Shark Island Quarantine, and the special quarantine cancelled.

Now, even if the importer had not been guilty of the very serious breach of the regulations in allowing the imported dog to mix with his other dogs, it is plain that the risk of the infection spreading from the private quarantine is twenty times as great as in the case of the Government quarantine; for, what with the owner's other dogs being allowed to run about his premises, and about the enclosure in which the imported dog was kept, ready if they got a chance of joining him, with the friends of the owner of the imported dog visiting him to see the dog, and their bringing their dogs with them which would be anxious to make acquaintance, if they got the chance, with the stranger, and with the risk of the quarantined dog getting out, it is plainly to be seen that, even if the owner were anxious to adhere strictly to the regulations, the risk of their being broken and of the disease being introduced ought not on any account to be run. If, again, this dog had been sent to the Government quarantine, a brief statement of the course adopted in that case will show how very much more complete the isolation is, and how exceedingly slight the chances are of any breach of the regulations being committed under that system:—

- (a) The quarantine ground is an island.
- (b) No dogs except those to be placed in quarantine are allowed on the island.
- (c) Visitors, unless in the company of the inspector, or with his permission in writing, are not allowed to see the dogs.
- (d) They are not allowed to handle them.
- (e) Any signs of disease, or any other suspicious symptoms, are at once reported to the Chief Inspector, who communicates with the Government Veterinarian.

And these precautions are strictly maintained until the six months quarantine has expired, when the dog is specially examined by the veterinary surgeon and the inspector, who, if they find him free from infection join in a certificate to that effect. On receipt of that certificate the Chief Inspector grants an order for the dog's release.

From what has been stated it will, I think, be seen that, while private quarantines, even when carried out with all fidelity, are surrounded by innumerable risks of the regulations being broken, and especially by the risk of wandering or visitors' dogs getting into contact with the imported dogs, the system of quarantine for these dogs followed by the Department is free from all these risks, and that, under that system, the isolation—with exception, of course, as regards the other dogs in quarantine—may be said to be as complete as the circumstances will allow.

In making these statements I have, for the sake of argument, taken it for granted that the owners who obtained private quarantines would endeavour to faithfully adhere to all the requirements of the regulations, and make such arrangements as would ensure that they would be fully carried out by every one else who obtained access to the quarantined dog. But there is a probability, if private quarantines were generally granted, that the regulations would be so perfunctorily observed as to allow Australian and imported dogs to come into contact, and there is little doubt that, where private quarantines have been granted, such breaches of the regulations have occurred.

It is here that the very great superiority of the Government quarantine over the private comes in; for, while I have said wrong-doing may often go on without risk of detection in the case of private quarantines, there is very little opportunity and less inducement for it to do so in that of the Government quarantine; and, as has been said, the granting of private quarantines is, to a large extent, making a farce of the regulations; and the practice is, as regards hydrophobia, nothing less than a standing menace to the whole of the other colonies, seeing that if the disease gets a footing in any of them it is bound to spread to all the rest.

(3.) The consequences which may ensue if the Quarantine be not strictly maintained and rabies were introduced.

If, either through neglect on our part to issue the regulations which some of the highest authorities in the United Kingdom have told us are absolutely necessary for our protection from rabies, or if, through any carelessness or neglect in the mode in which we enforced or carried out these regulations, we allowed hydrophobia to be introduced into the Colony, we would be guilty of a crime against humanity, for, of all the diseases which affect men or animals, hydrophobia is, perhaps, the most terrible; and if it obtained a footing in Australia, with the swarms of domesticated dogs in all the colonies, the large number of wild

wild dogs still to be met with in most of them, the manner in which domestic animals belonging to different owners intermix, more or less, throughout the colonies, and the way in which the rabid animals attack and bite each other, not only would the disease be spread in all directions, but there would be little or no prospect of its ever being eradicated.

If, therefore, there is the slightest risk of the disease being introduced through any relaxation of the regulations, the relaxation should not on any account be allowed, considering the dreadful consequences which might ensue, unless the reason for which the alteration is asked is of the very highest importance, and then only if some other safeguard is substituted for the alteration asked for, and the additional risk entailed; and I think it will be seen on reference to the representation made by the President of the Kennel Club, that it utterly fails in both these respects, for the only reasons which it adduces for the request he makes are, that he would enable the members of the club to import dogs at somewhat less inconvenience and cost, reasons which it is submitted ought not for a single moment to weigh with those charged with the protection of the people in these colonies from the risk of introducing hydrophobia.

Now that we are happily free from that disease, why should we run the slightest risk of hearing the dread and appalling cry of "Mad dog" in our towns and villages?

I might, perhaps, in concluding this paper, be allowed to notice that the President of the New South Wales Kennel Club, in his communication to the Minister terms what he applies for a privilege; and as the request he makes is put in that form, it will, I presume, be for the Minister to consider whether the applicants deserve that their request should be granted; and if the application for private quarantines is to be dealt with in that way, I am afraid it would not be granted, for it is to sporting men that we owe the introduction of rabbits, hares, and foxes, which has cost the Colony a good many millions of money, destroyed many millions of acres of our pasture land, through the pastures being completely eaten out, starved and killed millions of sheep, and ruined thousands of our pastoralists and selectors. Nor is this all for the destruction and loss here noticed must continue for many years; if, indeed, it ever can be stopped.

ALEX. BRUCE,  
Chief Inspector of Stock.

4th March, 1899.

Department of Public Health, New South Wales,  
Sydney, 18 July, 1899.

Sir,

I have the honor to return herewith papers relating to the quarantining of imported dogs, which were referred to the President by direction of the Minister for Mines and Agriculture, and to inform you that they were laid before, and discussed by, the Board at its meeting of the 11th instant.

2. I am directed to say that the Board was unanimous and unhesitating in its opinion that the present method of quarantining dogs should not be departed from, and in reaffirming the opinion expressed in my letter to you dated 28th October, 1896, when it was proposed to alter that method to suit a particular owner. The Board strongly recommends that no variation from the present practice should be allowed, either in the case concerning which application has lately been made, or in any future case.

3. I am to add that the bearings of dog-quarantine against rabies on the general public welfare are so well shown in the accompanying papers that it appears unnecessary to go over them again, or to say more than that the Board entirely agrees with the condemnation expressed therein, and by the Stock Conference, of the relaxations allowed by Victoria and by South Australia, which followed the example of that colony.

I have, &c.,

C. A. SIMMS,  
Secretary.

The Under Secretary for Mines and Agriculture.

#### APPENDIX S.

##### CAN OWNERS OF STORE AND BREEDING STOCK AFFORD TO PUT THEM ON THE RAILWAY INSTEAD OF TRAVELLING THEM ON FOOT?

THE statement frequently made that owners could make use of the railway, instead of travelling their stock on foot, is a most erroneous one so far as regards store and breeding stock making for market, of which it was estimated there were in 1897 some 230,000 store cattle and upwards of 4,000,000 store sheep.

This is borne out by the following, among other reasons:—

- (1.) The railways are not extended to all parts of the Colony, and in the majority of cases railway carriage could not be got in the direction the stock have to go. This is especially the case as regards those portions of the Colony from which store stock as a rule come, and where they suffer most from drought.
- (2.) Supposing railway carriage was procurable, owners of store stock could not use it at the rates now charged by the railway, as these rates would, taking an average distance and an average price for store stock, amount to about one-third of the value of the stock.

The proposal, therefore, to force store stock on the railways by curtailing the travelling stock reserves before the rates of carriage are reduced, as the selling and letting of the reserves is doing, is inflicting a serious injury on stock-owners, and has to account for the loss of large numbers of stock during the late disastrous drought.

If the rates charged for the carriage of live stock were as low as they are in America, there might be some grounds for the proposal to compel owners to send even their store stock by rail as they now do their fat; but this is not the case, as will be seen by the following comparison between the freight charged on cattle from Kansas City to Chicago with that charged from Bourke to Flemington. The distance in each case is about 500 miles:—

By the Atchison, Topeka, and Santa Fe Railroad—

From Kansas City to Chicago, 500 miles, @ 23½ cents. per 100 lb., (say) 1s.

From Bourke to Flemington, 500 miles, per truck of ten bullocks, each 1,000 lb. live weight (say) £9 7s. 9d.; or, 1s. 8½d. per 100 lb., being an increase of about 71 per cent. over the American rate.

[One Map.]

Sydney: William Applegate Gullick, Government Printer.—1899.







# QUEENSLAND OUTLINE RUN MAP

SHOWING TICK QUARANTINE BOUNDARIES  
AND  
INSPECTION FENCE.

REFERENCE TO BOUNDARIES

**Schedule N.**  
Cattle or horses to the east or south of line marked Schedule N are prohibited crossing to the west or north of such line.

**Schedule O.**  
Cattle or horses to the north of line marked Schedule O are prohibited crossing to south of such line.

**Schedule K.**  
Cattle or horses to the south of line marked Schedule K are prohibited crossing to north of such line.

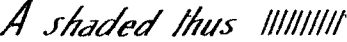


**Schedule M.**  
Cattle or horses to the east of line marked Schedule M are prohibited crossing to west of such line.

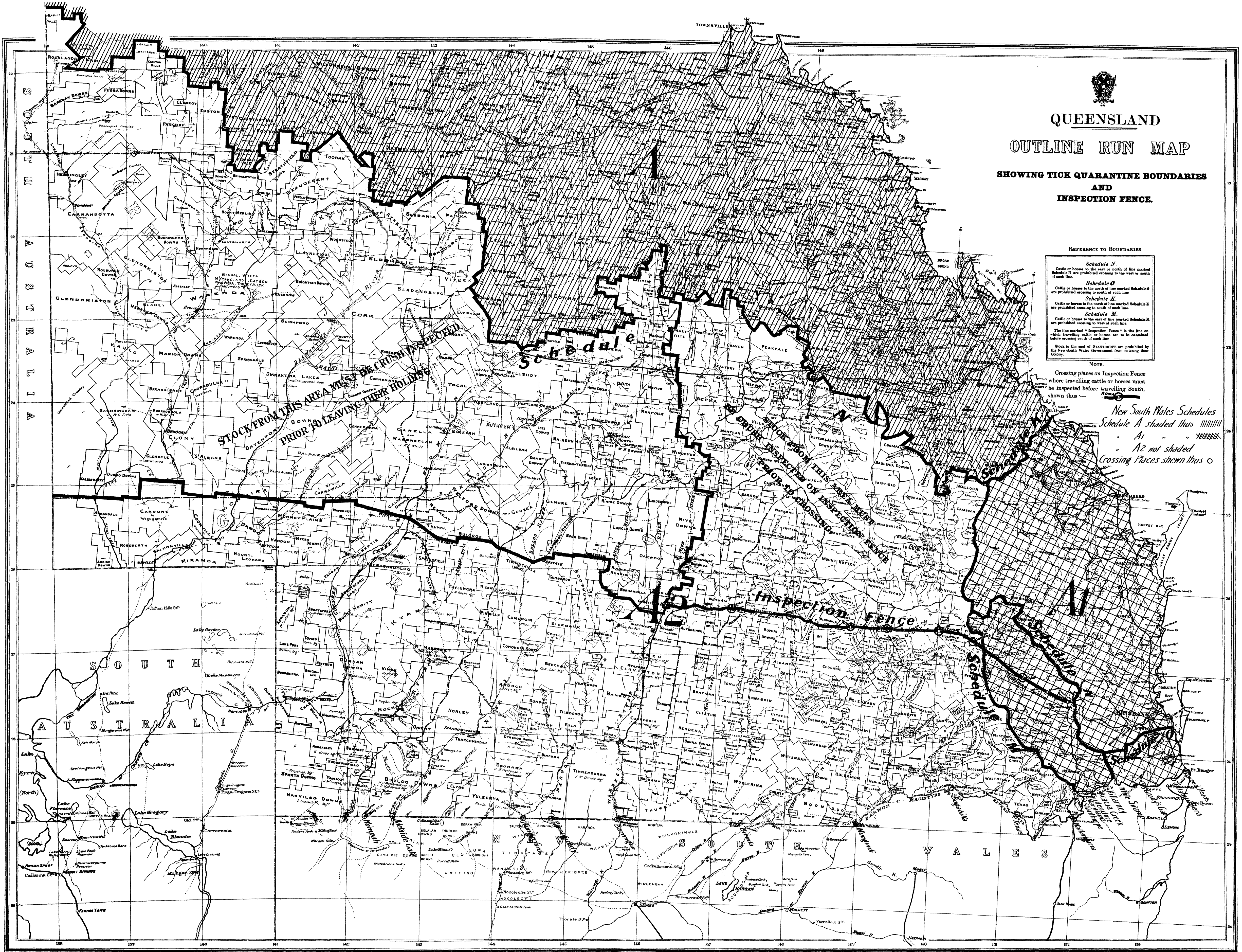
The line marked "Inspection Fence" is the line on which travelling cattle or horses are to be examined before crossing south of such line.

Stock to the east of STANTHOPE are prohibited by the New South Wales Government from entering that Colony.

NOTE.

Crossing places on Inspection Fence where travelling cattle or horses must be inspected before travelling South, shown thus —

*New South Wales Schedules*  
Schedule A shaded thus   
A1 " "   
A2 not shaded  
Crossing Places shown thus 



SOUTH AUSTRALIA

SOUTH AUSTRALIA

SOUTH WALES



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## LOSSES IN SHEEP CAUSED BY NATIVE AND TAME DOGS DURING YEARS 1889 TO 1898.

(RETURN SHOWING.)

*Printed under No. 11 Report from Printing Committee, 23 November, 1899.*

The Chief Inspector of Stock to The Principal Under Secretary.

Department of Mines and Agriculture,

Stock and Brands, Sydney, 6 November, 1899.

Sir,

With reference to the deputation from the Stock Board's Council of Advice, which waited on the Chief Secretary to-day, I have the honor to forward herewith the statement promised showing the losses in sheep, &c., from native and tame dogs during the past ten years.

I have, &amp;c.,

ALEX. BRUCE,

Chief Inspector of Stock.

Losses in Sheep caused by Native and Tame Dogs from year 1889 to 1898.

Year.	Native Dogs.	Tame Dogs.	Amount, Native Dogs.	Amount, Tame Dogs.	Total Amount, Native and Tame Dogs.
1889 ... ..	57,561	41,067	£ 21,654	£ 17,252	£ 38,906
1890 ... ..	79,898	57,653	29,096	24,606	53,702
1891 ... ..	85,408	45,824	28,189	16,118	44,307
1892 ... ..	104,141	58,624	21,970	12,424	34,394
1893 ... ..	109,265	54,327	23,937	12,700	36,637
1894 ... ..	127,121	54,496	25,334	10,206	35,540
1895 ... ..	115,589	54,613	25,591	11,966	37,557
1896 ... ..	195,455	62,135	35,670	12,916	48,586
1897 ... ..	172,571	78,901	39,164	18,503	57,667
1898 ... ..	185,635	74,344	42,446	19,238	61,684
Total loss of sheep	1,232,644	581,984	293,051	155,929	448,980
	1,814,628				

Total number sheep destroyed ... .. 1,814,628

Value of " ... .. £448,980

Stock Branch,  
6/11/99.

ALEX. BRUCE,

Chief Inspector of Stock.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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# INTERIM REPORT

OF THE

## ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE

### PREVALENCE, &c., OF TUBERCULOSIS

AND OTHER

### DISEASES IN STOCK.

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*Printed under No. 3 Report from Printing Committee, 22 August, 1899.*

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SYDNEY: WILLIAM APPLGATE GULLICK, GOVERNMENT PRINTER.



## COMMISSION.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen,  
Defender of the Faith, and so forth,—

To Our Trusty and Well-beloved—

The Honorable SYDNEY SMITH, President.  
ALEXANDER BRUCE, Esq., J.P., Chief Inspector of Stock and Registrar of Brands.  
The Honorable GEORGE HENRY COX, M.L.C.  
ALBAN GEE, Esq., J.P.  
JOHN JAMES, Esq.  
GEORGE MAIDEN, Esq., J.P.  
JOHN ASHBURTON THOMPSON, M.R.C.S., Eng., Chief Medical Officer of the Government.

Greeting :—

KNOW YE, That We, reposing great trust and confidence in your ability, zeal, industry, discretion, and integrity, do, by these presents, authorise and appoint you, or any four or more of you, as hereinafter mentioned, to make a diligent and full inquiry into the prevalence of tuberculosis among animals, the effects on man of consuming the meat or milk of tuberculous animals, and into the administrative measures which are available and which might be taken towards prevention of tuberculosis in animals; also into the effects produced on the meat and milk of cattle affected by Tick-fever, and the protective measures which are available and which would be desirable for preventing the spread of Tick-fever; and further into the administrative agencies existing and desirable to cope with the diseases in general which affect stock: And We do, by these presents, grant to you, or any four or more of you, at any meeting or meetings to which all of you shall have been duly summoned, full power and authority to call before you all such persons as you may judge necessary, by whom you may be better informed of the truth in the premises, and to require the production of all such books, papers, writings, and all other documents as you may deem expedient, and to visit and inspect the same at the offices or places where the same or any of them may be deposited, and to inquire of the premises by all lawful ways and means: And Our further will and pleasure is that you do, within three months after the date of this Our Commission, certify to Us, in the Office of Our Chief Secretary, under your or any four or more of your hands and seals, what you shall find touching the premises: And We hereby command all Government Officers and other persons whomsoever within Our said Colony that they be assistant to you and each of you in the execution of these presents: And We appoint you, the said SYDNEY SMITH, to be President of this Our Commission, which said Commission We declare to be a Commission for all purposes of the Act 44 Victoria No. 1, intituled "*An Act to regulate the taking of evidence by Commissioners under the Great Seal.*"

In testimony whereof, We have caused these Our letters to be made Patent, and the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness Our Right Trusty and Right Well-beloved Cousin, WILLIAM, EARL BEAUCHAMP, Knight Commander of Our Most Distinguished Order of Saint Michael and Saint George, Our Governor and Commander-in-Chief of Our Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this thirty-first day of May, in the year of Our Lord one thousand eight hundred and ninety-nine, and in the sixty-second year of Our Reign.

BEAUCHAMP.

By His Excellency's Command,  
JAMES N. BRUNKER.

ENTERED on Record by me, in Register of Patents, No. 20, page 427, this twenty-second day of June, one thousand eight hundred and ninety-nine.

For the Colonial Secretary and Registrar of Records,—

CRITCHETT WALKER,  
Principal Under Secretary.





ROYAL COMMISSION ON TUBERCULOSIS, TICK FEVER, AND DISEASES  
IN STOCK.

INTERIM REPORT ON TICK PEST.

To His Excellency the Right Honorable William, Earl Beauchamp,  
Knight Commander of the Most Distinguished Order of Saint Michael  
and Saint George, Governor and Commander-in-Chief of the Colony  
of New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,

We, the Commissioners, appointed by your Excellency on the 31st May, 1899, to make a diligent and full inquiry into the prevalence of Tuberculosis among animals, the effects on man of consuming the meat or milk of tuberculous animals, and into the administrative measures which are available and which might be taken towards prevention of tuberculosis in animals; also into the effects produced on the meat and milk of cattle affected by Tick fever, and the protective measures which are available, and which would be desirable for preventing the spread of Tick fever; and, further, into the administrative agencies existing and desirable to cope with the diseases in general which affect stock, have the honor to submit the following Interim Report on questions arising out of such inquiry, which your Commissioners deem of sufficient importance to place before your Excellency without delay.

One of the subjects to which the Commission refers is the preventive measures which are available, and which would be desirable, for preventing the spread of Tick fever.

Your Commissioners, in order to deal with the matter as promptly and effectively as possible, decided to invite the attendance of Dr. Sidney Hunt, Government Pathologist, Queensland, and Mr. C. J. Pound, Director of the Stock Institute, Queensland, two gentlemen who have given great attention to the subject of Tick fever and its only known transmitter—the cattle tick.

In addition to obtaining valuable evidence bearing upon the question from the gentlemen named, your Commissioners also examined Mr. Alexander Bruce, Chief Inspector of Stock of this Colony, Dr. Frank Tidswell, Principal Assistant Medical Officer, Mr. R. D. Stewart, Government Veterinary Surgeon, Mr. J. B. Christian, pastoralist, Mr. H. R. Pockley, station inspector to the Commercial Banking Company of Sydney (Limited), Mr. Froggatt, Government Entomologist, and Mr. Hill, Demonstrator of Biology at the Sydney University.

Your Commissioners have been advised of the serious losses that have followed the spread of Tick fever in Queensland; and they have been informed of its gradual extension in dangerous proximity to our Border, notwithstanding the large sum of money expended by the Queensland Government in establishing and carrying out preventive measures.

In this Colony the sum expended annually with the object of preventing the introduction of ticks now amounts to upwards of £10,000.

Quarantine regulations have been made by the Government of Queensland to control the movements of stock from infested areas, and the Government of this Colony has appointed inspectors, not only on the Border of this Colony, but also on certain quarantine lines within the Colony of Queensland, besides fencing about 120 miles of the Border line between the two Colonies.

Your

Your Commissioners are aware that attempts have already been made to evade the regulations, which, when discovered, have been followed by prosecution; and the necessity of maintaining a rigid inspection will be admitted when it is understood that the relaxation or evasion of the regulations now in force, or insufficiency of the same, will have the effect of rendering futile the expenditure already incurred, and now being continued, and will result in the early spread of the disease to the clean herds of this Colony.

Notwithstanding the proximity of the ticks to our Border, it is pleasing to your Commission to state that it is considered by some of the witnesses that strict enforcement of efficient regulations will have the important effect of arresting for a considerable time the spread of the disease.

Your Commissioners, realising the ruinous effect which might result to this Colony from the introduction of infested animals, deem it their duty to submit at this early stage of their inquiry an interim report dealing with some of the measures they think desirable to lessen the threatened danger, although the evidence necessary to effectually deal with the question of Tick fever is incomplete.

The evidence taken shows that there is no law in force in this Colony to enable the quarantining of stock, should any part of our territory unfortunately become infested. If stock were permitted to travel from infested parts to clean country, your Commissioners believe there would be great danger of spreading the disease to large areas of country, and of causing serious loss.

Although it is not proposed at this stage of the inquiry to deal fully with all the evidence submitted, your Commissioners deem it necessary to direct attention to that tendered by Mr. Pound, which is to the effect that sheep and horses exhibited this week at the Brisbane Show—which is within an infested area—will be permitted to return to clean country. This evidence is also borne out by the following paragraph in the *Australasian* of 8th July last:—“Several inquiries have been made in reference to exhibits of stock from the Darling Downs; and in reply thereto, it may be stated that no objection will be offered by the Department of Stock to sheep and horses being sent from that district to Brisbane, and returning thence. Cattle can likewise be forwarded from the Darling Downs to Brisbane, but will not be allowed to return after the Show, and must therefore be disposed of in the capital. This precautionary measure is of course in accordance with the Tick Regulations.”

Further, the evidence submitted shows that ticks in the Colony of Queensland have matured on both horses and sheep; while their appearance on the Island of St. Helena (Queensland) in November last is attributed to sheep which have been allowed access to the island conveying ticks to the dairy herd. Up to the present time the introduction of ticks to this clean district has not been accompanied by any outbreak of Tick fever. The evidence so far adduced does not enable your Commissioners to decide whether this is due to non-pathogenic properties of the ticks; whether ticks when matured through the medium of the sheep lost their destructive properties, or whether sufficient time has been allowed since the appearance of the ticks for an outbreak of fever to take place.

It is clear from the evidence that the ticks can be carried mechanically by any object, alive or dead, to which they have an opportunity of attaching themselves; but by sheep and horses they can also be carried parasitically, a much more important matter.

It will, therefore, be seen that in allowing sheep and horses to be taken from infested to clean areas there will be considerable risk of spreading the disease, and your Commissioners, therefore, suggest that the Government of Queensland be asked to direct that sufficient safeguards be adopted to prevent the possibility of sheep and horses carrying the ticks to clean areas. It may be difficult under the arrangement arrived at by the Queensland authorities to prevent the removal of these show animals to various parts of Queensland; but if this cannot be done, it is hoped that their removal will be accompanied by such restrictions as will guarantee that they are entirely free from infestation.

Evidence

Evidence has also been adduced as to the insufficiency of the inspection on the prohibited line in section A 1. Sheep, it is stated, have been permitted to pass from quarantine area A 1, across Schedule M, to clean country, and the inspection on the prohibited line near Brisbane, A 1, Schedule J, has been found inadequate to prevent the possibility of the movements of doubtful stock to the clean areas adjoining our Border.

To recapitulate, your Commissioners recommend—

1. That immediate steps be taken to introduce a short legislative measure to empower the Government to quarantine infested areas or suspected stock within the Colony.
2. That the attention of the Queensland Government be drawn to the advisableness of taking effective steps to prevent the danger of infection from horses and sheep as well as cattle being permitted to pass out of quarantine lines described by Schedules J, N, M, of the Queensland proclamation.
3. That steps be taken to insure a more efficient system of inspection on the quarantine lines within Queensland by adding to the number of inspectors now acting on behalf of the Government of this Colony.

Important evidence has also been taken bearing on inoculation, quarantine, dipping, and other matters; but, before dealing with these different phases of the question, your Commissioners deem it advisable to call additional evidence in order to obtain sufficient data to guide them in their deliberations.

We have the honor to be  
Your Excellency's most obedient servants,

SYDNEY SMITH, President.

ALEXANDER BRUCE.

ALBAN GEE.

JOHN JAMES.

G. MAIDEN.

J. ASHBURTON THOMPSON.

J. GIBSON, Secretary.

10th August, 1899.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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# SECOND INTERIM REPORT

OF THE

## ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE

# PREVALENCE, &c., OF TUBERCULOSIS

AND OTHER

## DISEASES IN STOCK.

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*Printed under No. 7 Report from Printing Committee, 26 October, 1899.*

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SYDNEY: WILLIAM APPLGATE GULLICK, GOVERNMENT PRINTER.





## COMMISSION.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen,  
Defender of the Faith, and so forth,—

To Our Trusty and Well-beloved—

The Honorable SYDNEY SMITH, President.  
ALEXANDER BRUCE, Esq., J.P., Chief Inspector of Stock and Registrar of Brands.  
The Honorable GEORGE HENRY COX, M.L.C.  
ALBAN GEE, Esq., J.P.  
JOHN JAMES, Esq.  
GEORGE MAIDEN, Esq., J.P.  
JOHN ASHBURTON THOMPSON, M.R.C.S., Eng., Chief Medical Officer of the Government.

Greeting :—

KNOW YE, That We, reposing great trust and confidence in your ability, zeal, industry, discretion, and integrity, do, by these presents, authorise and appoint you, or any four or more of you, as hereinafter mentioned, to make a diligent and full inquiry into the prevalence of tuberculosis among animals, the effects on man of consuming the meat or milk of tuberculous animals, and into the administrative measures which are available and which might be taken towards prevention of tuberculosis in animals; also into the effects produced on the meat and milk of cattle affected by Tick-fever, and the protective measures which are available and which would be desirable for preventing the spread of Tick-fever; and further into the administrative agencies existing and desirable to cope with the diseases in general which affect stock: And We do, by these presents, grant to you, or any four or more of you, at any meeting or meetings to which all of you shall have been duly summoned, full power and authority to call before you all such persons as you may judge necessary, by whom you may be better informed of the truth in the premises, and to require the production of all such books, papers, writings, and all other documents as you may deem expedient, and to visit and inspect the same at the offices or places where the same or any of them may be deposited, and to inquire of the premises by all lawful ways and means: And Our further will and pleasure is that you do, within three months after the date of this Our Commission, certify to Us, in the Office of Our Chief Secretary, under your or any four or more of your hands and seals, what you shall find touching the premises: And We hereby command all Government Officers and other persons whomsoever within Our said Colony that they be assistant to you and each of you in the execution of these presents: And We appoint you, the said SYDNEY SMITH, to be President of this Our Commission, which said Commission We declare to be a Commission for all purposes of the Act 44 Victoria No. 1, intituled "*An Act to regulate the taking of evidence by Commissioners under the Great Seal.*"

In testimony whereof, We have caused these Our letters to be made Patent, and the Great Seal of Our said Colony of New South Wales to be hereunto affixed.

Witness Our Right Trusty and Right Well-beloved Cousin, WILLIAM, EARL BEAUCHAMP, Knight Commander of Our Most Distinguished Order of Saint Michael and Saint George, Our Governor and Commander-in-Chief of Our Colony of New South Wales and its Dependencies, at Government House, Sydney, in New South Wales aforesaid, this thirty-first day of May, in the year of Our Lord one thousand eight hundred and ninety-nine, and in the sixty-second year of Our Reign.

BEAUCHAMP.

By His Excellency's Command,  
JAMES N. BRUNKER.

ENTERED on Record by me, in Register of Patents, No. 20, page 427, this twenty-second day of June, one thousand eight hundred and ninety-nine.

For the Colonial Secretary and Registrar of Records,—

CRITCHETT WALKER,  
Principal Under Secretary.

## ROYAL COMMISSION ON TUBERCULOSIS AND DISEASES IN STOCK.

WHEREAS it is necessary to extend the time within which the Commissioners are to make their report in the above matter: Now, therefore, I do hereby, with the advice of the Executive Council, extend the time within which the said Commissioners are to make such report for a period of three months,—to take effect from the 31st ultimo.

Given under my hand, at Government House, Sydney, this sixth day of September, one thousand eight hundred and ninety-nine.

BEAUCHAMP.

By His Excellency's Command,  
JAMES N. BRUNKER.



ROYAL COMMISSION ON TUBERCULOSIS, TICK-FEVER, AND DISEASES  
IN STOCK.

SECOND INTERIM REPORT ON TICK-PEST.

To His Excellency the Right Honorable William, Earl Beauchamp, Knight  
Commander of the Most Distinguished Order of Saint Michael and  
Saint George, Governor and Commander-in-Chief of the Colony of  
New South Wales and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

We, the Commissioners, appointed by your Excellency on the 31st May, 1899, to make a diligent and full inquiry into, among other matters, the protective measures which should be adopted for preventing the introduction and spread of tick-fever, have the honor to submit our second interim Report, in which we desire to emphasise our previous recommendations, and to make some further suggestions which we deem of such importance as to justify us in strongly urging upon your Excellency that they be carried out without any unnecessary delay.

Since making our first interim Report, on 10th August, five of your Commissioners, viz., the Hon. Sydney Smith, President; the Hon. G. H. Cox, M.L.C.; Messrs. Alexander Bruce, John James, and Alban Gee, J's.P., accompanied by Dr. Frank Tidswell, Principal Assistant Medical Officer to the Government, paid a visit to Queensland for the purpose of seeing the tick-infested area in Queensland, and observing the methods adopted by the Government and pastoralists for coping with the disease.

During our stay in Queensland we were treated with the utmost courtesy by the Government, who afforded us every facility for prosecuting our inquiries, by authorising the officers connected with the Department of Agriculture to furnish us with information and assistance. The leading pastoralists and others interested in the subject of our inquiry also unreservedly placed all the information at their command at our disposal.

Your Commissioners, accompanied by Mr. P. R. Gordon, Chief Inspector of Stock for Queensland, and Mr. C. J. Pound, F.R.M.S., Director of the Stock Institute, Brisbane, visited the Quarantine Station near Brisbane, and were shown several tick-infested animals, as well as the methods of drawing their blood and injecting the same for the purposes of inoculation. We were also shown over the Stock Institute by the Director, who explained the process used in the manufacture of tuberculin for detecting the presence of tuberculosis in cattle, and directed our attention to numerous specimens of tuberculous growths. We then proceeded to Rockhampton, and, on the day of our arrival, visited Mr. Black's station, where several tick-infested cattle were put through the best known dip. Three days later two of your Commissioners revisited the station for the purpose of ascertaining the result, when it was found that although most of the ticks were killed, some remained alive. We subsequently visited the stations of Gracemere, in the neighbourhood of Rockhampton, and Gin Gin, near Bundaberg, at both of which places severe losses have been sustained through tick-fever and tick-worry, and numerous experiments have been carried out in connection with the same.

The large meat-works at Lakes Creek, near Rockhampton, as well as those at Gladstone and Brisbane, were also visited by your Commissioners, and valuable information was obtained as to the methods adopted at each of those places for the inspection of meat and for its condemnation when affected with tuberculosis or other diseases.

During

During our stay in Queensland, which lasted a fortnight, we examined the following witnesses, viz.:—J. E. Smith, Provisional Inspector of Stock, Rockhampton; William Black, grazier, near Rockhampton; James Henry McConnell, station owner, part proprietor of the Gladstone Meat Works, and a member of the Queensland Stock Board; J. Sidney Hunt, M.R.C.S., Pathologist to the Queensland Government, whom your Commissioners had previously examined in Sydney; Charles Dallon, stockowner, North Rockhampton; William Toft, dairyman, of Oakwood, near Lakes Creek, near Rockhampton; A. W. Barnes, M.R.C.V.S., Government Inspector of Meat at Rockhampton; W. L. Bell, grazier, at Knowe, Mt. Headlow; Henry Beck, grazier and dairyman, Pennard, near Rockhampton; James Armstrong, manager of Mr. R. S. Archer's dairy farm, Gracemere, near Rockhampton; Montague Beck, grazier, near Pennard; R. S. Archer, grazier, Gracemere, near Rockhampton, and Chairman of the Central Queensland Stock Owners' Association; Fanshawe Gostling, manager, Gin Gin Station; Markham, Stock Inspector, Bundaberg; W. C. Quinnell, M.R.C.V.S., Inspector of Meat at Brisbane; E. T. Hancock, Metropolitan Inspector of Stock, Brisbane; W. Collins, grazier, of Mundoolun, near Brisbane, and member of the Queensland Stock Board; C. J. Pound, F.R.M.S., Director of the Queensland Stock Institute (whom your Commissioners had already examined in Sydney); Acting Inspectors Sabine and Coleman, who are doing duty on the buffer-line south of Brisbane, the greater part of which was inspected by one of your Commissioners.

On leaving Queensland we proceeded to the Tweed Heads, Murwillumbah, and Lismore for the purpose of seeing how the system of inspection was carried on at the Border, and of making ourselves personally acquainted with the country which is likely to be first attacked by the tick. At the Tweed Heads, where Acting Inspectors Whitty and Cowley were examined, a horse was smeared in our presence to enable us to judge of the efficacy of that process for destroying ticks. During this part of our trip we examined the following witnesses, viz.:—Patrick Quinn, Inspector of Nuisances under the Dairies Supervision Act, Lismore; P. W. Melhuish, F.R.C.V.S., District Inspector to the Department of Public Health, residing at Lismore; W. J. Tippett, Police Inspector at Lismore of Meat, Slaughter-houses, and Dairies; and J. J. McIntyre, dairy farmer at Lismore. Inspector Sinclair and Assistant Inspector Scott were also examined in regard to the proposed additional fencing at Wallangarra.

It is difficult to realise the serious losses and ruin which followed the introduction and spread of ticks in some of the tick-infested parts of Queensland. In several cases whole herds have been destroyed, while many owners have lost as high as 50 per cent. One owner admitted having a shortage of 17,000 out of 26,000 in fourteen months, and a diminution in his increase from 6,000 to 200.

The first serious outbreak occurred in 1895, and the official returns show that while in 1894 there were 7,012,997 cattle in Queensland, that number was gradually reduced to 5,571,292 at the end of 1898, or a total decrease in four years of 1,441,705. After taking the average increase on the basis of the returns for 1893-4, and allowing for the increased trade in meat-preserving and export, the estimated loss for the four years, 1895 to 1898 inclusive, would amount to about 1,600,000. While the shortage shown by these official returns cannot altogether be attributed to ticks, but is partly accounted for by drought, the fact still remains that by far the greater proportion of the loss would appear to be due to tick-infestation.

As a result of the serious losses arising from Texas fever, many owners in their alarm in the early stages of the invasion, gave up all hope of being able to combat its ravages, and sold their stock at ruinous prices. The experience recently gained, however, has somewhat restored confidence. Though they are still anxious, as we are, to keep the ticks at a distance, the Queensland pastoralists now have good grounds for the belief that inoculation and dipping will largely aid them in preserving their stock. We also believe that their bitter experience and the increased knowledge we have gained as the result of their loss, together with the further knowledge we hope to gain from experiments now being conducted and suggested, will help us to lessen the effects of the pest, should it unfortunately obtain a footing here. We, nevertheless, believe that much yet remains to be learnt, both in regard to the life history of the parasite, inoculation and dipping, and that the best interests of this Colony will be served by taking every possible precaution to prevent or retard the introduction of the cattle-tick.

As

As the result of our visit to Queensland we desire to strongly emphasise the recommendations contained in our first interim report, firstly, as to the urgent necessity of a short Bill being introduced into Parliament empowering the Government to quarantine infested areas or suspected stock within the Colony; secondly, as to the equally urgent necessity for the maintenance by the Queensland Government of the western boundary-line of the quarantine buffer area, known as "M," so as to prevent the danger arising from sheep and loose horses as well as cattle passing from that area into the clean part of Queensland, from which stock are now admitted into this Colony, only horses in actual work to be allowed to do so under strict inspection and dipping; and thirdly, as to the importance of retaining such a quarantine line between the very badly-infested and slightly-infested country, now starting from the north-east corner of the Walloon Run and extending to the seaboard near Gladstone, known as "K" on the Queensland map, but altering it as indicated by the following description, in order to include the Gin Gin and other badly-infested portions of the Coast country, viz. :—Commencing at the north-east corner of Walloon Consolidation, and bounded thence by the southern and eastern watershed of Callide Creek and tributaries to the junction of the southern watershed of the Calliope River and tributaries; by that watershed and the watershed dividing the tributaries of the Burnett River to Mount Perry; thence by a line to Woonoona; and thence by the railway line to Maryborough; and thence by the Mary River downwards to the coast, as indicated on the accompanying map.

We understand from evidence tendered by Mr. W. Collins, a leading pastoralist and member of the Queensland Stock Board, which was confirmed by the authorities in Queensland, that it is intended to abolish the last-mentioned quarantine line. We fear that the opening of this line would be the means of greatly increasing the infection in the suburbs of Brisbane and the surrounding country, and would before long lead to outbreaks of tick-fever there. If this occurred, it would be most difficult to stop the ticks from crossing the Logan buffer-line and coming right to our Borders, bringing the tick-fever with them. In support of this view, we quote the following extract from Mr. Collins' evidence :—

I understand that a proposition has been made to alter the quarantine line marked Schedule K? The proposition is to abolish Schedule K altogether, and to allow all stock to go to Brisbane. Known tick-infested cattle would not be allowed to travel over clean parts; but reputedly clean cattle north of that line could come down, and would, in my opinion, be a great source of danger. These cattle might take up virulent ticks as they came along, and increase the infestation near Brisbane. It would be a means of increasing the ticks above Brisbane, and of bringing disease-producing ticks nearer.

What would you recommend to safeguard the interests of Brisbane, the Downs, and our own Colony in connection with this proposal? I would maintain Schedule K a little further south than its present position.

You are aware that there are ticks at Gin Gin? Yes, and a little south of Childers. Running from Schedule K down the range to Woonoona Railway, and thence by the railway to Maryborough is, I think, the best line that could be adopted. There are no virulent or fever-producing ticks south of my suggested line, so far as I know.

You think that the abandonment of Schedule K quarantine line would prove a serious source of danger to our Colony? A very great danger indeed to Southern Queensland, and consequently to New South Wales, by enabling large numbers of ticks to be brought down.

The evidence taken by us in Queensland confirms our belief, as expressed in our first interim report, that in allowing sheep and horses (which at one time were not considered a very serious source of danger there) to be taken from infested to clean areas, there would be considerable risk of spreading the disease. Several witnesses—notably Mr. C. J. Pound, F.R.M.S., Mr. A. W. Barnes, M.R.C.V.S., and Mr. E. T. Hancock, who was recently sent by the Queensland Government to investigate the tick outbreak in Western Australia—had seen ticks mature on horses and sheep. Mr. Hancock gave several apparently well-authenticated instances coming under his own observation in Central Queensland—notably that of Carmulla, near Mackay—in which horses have spread the ticks. The fact that unattached larval ticks are frequently found on horses rather adds to the danger arising from that source, since every time a tick-infested horse rolls on the ground, some of the larval ticks would probably fall off and might be picked up by passing cattle to subsequently mature on their true host.

As regards sheep, the infestation of the St. Helena herd and other recorded instances show the danger from that source.

It is true that your Commissioners were unable to obtain any well-authenticated case in which ticks maturing on horses or sheep have produced tick-fever, the supposition being hazarded by several of the experts that the pathogenic qualities



qualities of the tick might possibly have been destroyed by feeding on an uncongenial host, such as the horse or the sheep; but whether this be true or not—and we think the utmost endeavours should be made to test the correctness of this theory—there is considerable danger from the tick-carrying capabilities of the horse and sheep. The evidence also goes to show that the introduction of inoculated or fever stricken cattle amongst uninoculated stock infested with non-pathogenic ticks has caused the latter to become pathogenic, resulting in the spread of the disease. All this points to the importance of greater care being exercised in the examination of both horses and sheep. In the first place, every avenue by which horses and sheep, as well as cattle, can enter our Border from doubtful or infected country should be rigorously guarded. Our line of Border fence, which already extends about 120 miles from the seaboard, and which has proved of great service, should be extended in a westerly direction. Taking advantage of the existing fence and impassable mountains, this could be accomplished for about 70 miles at a cost of about £600. The system of smearing working horses, which has been hitherto adopted at the Border, does not, in the opinion of your Commissioners, effectually provide for the destruction of the ticks, as, even if the greatest care were exercised, which certainly would not always be the case, it would be practically impossible to depend upon it; whereas, if the dip were properly constructed, effective medicaments used, and the immersion a thorough one, although not of such duration as to injure the animal, the risk would be very much lessened. When originally put in force, smearing may have been, perhaps, the best precaution that could at that time have been adopted; but since then the methods of destroying ticks have greatly improved, and the evidence of numerous witnesses, the practice of large numbers of pastoralists, and our own observations leave no doubt in our minds that the smearing system should be at once discarded in favour of dips. When dipping was originally introduced into Queensland an oily preparation was almost universally used, on the recommendation of some American authorities; but the oily dip has since been found, both in Queensland and in America, to do serious injury. It has, therefore, been generally discarded in favour of some other preparation, that known as Christian's Dip—composed of arsenic and soda, with a little tar, or some modification thereof—being most frequently used, and has, there is no doubt, lessened the infestation of cattle. The dip (or bath) in which the horses should be immersed ought to be about 40 or 45 feet long, and about 3 feet wide, and of sufficient depth to ensure complete immersion, with an incline at either end for the horse to walk comfortably in and out, and its cost would be about £50.

Your Commissioners recommend that one of these dips should be erected at each of the eleven crossing-places on our Border, where working horses are now smeared; that the preparation used should in the meantime be some modification of the dip mentioned.

While admitting that the dip will be much more efficacious than smearing, we nevertheless think it right to point out that the experiments conducted by your Commissioners, supported by a number of witnesses, have proved to our satisfaction that every tick would not be destroyed by a single immersion, unless a more effectual preparation, or a more effective mode of administering it, be discovered.

In view of the important part that dipping will take in the ultimate destruction of the ticks, we do not consider that this question has been sufficiently investigated, and therefore suggest that careful and exhaustive experiments should be carried out on a sufficiently large and practical scale to ascertain (*a*) the best form of dip; (*b*) the most suitable preparations for dipping; (*c*) the period of immersion; (*d*) the duration of its efficacy against re-infestation of ticks; (*e*) whether it should be repeated; and, if so, at what intervals; and (*f*) the best mode of carrying it out.

Another and still more important result of our visit to Queensland is, that we are able to make certain recommendations for the benefit of the pastoralists and dairy-farmers of this Colony, and especially to those on the Border, who are naturally extremely anxious as to the course they ought to adopt. Our first recommendation is that it is unnecessary for cattle-owners to continue inoculating their cattle until the ticks approach very much nearer than they are at present. Your Commissioners would refer to the example of Mr. W. Collins, the owner of several station properties on the Logan, within the buffer area adjoining our Border, carrying at present about 9,000 head of cattle. Mr. Collins was deputed by the Queensland Government in 1896 to visit America with Dr. J. Sidney Hunt, for the purpose of making inquiries into the tick

tick question. The following extract is from the evidence given before the Commission by Mr. Collins:—

What action would you recommend us to take in New South Wales? I would not recommend inoculation till you get the ticks right up to the Border. I would recommend delay. During the process of inoculation the cattle are knocked about, and there are a few losses from it. If you can stave the ticks off for two years it would be well to avoid all the trouble, expense, and loss of inoculation during that period.

Would there be any danger of setting up fever in uninoculated cattle by inoculating others? I think the risk is very slight. I am interested in a large number of cattle between Brisbane and the Border. We have inoculated a few, and the loss is not one per cent. We do not intend to inoculate generally on the Logan until we get ticks right alongside. We have everything ready, and we will inoculate them when the ticks come. We could inoculate the whole lot in a week or two.

We draw special attention to this evidence, as it comes from a pastoralist of exceptional experience, who is keenly alive to the danger arising from the tick, having lost 17,000 cattle out of a herd of 26,000 in fourteen months, on a tick-infested run near Townsville.

The advice to discontinue inoculation till the ticks are in close proximity to our Border was given by many witnesses of practical experience. Your Commissioners are prepared to indorse the recommendation in view of the rapidity with which immunity can be produced, and for other reasons. If the cattle were inoculated before the ticks came, there is no evidence to show how long the immunity might last. The conditions existing in Queensland are altogether different to those in our Colony. There they have the cattle-tick, which we have not, and have not only made up their minds to depend upon inoculation and dipping, but the continued infestation of inoculated animals, it is said, maintains the immunity; whereas, in our Colony we must depend upon the artificial inoculation to protect our cattle against Texas fever, and we have no certain knowledge as to how long the effect of artificial inoculation would last. In June, 1898, an experimental inquiry was undertaken by Dr. Tidswell, at the instance of the Minister for Mines and Agriculture, and a preliminary experiment was made in September and October, 1898, by inoculating a number of cows at the Quarantine Station, Sydney. About four months after inoculation three of these cows were sent to the tick-infested area in Queensland for the purpose of testing the duration of the immunity; but although Dr. Tidswell considers that they took a second attack of fever, Dr. Hunt was of opinion that the death of one of the cows, and the sickness of the others, was attributable to tick-worry. We are hopeful, however, that further tests, now being made by the Principal Assistant Medical Officer (Dr. Tidswell), at Rockhampton, will elucidate this point.

A considerable amount of evidence was adduced to show that, although in some cases the fever rapidly followed an attack of ticks, the general opinion entertained in Queensland was that ticks may infest cattle without giving them the fever, at any rate, for from four to twelve months, or even, as in the extraordinary Boolburra case—where fever has not even yet broken out—for several years. It is generally considered that there is ample time after the first appearance of the ticks on an adjoining run to inoculate cattle, provided the means of inoculation were available. There would be considerable danger of spreading fever to other herds, both north and south, if a few here and there inoculated their herds while others did not, should the cattle in the locality become infested with ticks. The moment a cow is inoculated, she has the fever parasite in her veins; and, therefore, if subsequently infested with ticks, whether pathogenic or non-pathogenic, she may be the means of spreading the disease.

To more clearly illustrate our remarks on this head, we would refer to what has occurred at Boolburra and Mount Cornish. At both of these places the cattle were tick-infested for years without fever breaking out, although many died from tick-worry. The ticks were believed to be non-pathogenic, for which various reasons were assigned, the most plausible one being that they were conveyed thither by horses or sheep, and the fever organism thereby deprived of its virulence. But several instances were given in evidence in which Boolburra cattle, when placed on infected country, immediately took the fever. Dr. Hunt's evidence is as follows:—

1709. Therefore, as far as you know, at the present time you believe that the ticks can only take up this parasite from diseased cattle or cattle containing the parasite? I would rather not say that; I believe they can only acquire it so; I would rather say we have only evidence of their doing so.

1710. Have you made any experiments with a view to prove whether they can take it up in any other way? I have made experiments to test the two hypotheses. If some ticks are non-virulent, and subsequently become virulent, they must acquire virulence in some way. The question is, how do they acquire it? I made experiments to ascertain if they acquired it from antecedent bovine infection, and, as a kind of collateral to that experiment, to ascertain if they obtained it from external nature. Briefly stated, the experiments

were

were of this character: To ascertain the first point,—whether ticks acquired virulence from antecedent bovine infection,—a piece of perfectly clean country was fenced in with a double-ringed fence, with a minimum space of 30 chains between the two fences. Ticks were obtained from Boolburra. That is the place where there have been ticks for some three and a half years without Texas fever, where a great many experiments have been carried out, and where we knew a great deal about the ticks and their condition. Into this double-fenced area of clean country we brought down a large number of Boolburra ticks, and we heavily infested the paddock with them. Then we brought down by rail a certain number of the Boolburra cattle with ticks on them. We put them into the double-fenced enclosure, and there we left the Boolburra cattle and the Boolburra ticks to worry at each other for a certain number of months. We allowed nothing to go in or come out, so that there was absolutely no communication. Subsequently I inoculated those Boolburra cattle.

1711. How long after they had been in? At a period varying from four to eight months. I inoculated them in this way: I got blood from an outside source, and did the first bullock. As soon as he reacted, I inoculated a second with his blood, and as soon as he reacted, I inoculated a third, and then a fourth, and so on, until I had completed the lot. As a matter of fact, there were nine bullocks, and I did them one from the other. The time occupied in the inoculation spread over a considerable period, because a beast inoculated to-day would not be in the height of fever until ten days; and when his blood was used the next would not be in the height of fever until another ten days. All these Boolburra cattle reacted. The next step was to get perfectly clean cattle by rail up from the west, and put them straight into this paddock with the Boolburra cattle. Clean cattle railed from the west had been tested in two previous experiments, and found not to contract Texas fever when exposed to the ticks at Boolburra, but to become intensely eaten up by the ticks and impoverished in condition. The ten head now brought down and put into the paddock with the inoculated Boolburra cattle all contracted the fever, and eight of them died within three weeks. So that I thought I was fairly justified in forming the opinion that previously non-pathogenic ticks, by maturing on the animals which were inoculated, become distinctly virulent, inasmuch as every animal exposed in this enclosure afterwards caught the fever, and eight out of ten died. As a kind of complement to that experiment, at the same time that I enclosed this piece of clean country, I shipped a dozen head of cattle to an island off Gladstone—a low-lying island, surrounded by mangroves—just such a place as you would think ought to be a happy hunting-ground for the tick, and a sort of place which our traditional ideas of malaria would lead us to believe would be favourable for the development of micro-parasites of this class. On to this island, which was perfectly clean, I sent a dozen head of perfectly clean cattle. I also sent down large supplies of Boolburra ticks similar to those put into the enclosure mentioned in the previous experiment. This was in order to see whether the humid coastal conditions of this low-lying island would endow the previously non-virulent ticks from Boolburra with any pathogenic powers—in other words, whether the ticks on such country and in such conditions would be able to pick up the micro-parasite as, we will say, the mosquito may be supposed to pick up the malarial organism. The outcome of it is that, so far, those cattle have remained perfectly well. Some of them have been a good deal eaten up and worried by the ticks, but though they have been very carefully examined and looked after there has not been a sign of Texas fever amongst them. So that, as far as my experiment goes, I have no evidence to offer that ticks acquire virulence, except from bovine animals. Of course that is only as far as one experiment goes, and one experiment must not be relied upon to prove a case of that kind. Under some other climatic conditions, or in some other low-lying places—the Gulf of Carpentaria, Sydney Harbour, or some place of that sort—the ticks might possibly acquire the parasitic contamination.

1712. Your experiments go to prove pretty conclusively, as far as such experiments can do, that previously non-pathogenic ticks become pathogenic as soon as they come into contact with animals that have the parasite? That is the view, which the evidence I have to offer, would establish.

1713. Therefore, non-pathogenic ticks from a clean area, such as Boolburra, may go to any other clean part of Queensland, and infest cattle without causing Texas fever? That is so.

Dr. Hunt also reported that the uninoculated cattle on a paddock at Mount Cornish took the fever shortly after some inoculated cows were placed there, although none of the other Mount Cornish uninoculated cattle, except those on that particular paddock in which the inoculated cows were placed, took the disease. The following is the evidence on this subject:—

In your evidence before the Commission in Sydney, you stated that, from experiments carried out with the Boolburra ticks, you found that non-pathogenic ticks became pathogenic by maturing on inoculated cattle. You also said that you considered the outbreak at Mount Cornish was explainable on this hypothesis. Can you give us any further particulars? The particulars of the outbreak at Mount Cornish were, as far as I remember, briefly as follows:—About the month of November last two recovered cows were obtained from Townsville. These cows were very carefully and thoroughly cleansed of ticks. They were taken to Mount Cornish for inoculation purposes. A few weeks afterwards about twenty head of young stock were inoculated from these Townsville cows. In the month of April following Texas fever was reported among the cattle running in the same paddock as that in which the two Townsville cows and the twenty inoculated young stock were depastured. Texas fever appeared in no other paddock on the run except that mentioned, that is to say, the paddock in which the two cows and the inoculated cattle were running. Some of the cattle in this paddock died; but, I think, not many. I am in a position to assert positively that the disease then present in the paddock was acute Texas-fever, inasmuch as I had the opportunity of opening and examining one of them. In view of the fact that this run, including this paddock, had been tick-infested between two and three years, that no Texas fever had appeared before then, and that it only appeared after certain contaminated cattle were brought there, and then only among the cattle in the one particular paddock in which these contaminated cattle were running, it appears to me justifiable to assume that the previously non-pathogenic ticks acquired the germs of the disease from the contaminated cattle, and transmitted those germs to susceptible cattle running in the same paddock.”

All this tends to show the danger likely to arise to uninoculated cattle if inoculation is only partially carried out. A further reason which influences us to recommend the discontinuance of inoculation is that we believe it will give time,  
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without any great risk, provided proper precautions be adopted, for the carrying out of much-needed experiments on the lines hereinafter laid down, which we recommend should be made in connection with the disease-bearing properties of ticks, &c.

The Commission has obtained considerable evidence bearing upon the most suitable blood for inoculating—whether from a fevered beast (known as virulent blood) or from an animal recovered from fever caused by ticks, or from an animal which contracted fever from inoculation, or from an animal the progeny of a fevered beast, which itself had suffered from fever; as to the period of effectiveness of the blood for inoculation purposes after having been taken from the salted beast; the period of effectiveness of a salted beast as a source for the supply of blood for inoculation purposes; and also as to the best age of animals used to supply blood for inoculation. These and other questions relating to effective inoculation, might also receive further attention by our experts, and we purpose dealing more fully with this phase of the subject in our final report.

Your Commissioners are also of opinion that more attention should be paid to the condition which in Queensland is called tick-worry, with the view to ascertaining to what exactly it is due—whether to gross infestation with ticks, and their mechanical effects, or to some defined form of disease.

While, however, we recommend discontinuance of inoculation for the present, we would also suggest to your Excellency to cause such steps to be taken as will enable our stock-owners to obtain suitable blood in case special circumstances should arise, which would render it necessary to proceed with inoculation before the presentation of our final report; and further, to provide a sufficient number of experienced men ready to carry out inoculation and to give demonstrative lectures on the subject, as was done in Queensland with such success by Mr. C. J. Pound and by Mr. R. D. Stewart, M.R.C.V.S., in the North Coast country in our own Colony.

When your Commissioners left Queensland the ticks were supposed to be at least 50 miles from the Border, and to be advancing at a very slow rate. Very few ticks were believed to be in and around Brisbane, and these were apparently not of a very virulent kind, only three cases of Texas fever, with respect to which there was considerable doubt, having been reported, although it should be borne in mind that non-virulent ticks may become virulent the moment they get on inoculated stock. Eight months have elapsed since they reached Brisbane, and they are only known to have advanced 12 miles further south since then. The severity of the winter is thought by some to have checked their onward march.

Another interesting point in connection with this part of the subject is whether the ordinary scrub-tick of New South Wales, of which there are several varieties, is capable of becoming pathogenic after being attached to inoculated animals, and of transmitting the disease. Several expert witnesses who gave evidence before the Commission recommended that experiments in this direction be conducted. In the Mackay district, where scrub-ticks are said to be very plentiful, Mr. Hancock, who was stationed there for some time, frequently found cattle-ticks and the ordinary scrub-ticks side by side, attached to the same host. This point—whether the scrub-tick is capable of acquiring and transmitting the organism in the same way as the cattle-tick—is one which should certainly be cleared up as soon as possible.

Although some experiments have been carried out with the view of ascertaining whether it is possible to obtain an anti-toxin which would take the place of infected blood for inoculation purposes, they have not so far been attended with success.

Your Commissioners reserve for their final Report, which they purpose submitting on an early date, any further remarks on this branch of their inquiry, particularly with regard to inoculation and dipping, about both of which, and especially the former, much still remains to be ascertained. In the meantime, your Commissioners recommend that advantage be taken of the present temporary lull in the advance of the ticks to carry out much needed experiments for the purpose of throwing light on several problems which require clearing up.

Evidence was given during the course of our inquiry that swine-fever had broken out in certain parts of Queensland. In view of the great loss which might be incurred by farmers in this Colony if swine-fever spreads into New South Wales, your Commissioners recommend that, pending further inquiries, the importation of pigs from Queensland into this Colony should be prohibited.

## SUMMARY OF RECOMMENDATIONS.

To recapitulate, your Commissioners recommend :—

1. That the Queensland Government be respectfully asked to maintain the northern quarantine line, marked "K," with the modification suggested in the body of this Report, and to retain the services of the inspectors of this Colony and Victoria in guarding the Logan buffer-line, marked "J"; that the quarantine line from Dalveen to Chinchilla, and thence northward to Auburn, marked "M," be strictly maintained against sheep as well as cattle and loose horses; that horses in actual work be inspected and dipped before leaving that or any other doubtful or infected area.
2. That the fence on our boundary-line be extended in a westerly direction for an additional 70 miles from the neighbourhood of Stanthorpe (Q.)
3. That loose horses, as well as sheep and cattle, from infected or doubtful areas should not be allowed to cross the Border or quarantine line.
4. That, in future, working horses be dipped instead of smeared.
5. That a dip be erected at each of the eleven crossing-places along the Border.
6. That it is unnecessary to continue inoculation in this Colony until the ticks approach very much nearer than they are at present for the reasons stated.
7. That a short Bill containing the necessary provisions for empowering the Government to quarantine infested areas or suspected stock within the Colony (as already recommended in our first interim Report) be at once introduced into Parliament.
8. That further information on the following points be obtained :—(a) whether ticks matured on horses and sheep are pathogenic or non-pathogenic; (b) whether the ordinary scrub-tick of New South Wales is capable of acquiring and transmitting the fever organism; (c) as to what cause the condition called tick-worry is due, whether to gross infestation with ticks, and their mechanical effects, or to some defined form of disease; (d) as to the best blood for inoculation; (e) the number of ticks necessary to produce tick-fever; (f) the difference between fever-producing and non-pathogenic ticks; and other experiments referred to.
9. That experiments should also be carried out to ascertain (a) the best form of dip; (b) the most suitable preparation for dipping; (c) the period of immersion; (d) the duration of its efficacy against reinfestation of ticks; (e) whether it should be repeated, and, if so, at what interval; and (f) the best mode of carrying it out.
10. That the importation of pigs into New South Wales from Queensland should be prohibited, pending further inquiries into the prevalence of swine-fever in the latter colony.

We have the honor to be

Your Excellency's most obedient Servants,

SYDNEY SMITH,  
President.

ALEX. BRUCE,  
GEO. H. COX,  
ALBAN GEE,  
JOHN JAMES,  
G. MAIDEN.

A. F. BASSET HULL,  
Acting Secretary.

54, Bridge-street, Sydney,  
17th. October, 1899.

I AGREE unreservedly with Recommendations 1 to 5, 7, 9, and 10; I also agree with Recommendation 8 as pointing out that many matters concerning the origin and diffusion of tick-fever still remain undiscovered, knowledge of which is necessary to establishment of a rational scheme of prevention. But, while concurring in Recommendation 6, I feel it necessary to define the sense in which I understand it.

It is quite certain that inoculation affords the best protection against the fatal effects of tick-fever acquired in the natural way. To refer merely to the evidence before the Commission, Dr. Sidney Hunt and Mr. C. J. Pound, of the Stock Department of the Government of Queensland (whose testimony is of high value) are those witnesses whose business it has been to observe the facts in Queensland during about four years past, and who have consequently had the widest opportunities of becoming acquainted with them; they are also qualified by training and by practice for the difficult task of accurate observation. Their evidence is that inoculation of herds ahead of the invading tick is the best safeguard against otherwise disastrous losses. They are also of opinion that while the ticks which first reach a herd appear occasionally to be not virulent, they are almost certain to become so sooner or later.

The two points concerning tick-fever thus far ascertained are that there can be no epizootic occurrence of this disease without intervention of the tick (*Ixodes bovis*), and that artificial inoculation affords a very important degree of protection against the losses this epizootic invariably causes at first. Beyond them, it seems very probable (on grounds apart from experience, as well as on those which experience has furnished) that all ticks (*Ixodes*) are not capable of conveying the disease; and, secondly, that non-virulent ticks (*Ixodes*) can acquire virulence by feeding on animals which have had tick-fever either naturally or by artificial inoculation. If these two latter views are correct, then, it is the case that inoculation of cattle before the tick arrive would make sure that all the ticks should speedily become virulent, if they were not so at arrival. But I do not think that this militates against adoption and practice of precautionary inoculations. When virulent ticks have begun to take effect on a herd, inoculation then merely reinforces them, and virulent cannot be distinguished from non-virulent ticks, except by their effects. This being the case, and uncertainty being fatal to preventive schemes, it appears to me to be practically advantageous to make sure that all the ticks shall be virulent. As regards protective inoculation, then, the only necessary recommendation is that it must be practised by all of the graziers on any tract of clean country on which it is resorted to by any of them as a prudent, and the only available, protective measure.

Secondly, the protection afforded by artificial inoculation is transitory, and its duration is for the present not known. The Commission hopes that the experiments which, by direction of the Hon. the Minister for Agriculture, have been going on in the laboratory of the Board of Health for nearly a year past, and which are now on the point of being brought to a conclusion, may enable the minimum duration to be nearly fixed. In the meantime, it has already been ascertained that conferred protection does not always last as long as three and a half months (interim report by the Principal Assistant Medical Officer of the Government transmitted by the Right Hon. the Premier and Colonial Treasurer to the Hon. the Minister for Mines and Agriculture, June, 1899; see *Agricultural Gazette* of New South Wales, August, 1899). Hence repeated inoculations are in the necessities of any case in which the tick do not follow the first inoculation within a few months.

Under all these circumstances, the aim of every stockholder should be to so inoculate, that recovery of his cattle from that operation may immediately precede arrival of virulent ticks. The question, therefore, on which it may be expected the Commission should now (or later) advise, is as to the distance from any clean herd to which the tick may be safely allowed to approach before beginning to inoculate. In my opinion, the answer depends in every case on circumstances, nearly all of which  
are



are variable, and some of which cannot be foreseen. The tick do not advance by crawling over the ground, but by attaching themselves to animals which transport them. Hence their rate of progression cannot be closely calculated; hence, also, the need for the elaborate precautions against their introduction by travelling animals adopted, or now recommended for adoption, at the border. It should be the aim of stockholders, therefore, not to inoculate until the tick have approached within some distance at which it may be reasonably thought danger is imminent; but I do not think that a distance applicable in all cases can be fixed.

I am, therefore, of opinion that the ascertained value of protective inoculation done before arrival of the tick should be impressed on stockholders, and that attention should at the same time be drawn to the transitory character of the protection afforded by it.

J. ASHBURTON THOMPSON.

[Map.]

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PLAN SHOWING TICK QUARANTINE BOUNDARIES  
AND INSPECTION FENCE, QUEENSLAND.

(TO ACCOMPANY SECOND INTERIM REPORT OF THE ROYAL COMMISSION ON TUBERCULOSIS,  
WHICH WAS LAID UPON THE TABLE OF THE HOUSE ON THE 24<sup>TH</sup> INSTANT.)

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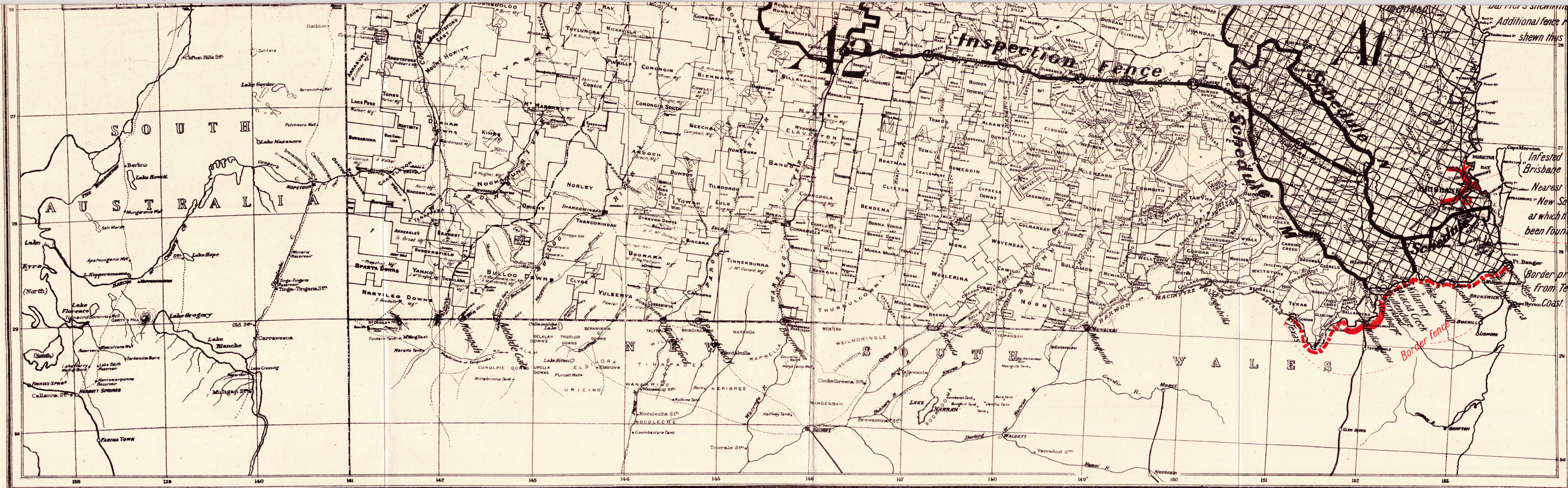
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Additional fence recommended shewn thus

**NOTE**  
 Infested Area near Brisbane tinted pink.  
 Nearest point to New South Wales at which ticks have been found shewn thus

(Border protection fence from Texas to the coast.)



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

AGRICULTURE.

(REPORT ON, TO 31ST DECEMBER, 1898.)

*Printed under No. 4 Report from Printing Committee, 24 August, 1899.*

The Under Secretary for Mines and Agriculture to The Honorable the Secretary for  
Mines and Agriculture.

31 December, 1898.

Sir,

With an enormously-increased area under cultivation and anticipations of a general break-up of the drought prevailing almost throughout the Colony during the two previous seasons, the year just closed promised to be a record one in the output of agricultural produce. Unfortunately, however, as the Government Astronomer has pointed out, the rainfall of 1898 proved a series of hopes and disappointments. The total rainfall for the twelve months did not exceed 20 inches. When it is remembered that the average rainfall for the Colony during the past twenty-three years was 25 inches, and that during that period in only six years has the average annual downpour registered less than 20 inches (one year, 1882, having totalled but 13·40 inches), the severity of the drought will be understood. Despite such unfavourable conditions, the number of recruits to the ranks of agriculturists in no way diminished; indeed, the area of their operations became so extended that when favourable and fairly general rains fell in June and the two following months an increased area of nearly half a million acres of wheat alone encouraged the hope of prosperity and an unprecedented output of breadstuffs. The reports coming in from all parts of the Colony during the flowering stage of the crops were so encouraging that it seemed to be the duty of the Department to be on the alert to assist the growers to find outlets for the surplus of grain above Colonial requirements that was likely to result. But just at the critical stage, nearly everywhere alternative frosts and scorching winds of weeks' duration wrought havoc among the crops. The extent of the loss may be realised when it is seen that of the 1,605,000 acres sown with wheat nearly 305,000 acres were cut for hay. As the losses from rust, probably owing to the nature of the season, were quite immaterial, the low average of 7·2 bushels may be fairly attributed to the many unfavourable climatic conditions which doubtless prevailed to the greatest extent against crops sown in land that, for the same reasons, it had been impossible to properly make ready. In the face of this national calamity, and as a happy augury of the ability of our agriculturists to ultimately overcome the inequalities of season, it is pleasing to observe that many wheat-growers, in correspondence with the Department, express the conviction that their losses have been minimised by the adoption of some of the methods of advanced culture advocated by the Departmental experts. For instance, farmers have found that where their land has been worked deeply, and the seed has been selected and sown early, the crops so far withstood the drought as to yield a most satisfactory return, ranging in isolated cases up to 26 bushels per acre. Although I am well aware that after so prolonged a succession of bad times agriculturists can ill-afford to embark largely in the purchase of modern machinery, or to do all in the way of thorough cultivation that they might wish, I cannot allow this opportunity to pass without expressing the hope that such demonstrations of the practical utility of good culture may be borne in mind, and that our farmers will do all in their power to protect themselves against the ravages of drought by the practice of methods calculated to prove of such benefit.

In order to provide a wide field for the practical instruction of students at the Agricultural College, the area under cultivation has been extended by several hundred acres, and, as opportunity has occurred, the equipment of the farm has been augmented by the addition of the most approved modern implements.

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[1,435 copies—Approximate Cost of Printing (labour and material), £77 5s. 10d.]



The accommodation for students is taxed to the utmost, and it is worthy of mention that amongst the 100 odd young men undergoing the full course are several from England, Cape Colony, the neighbouring colonies, and Japan. Almost, without exception, the students are of fine stamp, and when allowance is made for the buoyancy of spirit that is but a natural outcome of the close association of so large a number of hearty young fellows, their conduct is a credit to themselves and the staff of the College. A well-equipped gymnasium is now completed, and should prove a splendid acquisition.

The educational attainment from an agricultural point of view is very satisfactory, and although the Principal wisely recognises that it is not possible in the limited duration of the College course to make every one of his charges an all-round expert, he is able to so direct their attention to the practical side of the curriculum as to turn out young men who are well fitted to make a fair start in whatever branch of agricultural industry their inclination or circumstances may lead them.

In connection with the fruit-growing industry, the most important event during the year was the inauguration of a system of inspection of imported fruit under the provisions of the Diseases in Fruit Act. Work at the wharves was commenced in February last, and several inspectors have been kept busily engaged during the year. At first, so bad was the quality of fruit received here that it was quite a common occurrence for from 50 to 80 per cent. of the shipments to be condemned. As time went by, however, and the vigilance of inspection was not relaxed, the class of produce improved, and now the percentage of fruit that it is found necessary to reject through the presence of disease is comparatively small. The discovery of the grubs of fruit fly in a wide variety of imported fruit, but more especially in bananas, showed in a most unmistakable way the advantage of the Department being empowered to control the traffic in pest-infested fruit. There is probably no class of fruit that is carried so widely throughout the Colony as the banana, and had even one-twentieth the number of bunches condemned by the fruit inspectors been allowed to come into stock without restriction, the fruit-fly pest, bad enough already, would have been scattered far and wide in such numbers as to in all probability annihilate the fruit-growing industry. The same thing, though perhaps in a lesser degree, applies to other fruit enemies. The enactment of this measure simply brought New South Wales into line with the other colonies so far as restrictive action against the traffic in diseased fruit and plants is concerned; and in order that the export trade, particularly in connection with citrus fruits, should not suffer from reciprocal action on the part of the authorities in other places, arrangements were made to conduct a series of experiments in the fumigation of fruit for export. The tests were carried out under the direction of the Departmental Chemist, and it was found the treatment effectually destroyed scale insects without in any way injuring the appearance of the fruit, and that by taking proper precautions there was absolutely no danger to be apprehended that the fruit would be harmful to persons consuming it. Regulations were accordingly passed and authority issued to a number of exporting firms to erect fumigating chambers where fruit could be treated under the supervision of officers of the Department, who would furnish a certificate as to freedom from infection.

The Chemist has been actively engaged in the analysis of soils, waters, fodder plants, manures, and miscellaneous substances. The advances made in the use of manures for all kinds of crops are noteworthy, and this can certainly be attributed in no small measure to the facilities the Department places in the way of agriculturists to determine any questions affecting the value of fertilisers on the market. Moreover, with increased consumption, manure merchants find it worth their while to work hand in hand with the Department by placing before their customers fertilisers of unquestioned merit, and in spreading a knowledge of the benefits to be derived by the judicious application of manures. It is also worthy of note that farmers are every day becoming alive to the necessity of utilising all the manure produced on their holdings instead of, as was the almost universal practice not so long ago, allowing tons and tons of valuable matter to go waste. In my last report I drew special attention to the excellent work being done by Mr. Guthrie in the determination of the milling qualities of wheat. This branch of the Department's operations may safely be said to have passed the experimental stage, and the commercial utility of the tests is now generally recognised by all engaged in the production of flour in New South Wales as well as in the other colonies, where arrangements have been made for the introduction of mills similar to ours.

In connection with the improvement of our wheats as regards milling qualities, the Department has been fortunate in securing the services, as Wheat Experimentalist, of Mr. W. Farrer, who for many years has devoted himself entirely to cross-breeding and hybridising wheats with the object of producing varieties that will not only be especially adapted to withstand disease and drought, but at the same time yield a flour of high milling quality and attractive appearance. Mr. Farrer will pursue his investigations at the different experimental farms, and there is every reason for expecting that before long the Department will be in a position to introduce into general cultivation several new varieties of wheat superior in every respect to the standard sorts now grown. Arrangements have also been made to obtain from the principal cereal-producing countries of the world samples of the best wheats, &c. On arrival, the seed will be sown at the farms, and approved varieties will be propagated on a large scale for distribution.

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The establishment of a Corn Trade Section in conjunction with the Sydney Chamber of Commerce, to which, at the invitation of that body, Messrs. Guthrie and Valder have been appointed as representatives of the Department, has brought our work into closer touch with those immediately engaged in the manipulation of wheats, and it is anticipated that, with the advent of good seasons, producers will derive much benefit from the steps such a body will be able to take to place our corn trade with other countries on a sound commercial basis.

The dairy industry, notwithstanding inclement seasons, is expanding by leaps and bounds. As Mr. O'Callaghan points out, so firm is the belief in the future of the industry becoming, that wherever there is sufficient milk produced to warrant the establishment of a separating station, people, representing either private or co-operative capital, are ready and willing to erect the necessary plant and buildings.

The feature of the Department's work this year has been the importation of a number of high-class dairy stock from England, Ireland, and Holland. All the well-known dairy breeds are represented; and there can be no question as to the benefit the industry will derive in a few years from the introduction of so much new and varied blood. A number of the imported bulls have been stationed in various districts, under the supervision of local agricultural societies, and farmers are allowed to make use of them at a nominal fee. So great has been the desire to secure these animals, that it has been found impossible to comply with more than about one-fourth the applications made. A Departmental breeding farm has now been established at the Kirkham Estate, near Camden, where cattle will be raised from the imported stock, enabling the Government to keep up a constant supply either for sale or loan to dairy farmers.

An officer has been appointed to visit factories and afford practical instruction in the matter of pasteurising and other modern processes. Arrangements have also been made for the appointment of a laboratory assistant, and it is proposed to prepare for distribution to butter-makers pure cultures of lactic acid to further the production of butter of uniformly high quality for export.

The special dairy section at the Hawkesbury Agricultural College has done good work, and a large number of young men, as well as experienced dairymen, have attended the course of instruction. In Mr. O'Callaghan's opinion, however, it is desirable that some arrangements be made to enable students before they are granted a certificate to have some experience in handling large quantities of milk, cream, and butter—a thing which, of course, is not possible where the herd is limited, as at the College. This is a matter of importance if the students trained at the College are to be properly fitted for the control of large establishments.

A good deal of the Dairy Expert's time has been devoted to lecturing in different parts of the Colony on dairy matters and in giving practical demonstrations in the tuberculin test for the detection of tuberculosis. It is worthy of remark that the authorities of some of the Agricultural Societies are earnestly seconding the efforts of the Department in coping with this disease, and for the first time in the Colony a prize has been awarded for dairy stock that had passed the test. This was at Berry, where were exhibited twenty animals, which Mr. O'Callaghan had subjected to the test. The Dairy Expert refers to the necessity for amended legislation dealing with tuberculous stock. The present law, which provides for the destruction of diseased animals without the use of tuberculin as a means of detection, means the removal of only the tuberculous parents, while the young, apparently vigorous stock are left behind to perpetuate the crop of disease in all favourable places, or, in other words, to infect healthy animals. It is also necessary that steps should be taken to render compulsory the pasteurisation of the skim milk, which forms the principal food of, and very often the vehicle of infection of the dairy calves and pigs.

Feeling the necessity of bringing under the personal notice of fruit-growers the various methods of combating insect pests, the Entomologist has spent as much time as possible in visiting orchards and farms throughout the Colony, and giving practical demonstrations of the preparation and application of sprays. These expositions have invariably proved attractive to the surrounding orchardists and farmers, whom Mr. Froggatt has always found eager to learn all they could about the life-history of the various pests, and the most effective ways of destroying them. In conjunction with such visits, and at the invitation of Horticultural Societies, the Entomologist has delivered, in fruit-growing centres, a number of lectures illustrated by lantern views of the principal enemies. Everywhere increased attention is being paid to spraying, and if, as it is shortly to be hoped will be the case, growers will take concerted action for a couple of seasons, many of the worst pests will be either exterminated or so reduced as to make future control of them comparatively easy. The inability of the Department to eradicate or otherwise deal with neglected orchards, which form a safe refuge for the propagation of pests, is, however, a severe handicap.

Arrangements have also been made to test the efficacy of fumigating trees with hydrocyanic acid gas. As soon as opportunity offers the Entomologist and Fruit Expert will visit scale-infested orchards with tents and all necessary appliances for the instruction of those concerned. The

The Fruit Expert has been principally engaged in supervising the Departmental orchards at Richmond, Wagga, Bathurst, and Wollongbar, and in visiting various districts to give practical instruction in orchard-culture, pruning, canning, drying, and handling of fruit. At the Wagga and Hawkesbury Agricultural College orchards canneries have been erected, and quantities of fruit have been treated on a scale sufficiently large to demonstrate the commercial utility of the methods practised. The exhibits of fruits preserved in various ways at the principal Agricultural Shows have attracted great attention, and have shown growers, in an unmistakable way, the possibilities of this branch of the industry. Wherever Mr. Allen has been he has found new orchards being planted out; indeed, during the year, fruit-growing appears to have attracted more attention than ever before. With such an increased area under trees, and by reason of the care that is being more generally exercised in the selection of varieties and in the treatment of the orchards, it is merely a question of time when the output will justify the establishment of canneries and packing-houses, co-operative or otherwise, to deal with the immense quantities of fruit that will be available for preservation and export. It is to be regretted that the shipments of oranges despatched to London were not a success. It has, however, been the direct means of bringing down to bed-rock several matters of doubt as to the causes of failure, and with increased care on the part of the orchardists and those handling the fruit, and improvements in the ventilation of the storage chambers on the steamships to provide for the withdrawal of dense gases evolved by the fruit, which interfere with the ingress of pure air, it is confidently expected that large quantities of our fruit will find its way to London in first-class condition.

Further outbreaks of phylloxera in the Counties of Cumberland and Camden have caused considerable anxiety to local vignerons. Prompt measures have been adopted to eradicate the disease, and although the uneasiness of those whose interests are intimately associated with the scenes of outbreak has, naturally enough, not abated, there is no reason to fear that the pest will get beyond control. Meanwhile, the Department cannot too strongly urge upon growers the necessity of introducing, with as little delay as possible, the American resistant stocks as the surest measure of prevention that, up to date, it has been possible to suggest. The attention paid to wine-making has been satisfactory, and the more general adoption of improved system of fermentation and treatment has resulted in the production of liquors of a very high standard of quality and appearance. With the co-operation of the Agricultural Societies, improvements in the system of adjudicating upon wines submitted in competition at exhibitions have been introduced and steps have been taken to make such shows of greater educational influence.

Professor Blunno's further acquaintance with the wines of the Colony has confirmed the opinion expressed in last year's report, that they possess so many inherent good qualities, that New South Wales vignerons need have no fear when the output has reached sufficient dimensions to maintain a uniformity of bulk shipments, of placing their wines before the European and English public purely on their own merits, because he is convinced that the lighter wines of the northern and the heavier types of the southern districts possess characteristics which must win for them a very high place in the regard of consumers anywhere.

In the course of his visits, the Travelling Instructor in Agriculture, who has journeyed during the twelvemonth some 26,000 miles by rail, steam, and coach, has been able to observe the progress being made in all branches of agricultural industry throughout the Colony. Everywhere he has visited, Mr. Thompson has found the farmers and pastoralists eager for information as to improved methods, and ready to put into practice any advice he could offer as to more profitable production of crops or management of live stock. Mr. Thompson also finds that the idea that scientific knowledge and practical farming could not go together is passing away, and farmers throughout the Colony are endeavouring to introduce better systems of husbandry. The great trouble, however, is that many agriculturists are trying to cultivate more land than can be thoroughly and systematically handled.

In almost every place visited Mr. Thompson has urged the members of local Agricultural and Farmers' Progress Associations to have meetings at least once a month during moonlight for the discussion of topics of agricultural interest. It is pleasing to see that in several instances, notably at West Maitland, the idea has been carried out. Several papers read at the Maitland meetings have been of such general interest as to justify their publication in the *Agricultural Gazette*.

Mr. Thompson has taken the opportunity to collect much interesting data concerning the yields of different varieties of wheats and the system of culture practised.

Work of importance to the cultivation of the sub-tropical districts has been carried out at the Wollongbar Farm. To meet the requirements of dairying, which is expanding apace and is destined to become the main industry of the North Coast, as it is in the South Coast, arrangements have been made to test the suitability of grasses and fodders to afford settlers instruction as to the best means of laying down and maintaining pastures and raising crops for ensilage.

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The principal disadvantage under which the northern dairymen suffer is insufficiency of cattle of the most profitable type for the dairy purposes; and to assist them in building up herds on the best lines, several of the imported bulls have been stationed at the Farm and other centres in the district.

Early in the year arrangements were completed to inaugurate an experimental farm in the Bogan Scrub. A large tract of land was secured at Coolabah, and on the 30th March, Mr. R. W. Peacock, the manager, turned the first furrow in soil that is typical of millions of acres now lying practically waste, but which with anything like decent seasons and scientific treatment may confidently be expected to constitute one of our principal sources of future wheat supply. A number of experiments have already been undertaken and several hundred acres prepared for future operations, but until the drought breaks it will not be possible to do much, as there is absolutely no water on the estate. However, it is proposed to test the area for artesian water, and in the event of good supplies being struck, it will be possible to test the efficacy of a modified system of irrigation in connection with wheat-culture in arid country.

At the Wagga Farm, like nearly all the rest of Riverina, the adverse season was severely felt. The rainfall for the year reached 14.33 inches, as, compared with an average of 22 inches for the past twenty-five years. The orchard, in consequence of continual cultivation, was not much affected by the dry weather, and the trees are looking splendid. A number of students have passed through the course of practical instruction, and the area under cultivation has been extended and made ready for several new lines of experiments.

Early in the year the export of hares, rabbits, poultry, and miscellaneous products, under the direction of the Board for Exports, had reached such dimensions as to necessitate increasing the storage accommodation from 7,600 to 17,000 cubic feet, and during the busy season further space had to be temporarily obtained. The success attained in the storage of eggs for long periods has led to fresh development in the use of the cool chambers, and many dealers and producers have availed of the accommodation to the great benefit of local markets. The Government prizes offered under the auspices of the Board at the Royal Agricultural Society's Annual Show have been continued, awards to the amount of £140 being made for exhibits of butter, poultry, cereals, fruit, &c. Competition for these prizes was keener than in the previous season, and the £50 prize offered for butter under export conditions has practically become the "Blue Ribbon" of the butter industry. Wheat and barley were shown in larger quantities, and it is anticipated that increasing interest in these classes will be aroused next year.

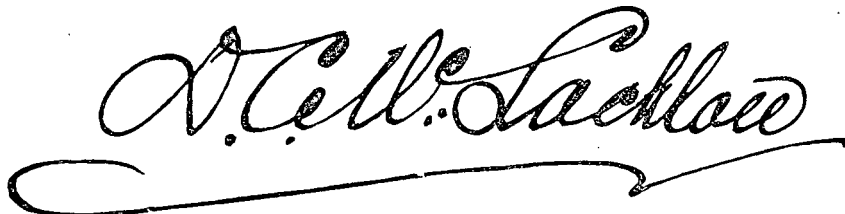
To meet the constantly-increasing demand for information on all branches of agriculture, it has been found necessary to greatly enlarge the *Agricultural Gazette*. The extent of this development, so far as space is concerned, may be seen from the fact that articles published in 1898 covered 1,463 pages, as against 937 pages in the previous twelve months. The subjects dealt with cover almost every topic of agricultural interest—both scientific and practical.

The sound knowledge and unremitting enthusiasm of the staff of the Department in furnishing reliable information have won for the *Gazette* a firm footing in the appreciation of all engaged in the development of agricultural resources, and it is evident that the publication is regarded by both the experienced farmers and beginners as an indispensable work of reference.

Much of the success achieved is due to the excellent illustrations prepared by the Departmental artists, Messrs. Grosse, Burton, and Chambers, whose technical knowledge of the subjects treated, no less than the faultless execution of their drawings, does much to enhance the value and attractiveness of the *Gazette*.

To the Government Printer and his staff are also due the best thanks of the Department for assistance they willingly render to maintain the excellence of the publication and punctuality of issue.

I have the honor to be,  
Sir,  
Your most obedient servant,



Under Secretary for Mines and Agriculture.

## Report of The Chief Inspector of Agriculture.

Sir,

In submitting the accompanying annual reports of officers connected with the Department of Agriculture, I may state that the work performed by them, so far as it was possible to come under my observation, has been carried into effect with the one great desire to bring credit on the Department by applying their best endeavours to their several duties; and I may state that neither time nor trouble has been spared, nor has the limit of official hours been considered, when special efforts were needed.

Owing to the exceeding dry seasons experienced, chiefly at the Experimental Farms at Wagga and Bathurst, for the last four years, the farm-work has been very disappointing and heart-breaking to the managers; and the work of initiating the Coolabah Farm in the dry West Bogan country has been most difficult and arduous, such as only those who have experienced some of the drawbacks there can possibly understand. Should success attend future experiments to be carried out at Coolabah, numbers of settlers and future settlers will be greatly benefited. Keen interest has been aroused in the operations at this farm, and the experience already gained will, I think, be productive of good results in the future.

The Bathurst Farm is gradually developing satisfactorily, notwithstanding unfavourable seasons, and the fact that the best portion of the farm has not been available for cultivation in consequence of its continual use by the public as a training ground for racehorses. I may state that this is the particular portion originally selected for the purposes of an experimental farm. I am of opinion that in the course of a year or two the results of the work of this farm will prove valuable as demonstrating the uses to which such land as this can be put, for it is typical of a vast area of country in the district. I think the orchard will prove highly satisfactory, as, at present, the fruit-trees are making good progress. If successful, it will show the value of such land as that on which the trees are planted and the climate for the production of fruit of high quality.

At Wagga the drought affected the crops most disastrously. It was most unfortunate for Mr. M'Keown to be placed in charge at such a time, and coming direct from the Wollongbar Farm at the Richmond River, the best-watered and most luxuriant district in the Colony.

Notwithstanding the drought at Wagga it is gratifying to mention that the orchard there has, throughout the season, proved highly satisfactory. The fruit-trees and grape-vines have been most healthy, with good foliage, and some show of fruit. The crop of sultana raisins will, probably, prove a remarkable one, and will show how well suited this grape is for the district. The excellent condition of the orchard is due to perfect cultivation and good management.

By constant cultivation and attention, the numerous varieties of wheats which have been sown in connection with Dr. Cobb's experiments, which have been carried on here for several years, have been kept growing as satisfactorily as possible under the trying conditions of an unpropitious season.

The wheat experiments for the future will be under the management of Mr. W. Farrer, and will be conducted in such a system as should prove of inestimable value to this and, I think, to the other wheat-growing colonies. In making or breeding new wheats with a view to improving the strength of flour, Mr. Farrer will also endeavour to obtain wheats suitable for dry climates which will resist a considerable degree of drought; and he considers the Coolabah farm to be well suited for carrying out valuable experiments with such varieties.

As, in all probability, we may soon have a large surplus of wheat for exportation, the value of growing wheats of the best quality must be obvious; so the more our wheats are improved, not only are we more likely to be successful in competing against the world, but the better the food will be for our own consumption.

It may be inferred from this that the work Mr. Farrer is now engaged upon is about as important and valuable as any work which the Department can take in hand.

At Wollongbar, the semi-tropical experimental farm, the progress is satisfactory, and of great interest to the farmers of the district. Here numerous tropical fruits, sugar-canes, grasses, fodder plants, cereals, pulses, fibre plants, coffee, and, indeed, any plants likely to prove useful, are sown or planted to test suitability of soil and climate for their requirements. As the dairying industry in this district is becoming more and more prominent, the experiments with fodders will prove of great interest and benefit to the settlers. As it is not unlikely that the fruit industry may in the course of time develop to some extent, the trials with pineapples, bananas, oranges, mangos, and other tender fruits should prove of considerable value.

At the Hawkesbury College farm considerable improvements have been effected, and the area of land cultivated very much increased, and thus giving the students there an opportunity of obtaining a thorough acquaintance with practical farm work. The orchard has been also much improved, as well as the vegetable garden. Extensive areas of the bush land to the east of the College buildings have been cleared, thinned out, and fenced into paddocks for stock, chiefly sheep, which are likely to succeed better here, being dry and elevated, than on any other part of the farm. The farm stock has been much improved, but the dairy herd is still capable of further improvement. The collection of pigs of various breeds is a magnificent one, probably second to none anywhere; and as pig-rearing is likely to become of great dimensions in the Colony, the instruction and information to be obtained here is of considerable value. The progeny of the pigs is eagerly bought up, and thus highly improved stock will be distributed throughout the Colony.

The crossbred sheep reared here are thriving well, and are giving great satisfaction; and when the new paddocks are quite ready they are likely to prove even more satisfactory.

The students whose privilege it is to study here have extraordinary facilities presented to them for gaining knowledge, that must be of vast benefit to them in the future when they settle on their own farms. Even the most indifferent learn something useful in spite of themselves. I have met old students who went to this College with apparently no other object than passing the time, but who, finding it to their benefit afterwards to settle on the land, are thankful indeed for the object lessons they might have made more use of than they did at the time, and who now take every opportunity of visiting the farm to keep in touch with improvements that may be going on.

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So far, the work on our various experimental farms has, to a great extent, been pioneer work, and thus necessarily purely scientific experiments have, to only a very slight extent, been entered upon; but the necessity for original investigations is only too apparent. There is an enormous field open for this work, which must only be carried out with very great exactness and care. At present we know but little about our soils, and I think I am safe in saying we know nothing about the temperatures of our soils; little about evaporation from various kinds of soils, or how best to prevent and overcome it; little or nothing about soil nitrification, or how to improve it;—indeed, the questions to be determined seem almost endless. However, as soon as Mr. Guthrie, our Chemist, can obtain the assistance he needs, he will take in hand the working out of many unsolved problems, the solution of which may prove of incalculable benefit to the Colony.

The initiative administration of the Vegetation Diseases Act proved most arduous and difficult work, owing to opposition on the part of fruit and plant importers; but by firmness on the part of the Department to carry the law into effect, supported by public opinion, all opposition and misunderstanding soon melted away, until the greatest harmony prevailed, and those who were most bitter, and who suffered losses, soon understood that the necessity for such an Act existed. Should the Act be amended so as to enable the Department to take action with affected orchards and gardens in the Colony, so as to prevent the spread of plant diseases, and protect those who are endeavouring to rid themselves of pests without avail, it is not improbable that immense benefit to our fruit-growers will result.

The action taken in administering the present Vegetation Diseases Act has effected a vast amount of good in directing attention throughout the colonies to the enormous development of plant diseases, and the necessity to make vigorous efforts towards stamping them out.

The Inspectors under the Vegetation Diseases Act are much indebted to the Collector of Customs, Mr. N. Lockyer; the Chief Inspector, Mr. Baxter; and all the officers connected with imports, for their obliging assistance on all occasions of fruit inspection, and for advice which has proved most useful.

Efforts have been made towards encouraging the establishment of Farmers' Institutes, or Clubs, throughout the farming districts; but owing either to want of full information showing the value of such institutions, or else to apathy, so far but little progress has been made; but I have no doubt that in time, and when more information can be spread, the farmers, especially in the most thickly settled districts, will take up the matter warmly.

In conclusion, I beg to invite attention to the departmental medium for distributing a great deal of valuable information throughout the Colony—the *Agricultural Gazette*, edited by Mr. W. H. Clarke—a publication which, I think, would reflect credit on any Agricultural Department in the world. The demand for this journal has increased largely, and, judging from the replies received from recipients, the information supplied has been largely availed of, and where advice has been faithfully followed satisfaction has been the result.

The Under Secretary for Mines and Agriculture.

I have, &c.,

WALTER S. CAMPBELL.

Mr. Principal George Valder to The Under Secretary for Mines and Agriculture.

Dear Sir,

Hawkesbury Agricultural College, 31 December, 1898.

I have the honor to submit the Seventh Annual Report, together with the reports of the outside Examiners to the College.

Since I accepted the appointment as Principal, a large number of improvements have been made, and I have to thank you for your hearty co-operation and able assistance in this direction.

The College is full, and the outside branches are in a very efficient state. Provided we have a fair season, there is every prospect of a very successful year.

Yours, &c.,

GEORGE VALDER.

#### VISITORS TO THE COLLEGE.

The number of visitors to the College and Farm has greatly increased during the year, and one and all have expressed appreciation of the valuable work being carried on at the Institution.

#### CORRESPONDENCE.

The correspondence on all subjects has also very much increased during the year. From all parts of the Colony, and outside it also, we receive inquiries of the most urgent and earnest nature, and in all cases these have had my prompt and best attention.

#### OFFICE WORK.

The work in this department has so much increased that it was found advisable to appoint a junior clerk as assistant to our Registrar, Mr. S. F. Adams.

The work entailed in checking the operations of the various branches is very trying; but, notwithstanding this, the books, etc., have been brought up to date, and the work is carried out in a most efficient manner.

#### MEDICAL OFFICER'S REPORT.

I have the honor to report that, from 1st July, 1897, to 31st December, 1898, the general health of the students has been good. During the summer of 1898, a mild epidemic of measles occurred, apart from which only minor ailments came under notice.

The utility of the new hospital was made apparent during the measles epidemic, when each case, as soon as discovered, was removed to hospital for isolation and treatment. In my opinion, the early removal and isolation of the infected cases, and the thorough disinfection of their clothing and rooms, served successfully to keep the epidemic in check. No death occurred.

In this connection I would beg to urge the installation of the electric light and an efficient hot water supply to the hospital, as well as telephonic communication between the hospital and the main College building, as the absence of these caused much inconvenience to the nurse in charge of the patients.

I have, &c.,

JOHN GIBSON, M.D.

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## THE COLLEGE.

Acting partly on suggestions made by a Board appointed by the Department, by the officers of the College, and partly by my own ideas of how the class work should be conducted, I made a number of alterations in the system in vogue when I took charge of the College. With the permission of the Minister the main lecture-hall was lengthened, and the lower part of the room utilised as a botanical laboratory, and the lecture-hall used by the Science Master was also lengthened and converted into a chemical laboratory. This permitted of the students receiving more practical work in connection with their studies, demonstrations and laboratory work being given in conjunction with the lectures.

*Science Master's Report.*

The Science Master, Mr. E. C. Wood, M.A., B.Sc., B.E., reports as follows:—

The most important event to chronicle has been the extension and reorganisation of the Chemical Laboratory, whereby its sphere of usefulness will be greatly increased, and it will become better adapted for the instruction of the students.

The Chemical Department, as now arranged, includes the students' laboratory—a room about 60 feet x 25 feet—the Science Master's laboratory, an office and balance room, a room for preparing samples, as well as provision for stores, preparation of reagents, &c. The large room serves the double purpose of lecture-hall and laboratory, but in designing the alterations I have considered the practical bench work to be of first importance. There are thirty-six benches, and although this number is unduly large for one instructor, and will probably be always filled by the class of first-year students, the appointments are fairly good. Each student has a set of about twenty of the most common reagents, a drawer with lock, and a bench area of 3 ft. 9 in. x 2 feet, there being one sink and water tap and one acid pot between two students. Behind each student is a shelf for larger pieces of apparatus. At present spirit lamps are being used, but great improvement will shortly be effected by the installation of a gasolene plant, when each bench will have a Bunsen burner, the flame of which can be regulated very advantageously.

Along one side of the room are arranged six draught chambers for acid fumes and nauseous gases, and on the other provision is made for six students' chemical balances, whilst four sets, fairly replete with reagents not so often used, are located at intervals in the room. A large quantity of chemical apparatus is expected at an early date from London.

Provision is made for the training of students in the analyses of a good variety of chemical substances. After passing through a short general course, in which they acquire some manipulative skill in the use of apparatus, and become conversant with the properties and uses of chemical reagents and processes, they may turn their attention to soils, manures, dairy products, fodders, and many other subjects, which will afford the student a wide field of choice for any particular work he may wish to take up.

The laboratory notes made by each student throughout the session are handed to the Science Master on alternate Saturday mornings for award of marks as part of the fortnightly class examination.

It is important to note that the two years' laboratory practice is designed as a regular course in chemical analysis; nevertheless, the exercises by which such a training is imparted will always be chosen when possible to bear directly upon agricultural practice. Above all, the student will be required to understand the reasons for all his manipulations, and not to expect the attainment of useful results by mere mechanical routine.

There are at present thirty-two students of the first-year going through the practical course, and nineteen of the second. It has been somewhat difficult to obtain the requisite number of sets of apparatus for the students, each providing his own. Durable pieces of apparatus, such as tripods, retort stands, Bunsen burners, &c., as well as the more expensive instruments, occasionally are lent by the laboratory.

The system of teaching agricultural chemistry now being adopted is that which I planned and commenced at the inauguration of the College in 1891, but which, after some twelve months trial, had to be abandoned for want of better accommodation for a laboratory.

The reorganisation of the Chemical Department of the College was decided upon two years ago, valuable assistance being rendered by Mr. F. B. Guthrie, F.C.S., and my designs—the working drawings of the necessary extensions and appointments of the laboratory—were submitted forthwith, the improvements being commenced last August; and though several of the appointments are yet incomplete, a very good beginning has been made at the bench work.

The courses of lectures and experimental demonstrations on Theoretical Chemistry have been delivered on the same general lines as formerly, many geological matters being included in addition. Much the same may be said of Applied Mechanics.

The instruction in surveying has been as usual almost entirely field work, including many important improvements to the College Estate, viz.:—

1. Levels for construction of Avenue-road in front of College—the plotting, grading, and quantities, being also carried out by students.
2. Setting out lines for several miles of alterations of fences.
3. Drawing plans for swamp localities.
4. Main drain, 87 chains in length, from swamp in front of College through calf paddocks to the Glebe.
5. Level section for widening main drain from Glebe towards Ricaby's Creek.
6. Level section for continuation of same.
7. Drainage of low land near entrance gate into Raleigh Swamp.
8. Level section from Raleigh Swamp to Glebe.
9. Various trial levels for the general drainage system of the estate.
10. Surveys for improvements of a minor nature, measuring up of clearing contracts, &c.

Working sections of the above levelling were made, and contracts have been let for the construction of most of them. The total length of level sections done was upwards of 4 miles.

My thanks are due to Mr. E. H. Gurney, of the Department of Agriculture, for his able assistance in carrying on the lectures in Chemistry, &c., during the absence of the Science Master from the College through illness.

*The English Master's Report.*

The English Master, Mr. C. T. Musson, F.L.S., reports as follows:—

*Lectures—Laboratory Work.*—Consequent upon instructions received during 1897, my method of work has, during the past session, been somewhat changed. The class-room having been enlarged, the south end is now used as a laboratory.

Fifteen students' microscopes were provided early in the session, a number increased to thirty during May. I have consequently been enabled to devote a considerable amount of students' time to the examination of crop-plants and their diseases, the amount of lecturing being reduced. A good deal of work has also been done out of doors.

I propose to give students full advantage of this increased practical laboratory work, and continue Botany and Vegetable Pathology into the second year instead of, as heretofore, confining it to the students' first year; whilst Entomology, instead of coming only during the second year's residence, will be taken during both years.

It must always be remembered that for each subject a considerable time is taken up in working through the necessary elementary matter, students coming to us quite unprepared for the Biological subjects. It is also greatly to be deplored that almost without exception students have but a very remote idea how to describe and draw the simplest objects, as observed under microscope. How to observe and describe correctly is one of the chief objects aimed at.

The classes are large; therefore, it is well nigh impossible for one person to give full attention to all students. It is easy to lecture to a large number, but when it comes to individual attention, only a limited number can receive proper attention, or the greater number will not receive enough. It may also be remarked that, owing to there being no entrance examination, a certain proportion of our students are really not able to cope with the inside course for lack of early schooling.

Notwithstanding the above ever-present drawbacks, steady work has been done, and students generally, I believe, take more interest in it than when consisting more largely of lectures.

*General—Seed Testing.*—A commencement has been made with the systematic examination and testing of all seed used on the farm. Carried out with the help of students, this work, whilst emphasising the absolute necessity of using clean, pure, and fertile seed, gives ample opportunity for the study of plants during extreme youth—a critical time, the details of which should be thoroughly understood.

*Teaching Collection.*—For want of proper conveniences we have not yet been able to form a permanent teaching collection of objects in Economic Botany and Entomology. Our working collections are however renewed from time to time. It is proposed to fit up with as little delay as possible store and exhibition cases for the reception of necessary objects, e.g. :—Weeds, seeds, economic plants and their products, models, injurious and useful insects, and other objects useful for demonstrating to students.

*Pulping Machine.*—A small pulping machine, such as would be suitable for extracting starch from arrowroot, is being obtained.

*Lantern Work.*—A few lantern lectures were given during the last session of 1897. Some botanical slides have been obtained by purchase, together with fittings, for the Biological Laboratory.

*Photography.*—A dark room has been fitted up for photographic work.

All appliances in my charge are in good order.

*Meteorology.*—The meteorological observations have been extended. Early in the present year the Government Astronomer supplied us with—

- (a.) An Anemometer, which has been fitted on a 25-foot revolving pole.
- (b.) An Evaporimeter for taking daily observations on evaporation from a water surface.
- (c.) Minimum grass thermometer.

In addition to the above and the old instruments, four thermometers are in use for taking soil temperatures at depths of  $\frac{1}{2}$  inch, 6 inches, 1 foot, 2 feet. Observations are taken at intervals every day. The results will be prepared for publication as soon as the records cover a complete year. The observations lead up to matters of considerable interest—for instance, the giving of correct information as to when it is time to plant tobacco, melon, maize, and other seed requiring more heat than is necessary for cereal germination, and the relation of rainfall to soil temperature. Below are the yearly tables of temperature and rainfall made up to end of 1897.

It will be seen that the summer of 1896–1897 was the driest we have experienced since 1893. The past summer also commenced dry; but December gave good rains, which were followed by good falls early in the present year. The winter of 1897 was warmer and the summer of 1896–1897 cooler than those of the preceding year, the yearly mean temperature, however, working out a little higher than any of the years tabulated.

RAINFALL, Hawkesbury Agricultural College.

	1893.	1894.	1895.	1896.	1897.
January .....	7·851	2·511	10·425	2·797	1·093
February .....	3·191	4·259	6·118	3·448	·520
March .....	7·139	16·217	1·126	2·885	1·962
April .....	5·054	2·359	1·059	0·232	2·793
May .....	1·002	0·229	1·223	0·873	1·875
June .....	4·527	1·229	0·252	5·730	5·527
July .....	2·031	0·582	0·270	0·282	5·017
August .....	0·808	0·779	0·947	0·499	·731
September .....	0·844	2·844	4·485	1·219	·528
October .....	2·502	1·381	0·535	1·748	1·560
November .....	4·317	0·966	2·633	3·210	·340
December .....	2·094	2·539	2·629	1·790	4·326
Total for the year .....	41·360	35·895	31·702	24·713	26·277
Average annual fall .....	33·63	33·79	33·65	33·03	32·679
Over years .....	13*	14	15	16	17

\* Records for the previous twelve years taken by T. H. F. Griffin, Esq.

## Temperature. (No corrections made.)

	1893.			1894.			1895.			1896.			1897.		
	Highest.	Lowest.	Mean.	Highest.	Lowest.	Mean.	Highest.	Lowest.	Mean.	Highest.	Lowest.	Mean.	Highest.	Lowest.	Mean.
January .....	...	...	70.0	99.2	51.6	73.7	99.1	53.6	69.9	112.5	53.2	78.0	101.6	44.1	72.80
February .....	95.0	50.5	69.4	95.5	51.6	71.1	87.2	53.5	71.5	99.8	51.6	73.2	106.7	48.6	72.38
March .....	92.5	49.0	67.9	86.6	52.5	68.3	96.2	45.4	58.94	94.1	47.0	69.9	95.9	43.6	67.55
April .....	81.2	43.6	61.7	83.3	35.5	64.3	86.2	37.6	63.47	86.8	37.9	61.5	93.6	43.6	66.10
May .....	75.7	32.6	56.0	75.4	31.6	53.2	78.4	31.6	54.5	85.4	31.6	56.7	85.0	29.6	56.40
June .....	69.2	29.2	51.4	69.2	30.5	50.9	76.9	24.5	50.33	72.0	30.3	52.0	71.6	32.5	52.90
July .....	68.2	25.8	43.8	72.2	25.5	43.5	70.2	18.8	44.7	72.8	25.5	46.9	69.2	31.0	50.26
August .....	74.8	31.5	53.3	79.4	27.3	51.0	79.8	26.7	53.9	73.6	25.9	50.4	71.7	31.5	52.0
September .....	88.8	31.8	57.3	82.5	31.6	54.7	90.8	30.0	58.4	83.5	30.1	56.4	83.1	35.3	57.88
October .....	88.5	41.3	64.7	84.1	43.6	64.2	94.5	42.1	66.3	102.6	37.5	64.0	97.9	36.4	61.96
November .....	93.5	46.3	69.2	101.6	43.5	71.2	94.3	47.3	68.1	98.4	47.5	66.4	103.0	43.2	71.71
December .....	102.0	46.2	71.8	99.9	47.1	72.8	101.8	50.1	76.6	106.0	53.9	72.4	103.0	50.3	70.57
Mean for year	61.87			61.91			61.41			62.32			62.71		

## THE FARM.

The area of the land attached to the College is 3,430 acres. During the past year some 300 acres were cleared by contract, making a total cleared of 2,180 acres. The 1,250 acres uncleared land was fairly heavily covered with green timber, and the greater portion of it densely covered with undergrowth. In order to make use of this land, it was decided to remove the scrub and ring the worthless timber, at the same time leaving shelter belts at exposed points. Some 300 acres have already been done, with the result that the grass is rapidly improving. When the whole of this land is scrubbed and rung, it will be utilised for rearing cattle and sheep for the use of the College, which will mean a considerable saving. With this object in view, flocks of Romney Marsh and Shropshire sheep have been started; the former numbers about 300 animals and the latter about 200. This number will be gradually increased to about between 500 and 600 ewes of each breed. Arrangements have been made to hurdle these sheep on various fodder crops on a small scale on the experimental plots, and on a larger scale on the farm crops. As a rule the native herbage, which largely consists of couch grass, will carry sufficient sheep, and if "topped off" in the manner described above we can turn out first-class mutton sheep. Besides this, it is proposed to keep a small herd of beef cattle, such as the "Devon," for breeding steers, which will be fattened in a somewhat similar manner to the sheep. This breeding, rearing, and fattening of sheep and cattle will not only mean a considerable saving in our meat bill, but will give the students much more extensive training in these important sections of their work. Besides this, a small high-class stud of each breed will be kept, and will furnish some few animals which can always be sold at remunerative prices. It will also allow of exhaustive experiments being carried out as to the feeding value of many of our best known forage plants.

With the view of improving our pastures, the grass paddocks are gradually being ploughed up and sown with various crops for a few years; and they will then be laid down to introduced grasses and fodder plants, such as lucerne, sheep's burnet, &c. As soon as the grasses or fodder plants show signs of wearing, they will again be ploughed up and cropped. This system of alternating crops with pasture, and feeding off both crops and pasture with cattle, sheep, and pigs, is a very suitable one for our poor sandy lands and should do much to improve their carrying capacity. The grass on the uncultivated land is almost worthless, the soils being very poor and sour. After about four year's cultivation, however, the soil vastly improves in feature and quality, especially if crops have been fed off on it, and if then sown with grasses it yields a really good herbage for some few years.

The Farm Foreman, Mr. George Cobb, reports as follows regarding the various crops:—

Wheat, 1897 Harvest.—107 acres cut for hay averaged slightly over  $1\frac{1}{2}$  ton per acre. The season being a good one, it was decided to leave a small portion and cut it for grain with the following result:—8 acres White Lammas averaged 31 bushels per acre; 14 acres Steinwedel averaged 17 bushels per acre.

The latter crop was sown very late and did not fill out well; hence the comparatively low yield.

Wheat, 1898 Harvest.—The season was not quite so good, and the yield was therefore light. 196 acres cut for hay averaged 25 cwt. per acre; 14 acres cut for grain yielded 18 bushels per acre. Twelve picked varieties were under trial, and of these, Steinwedel and Allora Spring were the only ones that were fit to cut for grain. For hay, these two varieties, with Blount's Lambrigg and White Lammas, gave the best results.

Oats, 1897 Harvest.—A very good hay crop was obtained, nearly equal to the wheat hay, 66 acres being cut for an average of nearly  $1\frac{1}{2}$  ton per acre. White Tartarian, Potato, Dun or Grey, and Algerian proved the most suitable varieties.

Oats, 1898 Harvest.—The dry weather much affected the crop, 65 acres cut for hay only yielding about 1 ton to the acre. Another paddock of 52 acres did not grow very strongly, and it was, therefore, grazed off by the milch cows.

Barley.—Fairly large areas of Cape Barley were grown, the greater portion being mixed with tares and cut for feeding to the milch cows, the average yield being from 6 to 8 tons per acre. One crop of 11 acres was cut for seed and averaged 27 bushels per acre.

Maize, 1897 Harvest.—The season was a good one for this crop and the following yields were obtained:—

56 acres,	Hawkesbury Champion,	averaged 35 bushels per acre.
30 "	White Horse Tooth	" 31 " "
36 "	Early Mastodon	" 40 " "
23 "	Red Hogan	" 32 " "
14 "	Golden King	" 37 " "

The seed was sown with the "Farmer's Friend" corn dropper, using about 8 lb. of seed per acre. The soil being very poor, a fairly heavy dressing of manure was applied as follows:—1 cwt. bone-dust, 1 cwt. Sugar Co.'s No. 2,  $\frac{1}{2}$  cwt. kainit,  $\frac{1}{2}$  cwt. blood manure; cost, 14s. 3d.

About 60 acres of maize was cut for green food and ensilage.

The 1898 season was an exceptionally dry one, and nearly all the maize crops had to be cut for green fodder and ensilage, the only variety that matured well being Early Mastodon. This gave a yield of 30 bushels per acre. The early sown crops again proved by far the best.

#### FODDER CROPS.

18 acres Early Amber cane cut for ensilage.

10 acres Kaffir corn cut and fed green to milch cows.

9 acres Empie or "Planters Friend," cut and fed green to milch cows.

10 acres *Sorghum saccharatum* cut and fed green to milch cows.

Seed, 6 lb. per acre, sown with "Farmers Friend" double row Steel Beauty.

Manure, same proportions as for maize; sown broadcast. These gave an average yield of 15 tons per acre, Early Amber cane topping the list. 250 tons lent for silage; balance chaffed and fed to milch cows green.

Water-melons.—This crop did remarkably well. 10 acres sown; 1,300 dozen sold, averaging 2s. 3d. per dozen. In addition to this, a great quantity were used for home consumption, &c., many single melons turning the scales at 48 to 54 lb. each.

Preserving Melons.—14 acres of this crop yielded well. A quantity sold at 18s. per ton, and the balance used for feeding to cattle, sheep, and pigs.

Pumpkins.—35 acres turned out light. 150 dozen sold, at 2s. 6d.; remainder used for feed.

The number of working horses has been increased by purchasing, and also by breaking-in some of the foals bred and reared on the Farm. These latter have turned out so well that it has been decided to breed sufficient for our own requirements and a few for sale.

A number of improved farm implements have been obtained, including multiple and rotary ploughs, drills, and maize harvesting machinery.

Thanks to the blacksmith, our implements are all kept in good condition, although the wearing action of our soils necessitates constant repairing. I am pleased to state that the diligence and conduct of the students has been satisfactory, with very few exceptions.

#### EXPERIMENTAL PLOTS.

Some very important changes were made in this section of the Farm, the greater portion of the old plots being abandoned, and a large area in front of the College being utilised for experimental work. This admits of the experiments being carried out on a very much larger scale, the total area of the plots being now increased from 14 to 120 acres.

A road was constructed from the College to our boundary opposite the railway gates, and passing right through the centre of this area. On each side of this road the land has been laid out in 1-acre blocks, and behind these into 4-acre blocks. The whole of these have been utilised for experiment work, the greater number of the blocks being sown with different varieties of fodder crops. The land is mostly of very poor quality, and was swampy and uneven. By cutting large surface drains, however, the surplus water has been drawn off; and by using the soil taken out of the drains to fill up the holes the land has gradually become fairly level. Thanks to a heavy fall of rain we were enabled to give the whole of this land a good ploughing. It was then laid off in plots, and crops were sown as rapidly as possible. It was some time, however, before we could make much headway, as the soil was in a very sour condition, and most of it was full of couch-grass.

By sowing the crops in drills, and cultivating well between the drills during the summer months, the couch-grass has become nearly eradicated, and the soil sweetened.

The laying out and planting of these plots has greatly improved the view, both from the College and the town; and when the trees which have been planted on each side of the new road grow up, the approach to the College should be a very pretty one. Besides this, the numerous plots on each side, clearly labelled with the name of the crop in each, will prove instructive to visitors, etc. The whole of this portion of the Farm is in charge of the Experimentalist, Mr. Percy Wicken, who reports as follows regarding the various experiments:—

#### Maize.

In the acre, four of the best varieties were tried. They were sown in drills 4 ft. 6 in. apart by 16 inches in the drill, using the "Farmer's Friend" maize drill. They were manured with a mixture of bone-dust, superphosphate, blood manure, and kainit, using 4 cwt. per acre, at a cost of 18s. 2d. This manuring is rather heavy, but on poor soils it pays well, as will be seen by the results obtained—

Golden King	...	...	...	...	58	bushels per acre.
White Horse Tooth	...	...	...	...	52 $\frac{1}{2}$	" "
Ninety-day	...	...	...	...	46	" "
Golden Drop	...	...	...	...	41	" "

In the small plots, seventeen varieties imported from the United States were tried, and some few of them gave very satisfactory results. Seed of these has been saved, and will be tried in the larger plots, during the coming season. Many of the imported varieties are unsuitable for our market, as they are shallow grained, whereas the long grains are preferred here.

Sweet or Table Corn.—Several varieties were under trial, and gave heavy yields; but in consequence of rather slow growth, the cobs were not considered of good quality as a vegetable. In most seasons very fair table corn is grown here, but it requires forcing.

Pop-corn.—Three varieties were under trial, and yielded well; but at present the demand is very limited.

Maize for Ensilage.—A number of the best varieties were under trial, sown in drills at different distances apart, those at 3 feet giving by far the best results. The yield varied but little, the average being about 7 $\frac{1}{2}$  tons per acre; but the crops sown 3 feet apart gave the best quality fodder.

*Sorghum.*

*Sorghum.*

A large number of varieties of sorghums have been grown for the purpose of testing the most suitable varieties for this district, and also to test which varieties are most suitable for cattle. For this purpose I have supplied to the dairy 135 tons of sorghum, etc., during this season, of which a large quantity was made into ensilage. The large circular silo was filled with sorghum from the experimental plots, and contains 86 tons of sorghum, which was chaffed before being put into the silo. Owing to the dry weather experienced during the spring months we were unable to harvest the sorghums early enough to obtain a second crop, the frost cutting it down before it was sufficiently advanced, the only exception being the Early Amber cane, which yielded a second crop of 5 tons to the acre. It was the first one cut.

As will be seen, the saccharine varieties yielded a much heavier crop than the non-saccharine, and they are much preferred by stock. The following are the yields per acre:—

Saccharine Varieties.						tons	cwt.
Early Amber Cane	...	...	...	...	...	16	10
Black Sorghum	...	...	...	...	...	15	16
Planters' Friend	...	...	...	...	...	7	17
Early Orange Cane	...	...	...	...	...	7	14

Non-Saccharine Varieties.						tons	cwt.
Red Dhourra	...	...	...	...	...	11	8
White Kaffir	...	...	...	...	...	8	2
Red Kaffir	...	...	...	...	...	8	1
Jerusalem Corn	...	...	...	...	...	4	5
Egyptian Corn...	...	...	...	...	...	4	1
Brown Dhourra	...	...	...	...	...	3	8
White Dhourra	...	...	...	...	...	3	7

*Millet.*

One acre each of the following were grown:—White, yellow, and red French Millet, Pearl Millet, Panicum Italicum, Golden Wonder Millet, Japanese Millet, Saltzer's Dakota Millet, and Black Hungarian Millet.

The Hungarian Millet is the most suitable for fodder. It can be used either as a green fodder or be made into hay and chaff, and is a large yielder of seed. We obtained 650 lb. seed per acre, in addition to a large quantity of straw.

The French Millet, comprising the white, yellow, and red varieties, did fairly well, the white giving the heaviest crop. They are not profitable to grow for fodder, as the yield per acre is very light; but heavy crops of seed are obtained.

Pearl Millet has done very poorly this year, only growing about 2 feet high, although last year we had some 16 feet high. The new land does not seem to suit it. The stock prefer the finer-stalked millets, and do not take to Pearl Millet nearly as well as to maize or sorghum.

Panicum Italicum yields a very large and showy seed head. Would be worth growing for seed, but is not suitable for green fodder.

Golden Wonder Millet, Saltzer's Dakota, and Japanese are improved varieties of millet, and yield very large seed heads. They are much heavier yielders than the ordinary Hungarian Millet, but not so good for hay, being too coarse. We were fortunate in being able to save several hundred pounds of this seed for distribution.

Black Hungarian Millet.—This was sent to us from South Australia. It is a very dwarf variety and not worth growing.

Johnston Grass or Evergreen Millet.—A 1-acre block of this has been laid down during the season, and several cuttings were taken off it during the summer. By cutting or feeding off just as the flower heads develop, we find no difficulty in keeping it in check, and it is useful to us for cattle and sheep feed in times of drought.

*Root Crops.*

Potatoes.—Forty-five varieties were under trial. The only varieties that seem to yield a crop about here are Early Rose, Brownell's Beauties, and Beauty of Hebron; but on our poor sandy soil we do not get satisfactory potato crops. A piece of the better class of red land is being prepared for potatoes, and on this we expect to get much better results.

Jerusalem Artichokes.—An acre-plot was sown in a rather poor piece of soil, and although the season was a dry one a yield of about 3 tons was obtained. The tubers were principally used for feeding to pigs, and gave very satisfactory results.

Sugar Beets.—An acre-plot of beets was sown, half each Rich French and Rich German sugar beets; but in consequence of the dry weather, the roots obtained were small and not suitable for sugar extraction. They proved, however, suitable for feeding to dairy cattle.

Mangels.—An acre-plot of these was sown, half each Long Red and Yellow Globe. They did fairly well, and, yielding 9 tons to the acre, were used for feeding to dairy cows, which do well on them. The seed was sown on ridges, and the young plants kept as clean as possible, by cultivating between the ridges with Planet junr. horse-hoes. Had the land been subsoiled, the yield would no doubt have been much increased. Mangels are worth 30s. per ton, and constitute a good payable crop, and cannot be excelled for dairy use.

Turnips.—An acre of turnips was sown with twenty-seven varieties of white and Swede turnips. A quantity of Swedes were sent to market and realised high prices. Turnips occupy the ground for a very short time. Ours were sown in February and harvested in May. Of the cattle turnips, White Pomeranian Globe came at the head of the list, yielding 14 tons 6 cwt. to the acre. Of the table turnips, Early Snowball was first with 10 tons 13 cwt. per acre. The Swedes were a very even crop, yielding from 8 to 10 tons per acre, Anderson's Imperial and Champion Purple-top doing best. Kohl

Kohl Rabi.—A row each of the two varieties, green and purple, were grown and used as vegetables.

Chicory.—An acre of this was sown, but did not do well, and was ploughed in.

Sweet Potatoes.—A small piece of land, about a quarter acre, was sown with sweet potatoes, and they did remarkably well. Next year I hope to be able to plant a much larger area with this crop, as they take the place of ordinary potatoes, and give a heavy yield. We dug  $2\frac{1}{2}$  tons of potatoes off the  $\frac{1}{4}$  acre of land. The land was almost pure sand, and was ridged up into hills by means of the corn-hilling disc, the hills being 3 feet apart. The cuttings were planted in the top of the hill, and took root and commenced to grow immediately. The cuttings were planted out during December, and some as late as 3rd January, and the first potatoes were dug for the Show on 1st April, and after that we had a regular supply. They were the white variety. The later sown cuttings did not do nearly so well as those sown earlier.

#### *Pumpkins and Squashes.*

A 4-acre block of pumpkins and squashes was sown, and contained forty different varieties, the results being highly satisfactory. Pumpkins are an easy crop to handle, as they can be taken straight from the field to the train, and require no storing or after handling.

I am glad to say that, in spite of the poor soil, we have cleared a profit of £19 6s. 8s. from the 4 acres, after paying all expenses in connection with the crop. The total weight of pumpkins, &c., was 47 tons. The results are as follows:—

Cost of ploughing, discing, harrowing, rolling, manure, striking out drills,	£	s.	d.
working holes, seed, and after cultivation, 4 acres	...	...	...
Harvesting and carting to station	...	...	...
Freight	...	...	...
	£23	1	4
Value of pumpkins sold—net returns	...	...	...
Less cost of crop	...	...	...
	£19	16	8

The land has since been ploughed up and subsoiled ready to lay down with lucerne.

The following are the varieties of pumpkins and squashes grown:—

Pumpkins.	Squashes.
Cattle Rios.	Hubbard squash.
Large cattle pumpkins.	Chinese Scarlet Sugar squash.
Turk's Head pumpkin.	Sugar squash.
Ironbark pumpkin.	Ohio squash.
Small Button pumpkin.	Pike's Peak squash.
Golden Oblong pumpkin.	Brazil Sugar squash.
Mauled Prize Pot-iron pumpkin	Warren squash.
Crown pumpkin.	Mexican Banana squash.
Calhoun pumpkin.	Chicago Warty Hubbard squash.
Connecticut Field pumpkin.	White Pineapple squash.
Hundredweight pumpkin.	Prolific squash.
Sutton's Mammoth pumpkin.	Fordhook squash.
Japanese pumpkin.	Delicata squash.
Banana pumpkin.	
Large Cheese pumpkin.	
Vert a Gris pumpkin.	
Vert d'Espagne pumpkin.	
Olive pumpkin.	
Portugal pumpkin.	
Jam pumpkins.	

The above pumpkins, &c., comprise all shapes, colours, and sizes. A large number were shown at the various shows at which the College exhibited, and excited much favourable comment.

Specimens of Sutton's Mammoth pumpkins were shown at the Sydney Show, weighing 116 lb. and 124 lb. each; several varieties were shown weighing less than 1 lb., and the balance varied between the two.

The vines were attacked by caterpillars early in the season; and just as we were going to spray them the rain came and killed the grubs, and we were not troubled any further.

The bed was sown on October 1st, and the first ripe ones—the pineapple squash—were pulled on January 19th, and used on the table.

#### *Marrows and Bush Squashes.*

A few rows of the following varieties were grown for Show purposes and for table use; these are apart from the 4-acre block of pumpkins:—

Yellow-Indian marrow.	Custard squash.
Green Bush marrow.	Summer Crookneck squash.
	Delicata squash.

*Melons.*



*Melons.*

Water-melons.—I planted a 4-acre plot of water-melons containing the following varieties :—

The Dixie.	Jaffah melon.
Red-seeded Sugar melon.	Ruby and Gold melon.
Cuban Queen melon.	White Gem melon.
Green Round melon.	Grey Monarch melon.
Kolb's Gem melon.	Red-seeded Vauclase melon.
Volga melon.	Kleckley's Sweet melon.
Indian water-melon.	Cole's Early melon.
Green and Gold melon.	Wonderful Sugar melon.
Ice Cream (white-seeded).	Monte Christo melon.
American Champion melon.	Florida Favourite melon.
Black Spanish melon.	Flinderwain melon.

The Cuban Queen proved the best for market purposes, as it is a good carrier and sells well. Other good sorts which paid well were the Ice Cream, Dixie, and Kolb's Gem.

The Volga and White Gem, which are white skin round varieties, are good carriers, and can almost be peeled and eaten like fruit. They contain very small black seed, and are splendid quality melons.

*Preserving Melons.*

An acre plot of these were grown with highly-payable results. They are very little trouble to plant and soon take possession of the ground, and when ripe have only to be loaded and carted to the station. I simply planted these like maize, as it is not necessary to work holes, &c., the same as for melons and pumpkins. The drills were struck out 14 feet apart by the drill plough, and two seeds were dropped in the drill every 6 feet and covered with hoes.

The land was disced twice between the rows before they started to run, and this was all the treatment they received.

I carted 33 tons melons to the railway from this acre block, and there were plenty of damaged ones which were used for pigs or cattle.

	£	s.	d.
The cost of ploughing, discing, harrowing, rolling, striking out drills, manure, and sowing seed, was ... ..	1	7	6
Cost of harvesting and carting to station—33 tons @ 2s. ... ..	3	6	0
Freight ... ..	6	12	0
	11	5	6
Actual cash received from 33 tons, @ 18s., was ... ..	29	14	0
Less—cost of production... ..	11	5	6
Profit per acre ... ..	18	8	6

Considering that they were grown on a very poor sandy soil, this is a most satisfactory result.

The following were the varieties of preserving melons grown :—

Colorado Gem.	Red-seeded Preserving.
Snow Preserving.	Large Green Preserving.
White Round.	

A large number of melons were also used to exhibit at the various Agricultural Shows, and a quantity of seed saved for future use.

*Rock Melons.*

The following varieties were grown on a small scale :—

Mango melon.	Japanese Rock melon.
Osage Musk melon.	Banquet Rock melon.
New Tip-top Musk melon.	Emerald-green Musk melon.
Nutmeg Musk melon.	Banana Rock melon.
Shamman melon.	Perfection Musk melon.
Jenny Lind Musk melon.	Sutton's Eureka Musk melon.
Calabash Rock melon.	

The Banquet, Banana, and Nutmeg, give the best returns, producing firm fleshy fruits, which sell well on the market.

*Cucumbers.*

A few were grown of the following varieties :—

Market King.	Sutton's Progress.
Early Frame.	King of the Ridge.
Giant Pera.	Chicago Pickle.

Market King gave the best crop. There was a good demand for cucumbers this season, and good prices were realised.

*Leguminous Crops.*

Soy Beans.—An acre of these were sown on September 14th, and as they were not doing well they were ploughed in for green manure on March 7th.

Lupins.—An acre of white lupins was sown on October 7th, but they only grew about 6 inches high, and were ploughed in for green manure. We intend sowing a crop of these during the winter months.

Mung Beans.—Half an acre each of black and green mung beans were grown for educational purposes. A quantity of seed was harvested, and the straw ploughed in for green manure.

Cow-pea.

Cow-pea.—Eight acres of Cow-pea were grown, viz. :—

3 acres of Black.	2 acres of Whip-poor-will.
2 acres of Clay-coloured.	1 acre of White.

The vines do remarkably well, and cover the ground with an enormous mass of foliage. They do not make much headway until the ground gets thoroughly warm, and then they grow very rapidly, and yield a great number of pods.

The great drawback to the extensive cultivation of this crop is the amount of labour required to harvest it, as the growth is so tangled together that it has to be cut with sickles and rolled over into heaps.

It would be decidedly advisable to use a small peg-drum thrashing machine on the farm for peas, beans, lupins, and other crops which cannot be thrashed by the ordinary wheat-threshing machine.

#### *Climbing Beans (Sown on Trellis).*

Madagascar or Tongan Bean.—This plant does very well. It is a great climber, and yields large quantities of green pods; but in this district the frost generally cuts it down before we are able to obtain much seed. The seed may possibly ripen earlier next season, as the roots, being established, the vines should make an earlier start.

Red or True Madagascar Bean.—This is a much later plant than the Madagascar bean, and, although it bears well, very little seed was obtained, as the frost cuts it down before it ripens. The seed is a large-size red, or mottled red and white seed.

Lab-lab Bean.—This is a brown-seeded Madagascar bean, but does not grow as well as the black-seeded.

Black Pole Limas.—This is one of our best Limas. It is a great climber, and a very heavy yielder. The pods are small, but well filled, containing three or four black and white seeds.

Willow-leaf Limas.—A small white-seeded Limas; small, well filled pods; a good climber. The leaves of the vines are similar to those of a willow tree.

King of the Garden Limas.—A large podded and large white-seeded bean; four to five beans in each pod; a heavy yielder, as the beans are very large, and the vine very prolific.

Mammoth-podded Limas.—Similar to King of the Garden.

Japanese Limas.—A small podded Lima, with a mottled brown and fancy-coloured seed; very prolific, does not climb as much as the other varieties; is very bushy.

Horticultural Limas.—This bean, although it has done well in other parts of the Colony, has not been a success with us. Most of the seed came up and grew about 1 foot high, and then died off. I hope to make some further trials of this plant during the year.

Zebra Runner Bean.—A good climbing bean, with a brown and black striped seed.

Sutton's Best-of-All Runner Bean.—This bean did not come up to expectations. We saved some seeds, and hope it will do better when the seed is naturalised.

#### *Fibre Plants.*

The following fibre plants were procured and grown for educational purposes:—

Sisal Hemp.—The plants were obtained from Queensland and South Australia, and were put out in drills 9 feet apart, and the plants 9 feet apart in the drills. They stood the transplanting well, and are all alive at the present time. They have grown to about 1 foot in height.

Ramie or Rhea Fibre.—Twelve rows of cuttings of this plant were put out and did very well, the canes growing to between 3 and 4 feet high, and a great number to each root.

New Zealand Flax.—A few plants of this flax have been planted out; but they have not made much headway at the present time.

Musa Textilis.—One of the banana species; grew about 1 foot high during the summer, and was cut down by frost in May. I am afraid our climate is not warm enough for this class of plant.

Mexican Flax Lily.—A large quantity of the bulbs of this plant were obtained from North Queensland. They were planted out 8 feet apart each way; but during all the summer they only grew about 6 inches high, and were cut down by the first frost. Our climate is not warm enough for them.

#### *Starch-producing Plants.*

Arrowroot.—Plants grew and stood out well. The tops were killed by frost during May, but a large quantity of bulbs was obtained.

White Arrowroot.—A small white root and much smaller plant. Does not yield nearly as well as the purple variety.

Sweet Cassava.—The cuttings of this plant were obtained from the Experimental Farm at Wollongbar, and did fairly well, and yielded some very long but rather thin roots.

A quantity of starch has been made from each of these varieties, and also from sweet potatoes. They will be shown at the Agricultural Shows during the coming season for educational purposes.

#### *Fodder Plants.*

Tagosaste or Tree Lucerne.—About  $\frac{1}{2}$  an acre of this has been planted out, and is doing very well. No cutting has been taken off this yet, but we expect to do so in the spring. I hope very shortly to be able to complete planting the acre.

Old-man Saltbush.—About  $\frac{1}{2}$  an acre of this valuable plant has been put out, and I have another seed-bed ready to put out now, and I hope to increase the area to 1 acre as soon as possible.

Saltbush, *Rhagodia hastata*.—We have been very unfortunate with this plant, and although we have planted out several lots of cuttings and rooted-plants, they all seem to die off.

*Atriplex holocarpa* Saltbush.—This is an annual saltbush. A small quantity of this plant was grown and shown at the Agricultural Shows.

*Paspalum dilatatum* Grass.—About  $\frac{1}{4}$  acre of this fine grass was put out. It was planted by dividing the roots of the small plot, and planting them out in rows 3 feet apart. It soon started to grow, and a cutting was taken on 4th March which yielded 9 cwt. of good fodder. This grass seems to be one of the best for this district, and I hope to be able to lay down an acre block of it this year.

*Miscellaneous*

*Miscellaneous Crops.*

Japanese Buckwheat.—One acre of this was sown for the bees, who are very thick on it while it is in flower. As soon as the flowers died off it was ploughed in, as it seeds very irregularly, and is not profitable to harvest for seed.

Spurry.—One acre of this was sown. It only grew about 1 foot high, and being considered of little value it was ploughed in for green manure.

Indigo.—Does very well with us. A small plot was grown for educational purposes.

Okras.—Useful for vegetables and pickles. A quantity of these were grown, and used to exhibit at the various shows; they are very prolific.

Tomatoes.—A small area of land was planted with a number of varieties of tomatoes, and a quantity were supplied for kitchen use during the summer.

Rice.—Two varieties of rice were grown, viz., Upland Rice and Lowland Rice; they grew about 2 feet high, but did not mature their seed.

Cotton.—About  $\frac{1}{2}$  acre of cotton was sown altogether, containing several varieties; it grew to nearly 4 feet high, and was promising a good crop, but being sown late it was cut down by the frost before the pods ripened.

Tobacco.—A few plants of the following sorts were grown. It was intended to put out a larger area, but owing to the dry spring we were unable to get an opportunity to put many plants out:—

Sterling Tobacco.	Yenidjek.
Primus Broad Leaf.	Big Frederick.
Orinoco.	Fly River.
Baseilbah Persoccian.	

## SUPPLEMENTARY REPORT TO END OF 1898.

The following are the crops harvested since the last report:—

*Cereals.*

Canning Downs Wheat.—Two acres of this were sown on May 5th, and were cut for grain on November 3rd, being the first to ripen; it stood the dry weather very well, and the yield of grain and straw was 5 tons from the 2 acres, the yield of wheat being  $16\frac{1}{2}$  bushels per acre; the seed was drilled in at the rate of  $\frac{3}{4}$  bushel per acre.

Belatourka Wheat.—A 4-acre plot of this wheat was sown, and did remarkably well, the land having been previously subsoiled. A total of  $13\frac{1}{2}$  tons of straw and grain was carted from this plot, and when thrashed yielded 73 bushels of grain, or at the rate of  $18\frac{1}{4}$  bushels per acre. The seed was drilled in at the rate of  $\frac{3}{4}$  bushel per acre on May 19th, and harvested on November 18th; it nearly all grew 6 feet high; manure used, 4 cwt. per acre; value, 16s.

Bearded Quartzlee Wheat.—Two acres of this variety were sown; they grew very strong, but suffered from the dry weather; it began to wither up and was cut for hay, yielding 4 tons from the 2 acres. Sown May 20th, and cut for hay November 2nd; seed sown at rate of  $\frac{3}{4}$  bushels per acre.

Algerian Wheat.—Two acres of this variety were sown, and promised very well, having a very healthy appearance and vigorous growth until the hot winds came, and then the heads all turned quite white and perished; there being no grain in them at all, the crop was cut and made into hay. Sown May 20th, and cut for hay October 24th; seed drilled in at rate of  $\frac{3}{4}$  bushel per acre; this a very heavy and solid straw, and yielded 5 tons hay from the 2 acres.

French Bearded Wheat.—Two acres of this were sown; it did not grow so tall as most of the other varieties, but still yielded well, the weight of straw and grain from the 2 acres being 4 tons, and the yield of wheat 40 bushels, or at the rate of 20 bushels per acre. It was sown on May 23rd, and harvested on November 19th; the seed was drilled in at the rate of  $\frac{3}{4}$  bushel per acre.

Medeah Wheat.—This variety stood the dry weather better than any other sort, and all grew over 6 feet high, with the usual large black bearded heads. An acre block of this was sown, and 4 tons of straw and grain were carted from it. The yield of wheat was 23 bushels. It was sown on May 23rd, at rate of  $\frac{3}{4}$  bushel per acre, and harvested on November 17th.

Poland Wheat.—An acre of this was sown for grain, and did very well at first; it grew about 3 feet 6 inches high, but soon after it broke into head the hot winds completely dried the heads up and it had to be cut and made into hay. Sown May 30th, and cut for hay October 24th; yield of hay per acre, 1 ton 15 cwt.

*Oats.*

The following varieties of oats were grown, but owing to being sown late and to the poorness of the ground they did not do so well as the wheat:—

Algerian Oats, cut for green feed for cows.

Black Tartarian Oats, yielded  $1\frac{1}{4}$  ton of hay.

White Tartarian Oats, yielded  $1\frac{1}{2}$  ton of hay.

Dun Oats, yielded 1 ton of hay.

Potato Oats, cut for green feed for cows.

Skinless Oats—These were put in to secure seed for future sowing, but owing to the dry weather they had to be cut and made into hay.

*Barley.*

One acre each were sown of the following varieties, but owing to the dry weather they were not worth saving for grain, and were cut for green feed and sent to the cows.

Skinless Barley.

Cape Barley.

English Barley.

Algerian Barley.

*Leguminous*

*Leguminous Crops.*

One acre each of Sulla and Scarlet Clover were sown, and grew very well as long as the weather remained cool, but directly the hot weather set in they commenced to wither, and we ploughed them in for green manure.

Bokhara Clover has also again failed. It just came up and then died off.  
Chick Pea came up and grew about 6 inches high, and then died off.

*Peas.*

Four acres of peas were sown and cut while green, a load each day, and carted and fed to pigs. Half an acre of each of the following varieties were sown:—

Telephone.	Pride of the Market.
President Garfield.	Stanley Pea.
Black-eyed Susan.	Field Pea.
Trophy.	Dr. McLean Pea.

*Lucerne.*

A 4-acre plot of Tamworth lucerne was sown on July 25th, the land being previously subsoiled and well worked. The crop did very well, a good start being obtained and several cuttings made during the season.

*Potatoes.*

An acre of potatoes were planted, but owing to the dry weather the yield was poor.

## ORCHARD AND VINEYARD.

Operations in this branch were somewhat upset through the death of our popular orchardist, Mr. G. Waters, who died early in the year. For some few months we were without the services of an orchardist, but eventually Mr. James Alford was appointed to the position, and commenced his duties on May 6th, 1898, and he reports as follows:—

"I immediately proceeded with the cleaning up of the College grounds, roads, &c., which had fallen into rather a neglected condition, and then went on with the preparation of 10 acres of land which has been selected as a nursery for growing all kinds of fruit-trees for supplying the different Government farms with fruit-trees true to name. As soon as the land has been properly cleaned and prepared it will be planted with stocks, pits, pips, cuttings &c., for budding and grafting purposes. There have been raised from pips in the orchard this season about 20,000 orange seedlings for budding and grafting purposes; about 10,000 apricot and peach stock for budding and grafting. We have also several thousands of imported stock of the following varieties for budding purposes—Mussel Plum, Nonsuch Apple, Black Mazzard Cherry, Myrobolan Plum, and seedling pear stock.

*Pruning.*

The pruning of deciduous fruits was done in June, the students taking very great interest in their work. The pruning of the vines then followed in July, and after the prunings had been cleared off, winter spraying, painting of stems and larger branches of the trees, and vine-swabbing were carried out.

*Planting*

Is being carried on both for shelter and refills in orchard, and for ornamental purposes; also the cleaning up of rubbish and weeds from fences and dirty corners.

*Hares.*

Hares have given some trouble in the orchard, but we have prevented their doing much damage by painting the stems of the trees with a mixture of blood and lime.

*The Fruit Crop.*

Grape-vines carried a very heavy crop, especially the White Sherry, Doradillo, Black Hamburg, and Gordo Blanco. Very good prices were obtained for grapes that were put early on the market. Oidium appeared in a very mild form, chiefly amongst the Black Hamburg. The crops of summer fruits were of good size and quality. In peaches the following were very good:—Brigg's Red May, Waterloo Nonpareil, Cooper's Seedling, Early Crawford, Susquehanah very fine, some weighing over  $\frac{3}{4}$  lb., and carrying heavy crops, Fulton, Grand Admirable, Lemon Cling. These trees also carried good crops the previous year. The nectarines were very fine, Lord Napier, Albert Victor, Violet Hative, Hunt's Tawny, and Irrewarra being best.

Good prices were obtained for peaches and nectarines.

Japanese plums did remarkably well, much better than the English varieties, on our light sandy soil. The Japanese plums seem to thrive in almost any soil, more especially in hot, dry districts. The following are the names of a few of the best bearing varieties grown here:—Satsuma "Blood," Suika Momo, Botan, Hattaukio, and Burbank. The *Prunus Simmonii* is a beautiful plum, also known as the apricot plum, but rather a shy bearer with us.

Pears have made good growth and showing a few fruit-buds. Pears take a long time to come into bearing, especially when worked on the seedling pear stock.

Apples do not thrive well here on the light sandy soil.

The persimmons gave a heavy crop and very fine fruit; trees thriving well.

Walnuts grow exceedingly well here, and gave a few nuts last season for the first time.

Thorny mandarins carried a heavy crop for young trees.

*Dried Fruits.*

A few raisins and peaches were dried for educational purposes, and jam made for use of College.

*Budding.*

A few peach-trees of useless varieties were budded with other varieties of better quality. A few peach and apricot seedling stock were budded.

The peach aphid was very troublesome this last season, but was kept in check by the use of resin and soda-wash.

The trees growing on the very light sandy soil show signs of weakness, and made very little growth during the last season.

*Sewage Farm.*

During the year the sewage farm has again been greatly extended.

Vegetables have been very successfully grown, but with few exceptions. Cauliflowers, carrots, parsnips, beet, broad beans, French beans, onions, cabbage, rhubarb, excellent; peas, fair. Lettuce, radish, eschalots, cucumbers, bush and other marrows, and asparagus do very well here; turnips, fair. Potatoes do not thrive well.

## THE DAIRY.

The Dairy Instructor, Mr. C. R. Cassidy, reports as follows:—

During the year there has been a good attendance of students. As a rule, the students who enter for a dairy course are those who have gained the highest position in the diploma examination. This is sufficient proof that they are deeply interested in the work. In addition to those students who have taken up dairy work after the two years' course of instruction at this College we have other students from various dairying centres throughout the Colony, and it is most gratifying to see with what interest and appreciation they take up the work as taught here. The course is now fixed at six months, and ten students are admitted each term; but, owing to the high standard of the examination, some of them often find it necessary to remain longer than the six months before presenting themselves for examination. The sessions commence on the 1st January and 1st July respectively. Briefly, the work done during the course is as follows:—Milking, feeding, and management of dairy stock, cheese-making, butter-making, milk and cream testing, pasteurising, separating, cultivation of lactic ferments—in fact, all the branches of dairy-work which would or is likely to occur in combined cheese and butter factories, or in a butter or cheese factory separately. The arrangement for two terms in a year enables each batch of students to get a full insight into the testing of cattle for tuberculosis, and some experience in other diseases affecting dairy-stock. The lectures are given in a practical way in cheese and butter making, pasteurising, dairy bacteriology, and other subjects appertaining to dairy-work; and by this system of teaching the student not only learns how to do the work, but also learns why it is necessary to do it in such and such a manner.

Considerable instruction has been afforded the students by visiting the dairy factories in Sydney. It is most pleasing to note the interest expressed by the gentlemen connected with these establishments in showing and explaining matters of dairying to the students. It has been arranged for an occasional visit to be made to some of the most important dairying districts, and one such visit has been made to the South Coast district. This excursion proved of great educational value to the students. They were enabled to criticise the work done by others; and, by inspecting some of the best dairy herds in the Colony, were able to note the points, in a number of instances, which a good dairy cow should possess. These visits further enable the students to see the handling of large quantities of milk and cream, also the working of different makes of churns, separators, &c.; and this, to a large measure, atones for the limited material at our disposal.

The students undergoing the general course of the College receive such instruction as will fit them to deal in a general way with dairying. For the examination of these students the Department were fortunate in securing the services of Mr. H. Wilson, of the Fresh Food and Ice Co. Mr. Wilson, who put the students through a most practical examination, was highly pleased with the results.

The quantity of raw material that we have to deal with is not sufficient to teach the students how to handle large supplies of butter and cheese; but, notwithstanding this fact, a large percentage of students are engaged in working fair-sized creameries, others making cheese, and some are dairy-farming or managing dairy farms with more than ordinary success. All that can be done with our limited supply of milk is being done.

Dairy Herd.—The dairy herd consists principally of Ayrshire, Ayrshire and Jersey crosses, a few Jerseys, and South Coast cattle. A number of the imported bulls have been used, and it will be interesting to watch how the various crosses with these animals turn out. The work of building up a dairy herd is extremely slow, and takes years to complete—thus it should be done on strict dairy lines so that the work will ever tend toward perfection. It is necessary that we should experiment with different crosses, making use of the imported bulls; but, at the same time, definite lines should be laid down for the general work of building up the herd, and for this I would recommend the use of a Shorthorn bull or Ayrshire or Ayrshire crosses. It is true that the progeny would be somewhat heavy and bulky for the College land; but in the course of a few years the increase in the amount and quality of fodder-crops grown and the laying down of pastures will do away with such an objection.

In the course of time more stock will be raised than is needed for the College use. Thus there will be a surplus for sale, and it is important that the stock should be of the best dairy type, so as to establish a name for our stock, and in this way command a ready sale, which would also have the advantage of distributing good dairy stock throughout the country. All the herds are tested for tuberculosis at least once a year, and any diseased animals destroyed. Unfortunately, in a large number of cases, it is the best milkers which are affected with this disease, proving that the more hardy, but less profitable, cows are not so subject to it. All young stock are subject to the tuberculin test before they are allowed to run with the bull, and by this means the herd is kept comparatively free from tuberculosis.

Almost all the young stock are dehorned with the caustic potash treatment, which process may be regarded as painless. The stock when grown up are much quieter to handle, drink and feed more contentedly together, and the risk of many valuable cows becoming almost worthless through another one horning her in the udder is done away with. If the horns are properly removed, or, rather, the growth of the horn prevented at the right time, then the appearance of the animal will not be objectionably altered to any great degree.

The

The work of testing the percentage of butter and taking the weight of the milk-yield of the herd is carried out, and from time to time inferior cows are being got rid of. The culling out of inferior cows from the herd is very important, and is deserving of more attention than the average dairyman is disposed to give it. Owing to the inexperienced work of students in the early part of their training, it is somewhat difficult to carry out this work with the greatest success, but the lesson taught is so firmly impressed that the students will not readily forget it.

Fodder.—Among concentrated foods coco-nut oil cake has been used largely for calf feeding, and also cattle-molasses. Cattle-molasses is, without doubt, valuable as a food for dairy-feeding purposes, mainly, because, when mixed with a food, it makes it—the food—more palatable, and in this way cattle eat more of the food treated with molasses, and although the percentage of the digestible part of the food is not increased the total amount of the digestible matter consumed is considerably increased. Some unpalatable foods are readily eaten when fed with molasses. Regarding fodder crops, roots, such as beets, mangels, and artichokes, are grown. These, fed with other foods, or alone, have no bad effect upon the milk either for butter or cheese making. Such crops as Swedes, turnips, and rape, which taint the milk, are grown and mixed with other foods for the dry cows and calves. Oats and vetches and barley and vetches make the best green crops for cows in milk. For ensilage, maize has always given us a far better result than sorghum. In fact, it is useless to grow sorghum where maize can be handled as profitably. Maize alone does not make a perfect food for milch cows, and a mixture of several varieties of crops gives better results. A mixture of cow-pea or horse-beans, corn and sun-flower seeds have been proved to give very good results in ensilage-making. And when chaffing maize for immediate use it would be an advantage to have cow-pea, lucerne, or some such fodder rich in protein mixed with it. Lucerne should be extensively grown, both as a green food and for making hay. It combines well with almost any food, and is better than oat chaff or hay in making up milk rations.

The lines on which we teach are made as practicable as possible, and with the use of new tests and improved methods of working a student is now able to learn the art of cheese-making, and turn out a good article after six months' instruction, which, under the old methods, would have taken several years of practice to acquire.

#### *Dairy Examiner's Report.*

I have the honour to report as follows:—During the year 1898 four examinations in dairy work and dairy-farming were held, when the following students presented themselves for examination:—

Student E. A. Hamilton,	Student S. C. Cowleshaw,
„ W. G. Marks,	„ H. A. Flashman,
„ J. P. Rogers,	„ F. J. Brient,
„ H. C. Stehning,	„ H. O. Busby,
„ J. C. See,	„ H. Cunningham,
„ J. M. Trotter,	„ S. E. Furness,
„ L. F. Uther,	„ A. E. Moore,
„ S. Wilson,	„ W. P. Smith,
„ R. S. Scholes,	„ H. P. Chapman.
„ S. Scarrell,	

These students succeeded in obtaining a certificate for proficiency in one or all of the following subjects:—Dairy-farming, butter-making and creamery management, and cheese-making. Among those obtaining extra high marks, and who passed in all subjects, should be mentioned Students H. O. Busby, S. E. Furness, and A. E. Moore. Six other students went up for examination, but failed to qualify in any of the three subjects specified. The examination was divided into two sections, viz., theoretical and practical.

I have to recommend that in future students who have not had previous experience in a creamery or factory should go through at least a six months' course at the College dairy before presenting themselves for examination. Also, that examinations be held only every six months.

I should strongly urge that students be also given an opportunity for taking part in dairy operations on a larger scale than that afforded them at present. To do this it will be necessary to increase, either by purchase or production, the amount of milk now available for converting into butter and cheese. If this be done, the education which students would then receive should fit them for taking immediate charge of the management of a creamery. At the present time students who pass through a course here should put in a term at some factory where dairy work is carried on on a large scale before attempting to undertake the management of a factory or the manufacture of butter in very big quantities. The practical instruction now given is of a good character, and the local instructor is doing good work. All that is required is practice on a much larger scale, and if this cannot be arranged at the College, the Minister might with advantage to the Colony consider the question of arranging with some of our large factories, whereby instruction might be given to students there after they finish their dairy course at the college.

M. A. O'CALLAGHAN,  
Dairy Expert.

#### PIGGERY.

Mr. George Daley reports that owing to the addition of a large number of stud animals imported from England and America, and also from the neighbouring colonies, there has been a very great demand for young boars and sows of the best strains. The increased number of stud pigs necessitated the erection of additional buildings and pens. A large shed, divided into compartments, has been erected for using to fatten baconers in, and six small houses have been erected for the breeding sows. We now have a very complete stud of each of the following breeds:—

Improved Berkshire.	Small Yorkshire.
Large Yorkshire (large white).	Poland-China.
Middle Yorkshire.	Tamworth.

Distinct



Distinct strains of each are kept so that farmers can obtain young boars and sows of each breed and unrelated to each other. This is, of course, a very great advantage for breeding purposes. So far we have been able to sell all the young pigs from these strains as soon as they are ready to send out, and at the present time I have upwards of 100 orders on hand.

The imported pigs were all high-class animals, and of far better quality than our old stock. The shipment has been very successful, as they were all landed in good condition and proved good breeders. The progeny promise well, and I consider that by putting the imported boars to our old sows we shall obtain some excellent strains.

During the year we not only raised a large number of pure bred, but also raised and fattened a great many porkers and baconers. Forty-three of the latter were killed and cured by the students under my supervision.

Several students took a special course on pig-farming, lasting from three to six months. This appears to me to be a very good arrangement, as they obtained a good general knowledge of the work. Nearly all the students take great interest in this branch of the farm; their conduct has been very satisfactory, they are punctual, and the majority of them work well and learn all they can.

Paddocks are being netted-in so that arrangements can be made to grow a variety of crops and graze the pigs upon them. This will lessen the cost of raising, and will, I consider, do much to improve the constitution of the animals. Now that we have such good specimens of the different breeds, we have commenced comparative trials. First of all exhaustive feeding trials with the different breeds will be carried out, and these will be followed by trials of various crosses. It is also intended to test the market with bacon from the different breeds. From these trials we shall then be able to gather which breed gives the greatest weight per pound of food and which produce the most marketable bacon.

The young stud animals are carefully weighed and any that do not increase at a standard rate are rejected for breeding purposes. In view of the great demand for early-maturing pigs this precaution is very necessary.

Thanks to the new blood our piggery is now proving one of the most profitable branches of the farm, and there is every prospect of a largely increased income during the coming year.

#### POULTRY FARM.

The Poultry and Bee Expert, Mr. J. J. McCue, took charge of this department on 1st February, 1897, and started at once to get the necessary buildings, pens, &c., erected.

At present we have 7 acres divided into runs, and fitted with every convenience in the way of houses, &c. Another 5 acres is being laid out for a duck farm, and when the accommodation is completed we shall have ample room to produce ducks in numbers for placing on the English market, &c.

At present there are over twenty-five different thoroughbred varieties of poultry on the farm, as follows:—

Fowls.	
3 pens Black Minorcas.	1 pen Plymouth Rocks.
2 „ Brown Leghorns.	1 „ Brahmas (L).
2 „ White Leghorns.	1 „ Cochins (B).
3 „ Wyandottes.	1 „ Dorkings (S.G.).
1 pen Langshans.	5 pens Game varieties.
1 „ Andalusians.	2 „ Orpingtons.
1 „ Houdans.	4 „ Experimental.
Ducks.	
3 pens Pekins.	1 pen Cayuga.
2 „ Rouens.	1 „ Aylesbury.
2 „ Muscovies.	1 „ India-runner.
Turkeys.	
1 pen Bronze.	
Geese.	
1 pen Toulouse.	

During the year upwards of thirty head of pure-bred birds were purchased to add to breeding pens. Among the late purchases were a few imported birds—splendid specimens of their variety.

The incubator room contains six 100-egg machines, all of which work well and give fair results.

The students attending this department have taken a great interest in their work, attended to their duties, and were well-behaved. Eight students went through special poultry courses during the year, some of which have commenced poultry-farming on their own account.

The financial returns for the year were satisfactory, considering how late it was in the breeding season before the expert had pens, &c., completed, and all in going order.

The monthly articles on poultry that appeared in *Agricultural Gazette* during the year have brought many inquiries asking for information on different subjects relating to fowls, turkeys, and ducks.

#### BEE FARM.

The bee farm is still progressing satisfactorily, the honey yield being a good one in spite of the bad season. Mr. McCue reports that the six pure-bred Italian queens which we purchased have turned out very well.

#### FOREMAN CARPENTER.

The Foreman Carpenter, Mr. A. Brooks, reports as follows:—

The increased accommodation provided in the workshop has given the utmost satisfaction, the arrangement of double working-benches in place of the side-benches we previously had making a vast improvement. In fact, the only thing required to make our carpenters' shop complete (and which I hope to be able to obtain approval to purchase) is a small turning lathe and a circular saw bench, both of which

I feel sure would pay for themselves in the first year's work. The main object of increasing the size of the workshop was to provide more opportunity for students to practise the work. Considering that the greater part of my time has been occupied in the supervision of the building work that has been going on almost throughout the year, the value of the work done will show that the students' labour has been very profitable.

I must here refer to the advantage I have had from the services of what are called "special course" students. I have had three of them during the session, each of whom have done well, and proved that what I have always contended (viz., that any of our students who have a liking for mechanical work can be taught as much in three months' continuous instruction as an ordinary apprentice could be in two years) is quite correct.

I hope, sir, that this system will be continued so that I may be able to have three more this coming session. Another very highly commendable feature in the work during the past session, and one I hope to have the honour of continuing, has been lectures on carpentry. Although this was not done until towards the close of the session, and only to first-year students, it had a very beneficial effect, in such a way that when they came into the workshop they were so very much more able to put into practice the lessons taught in the classroom. It also saves a lot of time, as I can explain to the whole class just as easily as I can to two or three in the shop.

It is my intention in future to make drawings of the various necessary buildings and implements that we construct or design, and strike off sufficient copies to give one to each student, and if the lectures are to be continued, to do the same for any subject that we may be considering.

During the past year I have carried out by "day-labour" the following work:—

- Extension of both classrooms.
- Fittings to chemical laboratory.
- Alterations to dormitory block.
- Gymnasium hall.
- Two-storey building in orchard.
- New blacksmith shop and fittings.
- Extension of carpenter shop.
- Additions poultry expert's cottage.
- New shed for dairy.
- Repairs to orchardist's cottage.
- Erection of a 100-ton circular silo.

I have also on hand at present, and nearly completed, the construction of tanks for the conservation of roof water and air-tight corn-bins for storing shelled maize.

I have also on various occasions prepared rough plans and specifications in answer to inquirers about buildings, &c., for farms. Included among these was a plan and detail drawing, together with a full descriptive specification of the 100-ton silo, to the Department of Agriculture at Brisbane.

In the workshop the usual varied description of work has been carried on, from fine joinery to rough carpentry, plumber, and painters' work. Included in the latter branch there has been the painting of no less than sixty gates, the surface measurement being 680 square yards.

The several students who have been under my charge have been very attentive, and invariably diligent and of good behaviour.

In conclusion, sir, I may state that all tools and appliances under my charge are in good order, and all book entries up to date.

#### BLACKSMITH.

The Blacksmith, Mr. Irwan Shaw, reports as follows:—

During the past year there has been erected a large and convenient blacksmith's shop, containing three forges, with necessary tools and appliances for doing the work of the farm, also for instructing the students.

I have been kept busily going in effecting repairs to machinery and implements, and making iron-work for new buildings.

The students have always taken great interest in this branch, and are very willing and obedient in assisting me to carry out my work.

#### ENGINEER'S BRANCH.

The Engineer, Mr. C. H. Ausburn, reports as follows:—

In submitting my report for year just ended, I am pleased to say that everything has been fairly satisfactory. Nothing of any great importance has occurred in my branch. Although many additions and alterations have been carried out in the electric lighting plant, I have had to extend circuits on lecture hall and laboratory, and put in new branch circuit to gymnasium. I have added fifty new lamps to the plant, making in all 380 lamps in circuit. The plant is still giving every satisfaction, but bids fair to soon become too small. One slight defect occurred, causing the light to be cut off for two nights during winter vacation.

I have also fitted up a telephone service, connecting the dairy and farm buildings with the office, which has proved a very great benefit.

Repairs during the year have been small, the largest item being the overhaul and repairing of boilers—which was carried out by the Government Architect's Department. (this being the first overhauling the boilers have received since the College was instituted).

I have overhauled the farm engines twice during the year, repaired the hydraulic stump-extractor, &c., and assisted the blacksmith in repairing a number of other machines.

During the past year I have been largely occupied with clearing contracts, we now having completed 300 acres, off which we have taken about 1,000 cords of firewood for use on the farm.

I have had one or more students with me daily during the session, and have much pleasure in reporting that they have given me every satisfaction. With very few exceptions they have taken much interest in the work, and several of them have made themselves capable of relieving me, while away, on repairs, &c. Altogether they have been very attentive to their work.

In conclusion, I have to say that the machinery in my charge is now all in good order.

#### FENCING

## FENCING AND ROADMAKING.

In order to obtain better facilities for communication of the various branches of the farm with the College buildings it was decided to construct a road facing the College, with an outlet opposite the railway crossing, and another at right angles to this leading to the dairy, piggery, &c. This necessitated a rearrangement of the paddocks adjoining these roads, and the consequent pulling down of some 3 miles of fencing, which was afterwards erected on other parts of the farm.

Mr. George Stead, the Farm Fencer, reports that in his branch the year was an exceptionally busy one, upwards of 6 miles of fencing being put up. Most of this was single rail with six wires. Smaller paddocks for bulls, pigs, &c., were also fenced in, the ordinary three-rail fence being used for the bulls, and for the pigs a low three-rail fence with a barbed wire running below the rails to keep the animals from rooting underneath the fence. Timber culverts were also put in on several of the roads, logs and heavy rails being used for the purpose. A number of shelter-sheds for calves, pigs, &c., were erected, slabs being used for the walls and bark for the roof. Fourteen pairs of large farm gates were taken down and re-erected in more convenient positions; three pairs of new farm gates and seven pairs batten gates were also put in position. Thirty-six chains of trellis, made of saplings and fencing wire, was erected in the experimental plots for training climbing beans, &c., on. A 36-acre paddock was netted in with marsupial netting for the pigs, 95 chains of 24 x 4 x 14 being used. Placed on the inner side of the paddock, it is found to be quite pig-proof. Mr. Stead also did a considerable quantity of rough carpentering, and assisted in harvesting, &c., in his spare time.

## PRIZE FUND DONATIONS.

I am indebted to the following ladies and gentlemen for their liberal donations to the Prize Fund, which enabled me to present valuable book prizes to all deserving students:—

The Hon. Joseph Cook, M.P.,	Mr. Heane.
Mr. Sydney Burdekin.	Mr. Hellicar.
The Farmers and Fruitgrowers	Mr. Smith.
Co-operative Society.	Mr. Petersen.
Rev. T. Moore.	Mr. Capp.
Dr. Gibson.	Mr. Haviland.
Dr. Cameron.	Mr. Allan.
Mr. Worboys.	Mr. Pepper.
Mr. Stening.	Mr. Faviell.
Mr. Wilson.	Mr. Rigg, M.P.
Mr. Foy.	Mr. Gibson.
Mr. Busby.	Mr. Ramsay.
Mr. Morley.	Mrs. Alderson.
Mr. Abbott.	Mr. Naylor.
Dr. Roberts.	Mr. Houghton.
Dr. Florence.	Mr. Brient.
Mr. Hunt.	Mr. Stevenson.
Mr. Coles.	Mr. Froome.
Mr. See.	Mr. Kevin.
Mrs. Ritchie.	Dr. Macky.
Mr. Bulkeley.	Rev. J. H. Price.
Mr. Dobbie.	Mrs. Murray-Prior.
Mr. Furness.	Mr. Gregory.
Mr. Joubert.	

## PRIZE LIST.

*Diploma Students, 1897.*

Mr. Principal Thompson's Gold Medal—Dux of College, Student Moore.  
Special prize (Mr. S. C. Pottie), case of instruments—Veterinary Science, Student Moore.

## Book Prizes.

Best all-round student at general farm work, Brown.  
„ carpenter, Morley.  
„ at orchard, Furness and Moore.  
„ at dairy, Rogers.  
„ at blacksmith, Brown.

*First-year Students, 1897.*

## Book Prizes.

Best all-round student at general farm work, G. Marks.  
„ carpenter, G. Marks.  
„ at orchard—equal: A. Naylor and G. Marks.  
„ at dairy, G. Marks.  
„ at blacksmith, G. Marks.

*Diploma Students, 1898.*

Mr. Principal Valder's Gold Medal—Dux of College, Student G. Marks.  
Special prize (Mr. S. C. Pottie), case of instruments—Veterinary Science, Student J. T. Tod.

## Book Prizes.

Best all-round student at general farm work, G. Marks.  
„ carpenter, A. S. Abbott.  
„ at orchard—equal: J. T. Tod and W. B. Foy.  
„ at dairy, G. Marks.  
„ at blacksmith, G. Marks.  
„ ploughman, G. Marks.  
„ engine-driver, G. Marks.

*First*

First-year Students, 1898.

Book Prizes.

Best all-round student at general farm work—equal: A. H. Haywood and R. F. Weir.  
 „ at orchard, F. G. Pepper.

DIPLOMA STUDENTS, 1897.

Order of Merit.	Name.	Practical Agriculture. College Marks (Officers).		Principles of Agriculture.		Practical Agriculture. Diploma Examiners.	Farm Diaries.	Conduct.	Botany.	Geology.	Surveying.	Physics.	Chemistry.		Book-keeping.		Mechanics.	Entomology.		Veterinary Science and Practice.	Total Marks. Maximum in each subject, 100.
		Sessional.	Fortnightly.	Sessional.	Fortnightly.								Sessional.	Fortnightly.	Sessional.	Fortnightly.		Sessional.	Fortnightly.		
	Class Averages.....	79·7	59·52	67·	73·2	70·	92·76	49·1	35·9	23·2	46·26	46·63	57·7	57·9	57·	48·	60·69	51·	62·	1,800	
1	*Moore, A. E. ....	93	82	95	83	90	100	72	63	71	59	82	91	95	79	52	94	83	90	1,474	
2	*Furness, G. E. ....	87	82	91	86	96	99	69	59	68	56	66	88	90	81	75	81	79	86	1,439	
3	*Busby, H. L. ....	85	78	88	81	85	99	65	61	64	58	64	83	90	83	75	91	73	83	1,406	
4	*Brown, B. K. ....	93	69	67	75	75	99	64	53	52	61	54	76	40	68	51	92	64	85	1,238	
5	*Morley, H. B. ....	84	53	65	77	62	99	56	53	40	57	71	73	65	73	75	78	52	70	1,203	
6	*Uther, L. F. ....	83	74	72	75	71	99	63	52	28	48	68	66	85	66	26	86	65	81	1,203	
7	*Hamilton, E. A. ....	86	50	69	81	76	99	63	51	52	64	64	72	40	50	53	76	68	79	1,193	
8	*Wilson, D. S. ....	79	61	77	75	70	99	56	55	35	33	58	65	80	61	55	79	60	76	1,174	
9	Stening, H. ....	86	64	78	74	74	99	57	43	52	35	43	72	45	69	40	81	60	86	1,158	
10	Moppett, G. S. ....	75	53	63	76	65	99	45	48	50	51	58	56	50	68	52	71	60	80	1,120	
11	Rogers, J. P. ....	82	60	68	73	86	99	52	48	53	39	50	63	45	48	23	66	56	71	1,087	
12	Quinlan, C. V. ....	72	56	70	65	64	82	65	51	52	44	43	75	55	48	33	80	51	51	1,057	
13	Greeves, V. F. ....	86	70	84	70	60	99	56	47	21	39	22	66	55	50	43	40	48	60	1,016	
14	Florance, P. L. ....	66	42	59	71	55	84	52	44	50	45	50	50	40	42	36	45	48	77	956	
15	Cunningham, H. ....	77	60	60	71	70	93	52	25	15	...	28	44	45	27	27	62	45	64	865	
16	Wallach, H. ....	69	50	73	71	58	78	47	22	5	...	28	37	43	57	...	24	32	7	703	
17	Wyness, G. W. ....	67	50	39	47	53	77	44	41	21	...	32	18	45	49	...	45	11	18	657	
18	Harris, R. A. ....	75	50	45	71	...	81	49	41	17	...	1	31	50	53	...	50	20	27	661	
19	Atkinson, T. B. ....	78	27	54	69	60	90	40	28	...	5	9	19	40	31	...	3	25	3	608	
20	Smith, S. ....	79	...	74	...	...	98	...	...	...	...	...	67	...	37	...	...	56	...	411	
21	Monro, G. L. ....	72	...	51	...	...	76	...	...	...	...	...	...	...	...	...	...	33	...	212	

\* Diploma.

FIRST-YEAR STUDENTS, 1897.

Order of Merit.	Name.	Practical Agriculture.	Principles of Agriculture.		Farm Diaries.	Chemistry.		English and Arithmetic.	Botany.		Geology.	Surveying and Mensuration.	Conduct.	Total. Maximum Marks obtainable, 1,200. Maximum in each Subject, 100.
			Sessional.	Fortnightly.		Sessional.	Fortnightly.		Sessional.	Fortnightly.				
	Class Averages.....	64·	74·	51·	62·	49·	42·	53·4	63·	41·	45·3	40·2	83·	1,200
1	*Marks, G. ....	88	92	84	96	88	87	84	81	82	72	83	99	1,086
2	*Tod, J. T. ....	78	95	88	92	83	85	90	76	81	78	68	100	1,014
3	*Marks, W. ....	76	87	75	90	69	75	66	75	77	62	47	99	898
4	*Naylor, A. ....	84	83	61	90	75	72	57	73	72	75	46	99	887
5	*Abbott, A. S. ....	74	89	73	66	67	57	71	76	67	54	72	96	852
6	*Hunt, C. ....	68	73	72	58	84	56	74	69	62	63	66	91	836
7	*Seton, R. ....	54	82	62	85	83	50	50	77	56	60	35	90	784
8	*Purhis, A. H. C. ....	57	85	71	62	86	54	60	66	65	52	39	77	774
9	*Foy, W. B. ....	71	70	68	60	65	70	50	62	55	45	66	90	772
10	*Hurley, P. J. ....	73	76	58	70	64	64	51	82	52	57	15	94	756
11	Makin, R. N. ....	68	76	64	62	26	37	50	66	57	33	25	97	661
12	Cade, S. T. ....	76	66	52	52	54	37	68	56	50	20	34	91	656
13	Stening, F. S. ....	72	67	60	60	19	27	51	56	42	36	37	93	620
14	Godson, R. ....	59	68	65	59	6	12	68	49	50	31	56	96	619
15	Hadfield, H. F. ....	70	67	54	...	54	57	30	60	20	43	34	83	572
16	Whysall, F. W. ....	47	72	58	51	30	38	35	59	56	39	10	66	561
17	Newton, A. H. ....	67	71	50	55	12	22	38	52	42	41	10	93	553
18	Gray, J. W. ....	66	68	46	67	5	27	25	49	41	14	34	90	532
19	King, J. H. ....	58	74	42	47	6	23	55	54	39	12	15	90	515
20	Gibson, A. L. ....	78	63	38	...	3	3	34	55	23	19	12	81	409
21	Bruce, J. ....	68	70	38	58	...	10	...	...	24	...	...	92	360
22	Ritchie, A. F. ....	74	...	52	60	...	...	...	...	12	...	...	90	288
23	Waterman, H. L. ....	58	...	37	48	...	25	...	...	39	...	...	75	282
24	Samuels, A. R. ....	54	...	38	41	...	11	...	...	25	...	...	71	240
25	Nott, A. R. ....	50	41	22	...	...	...	15	27	8	...	...	71	234
26	Wells, P. A. ....	58	...	31	46	...	...	...	...	2	...	...	78	215
27	Crawford, D. L. ....	45	...	26	57	...	...	...	...	8	...	...	63	199
28	Shorter, S. A. ....	48	...	35	...	...	27	...	...	41	...	...	48	199
29	O'Neill, P. ....	46	...	31	43	...	...	...	...	10	...	...	68	198
30	Hollinshead, H. ....	48	...	23	44	...	...	...	...	6	...	...	59	180
31	Lowing, W. H. ....	52	...	26	...	...	...	...	...	11	...	...	61	150

\* Takes First-year certificate.

PRACTICAL STUDENTS, 1897.

Student.	Practical Agriculture.	Farm Diaries.	Conduct.	Total.
Class Averages .....	63	58	89	....
Gunnell, G. ....	75	60	97	229
Macky, W. ....	66	63	95	224
Rigg, G. ....	60	64	99	223
Wood, P. D. ....	69	56	98	223
Quayle, R. L. ....	61	68	94	217
Borland, W. J. ....	65	58	93	216
Faviell, H. B. ....	64	55	97	216
Wilson, J. L. ....	68	56	92	216
Alderson, P. ....	58	60	94	212
Macky, G. ....	57	60	90	207
Smith, H. ....	64	55	76	195
Wellings, C. E. ....	64	.....	95	159
Quinton, L. ....	64	.....	83	147
Smith, N. ....	67	.....	77	144
Brodie, — .....	57	.....	83	140
Roberts, J. H. C. ....	59	.....	72	181

DIPLOMA STUDENTS, 1898.

Order of Merit.	Name.	Practical Agriculture. College Marks (Officers).		Principles of Agriculture.		Practical Agriculture. Diploma Examiners.	Farm Diaries.	Conduct.	Botany.	Geology.	Surveying.	Sheep and Wood.	Chemistry.			Book-keeping.		Mechanics and Heat.	Entomology.		Veterinary Science and Practice.	Total Marks.	
		Sessional.	Fortnightly.	Sessional.	Fortnightly.								Theoretical.		Sessional.	Fortnightly.	Sessional.		Fortnightly.	Sessional.			Fortnightly.
													Sessional.	Fortnightly.									
	Class Averages ....	81	72	70	77	76	95	66	49	43	48	48	48	63	39	53	57	46	77	59	44	1,900	
1	*Marks, G. ....	96	82	84	87	95	100	81	72	83	61	75	89	35	85	82	81	89	78	50	1,505		
2	*Tod, J. T. ....	88	84	85	86	95	100	77	78	68	57	83	89	50	75	90	52	96	82	66	1,500		
3	*Hunt, C. ....	81	82	75	75	90	93	69	63	66	42	63	83	60	55	68	63	96	55	50	1,329		
4	*Abbott, A. S. ....	84	78	69	80	77	96	76	54	72	73	62	72	55	55	55	60	79	71	50	1,318		
5	*Stening, H. ....	86	75	78	87	74	99	57	43	52	...	63	72	70	55	69	57	92	60	69	1,258		
6	*Marks, W. ....	87	77	75	78	90	100	75	62	47	63	56	78	45	50	58	34	70	72	38	1,255		
7	Purkis, A. H. C. ....	71	78	72	69	80	90	66	52	39	39	68	84	40	50	87	49	87	64	56	1,241		
8	*Naylor, A. ....	90	70	72	81	100	100	73	75	47	50	54	72	40	45	53	40	65	54	42	1,223		
9	Seton, R. ....	72	72	64	72	70	92	77	60	35	48	41	60	55	45	65	43	89	62	50	1,172		
10	Foy, W. B. ....	79	78	62	85	70	90	62	45	66	50	21	56	45	75	65	41	75	...	33	1,098		
11	Hurley, P. J. ....	78	76	72	63	70	94	82	57	15	64	52	71	10	45	60	37	51	56	40	1,083		
12	Stening, F. S. ....	79	73	66	79	70	95	56	36	37	56	45	49	35	50	40	41	82	49	50	1,083		
13	Whysall, F. W. ....	66	57	62	67	85	80	59	39	10	44	58	68	55	50	33	52	86	49	64	1,084		
14	Cade, S. T. ....	85	67	71	75	60	95	56	20	34	46	37	40	30	45	65	38	80	57	59	1,060		
15	Gray, J. W. ....	79	61	56	77	...	93	49	14	34	31	17	36	5	45	40	41	56	38	30	802		
16	Newton, A. H. ....	78	50	53	66	20	93	52	41	10	28	16	21	25	30	35	38	60	58	...	774		
17	Hadfield, H. F. ....	78	58	71	77	...	93	60	43	34	13	10	43	10	45	20	14	56	47	...	772		
18	Makin, R. N. ....	76	...	70	...	...	99	66	33	25	...	...	44	...	...	43	...	...	51	...	507		

\* Diploma.

FIRST-YEAR STUDENTS, 1898.

Order of Merit.	Name.	Principles of Agriculture			Farm Diaries.	Chemistry.			English and Arithmetic	Botany.		Surveying and Mensuration	Conduct.	Total
		Practical Agriculture	Principles of Agriculture			Theoretical		Practical.		Sessional	Fortnightly			
			Sessional	Fortnightly		Sessional.	Fortnightly							
Class Averages		68	73	69	68	62	57	37	57	64	49	54	92	1,200
1	*Heane, E. ....	74	94	90	95	87	90	55	72	77	78	80	97	999
2	*Warburton, K. O. ....	71	94	91	85	82	87	56	63	86	75	83	94	987
3	*Weir, R. ....	83	92	89	80	69	78	50	64	69	72	75	100	931
4	George, H. E. ....	75	79	80	62	84	83	29	81	82	77	78	98	908
5	*Stevenson, E. H. ....	77	83	75	82	74	67	62	69	71	62	83	93	898
6	*Price, D. C. W. ....	71	87	91	77	80	73	56	50	80	67	37	99	858
7	*Joubert, A. ....	73	90	73	75	75	71	37	51	69	68	70	95	847
8	*Chapman, H. P. ....	79	73	85	85	74	86	44	50	61	54	51	98	840
9	*Haywood, A. H. ....	84	79	84	95	62	72	39	68	66	57	30	100	836
10	*Barrie, W. R. ....	71	94	84	65	82	70	41	52	77	54	46	100	836
11	Rigg, G. H. ....	76	83	86	90	59	85	21	69	60	60	46	96	831
12	*Allen, W. ....	63	85	80	60	71	78	33	65	66	48	85	96	830
13	*Peacock, G. L. ....	66	86	75	80	53	71	46	52	69	60	61	97	816
14	*Ford, G. ....	73	78	77	66	66	61	34	61	70	60	62	92	805
15	*Peterson, N. ....	73	83	80	75	68	69	15	50	65	59	71	96	804
16	*Haviland, C. V. ....	79	66	79	72	56	66	17	63	60	44	78	97	777
17	*Cockburn, J. ....	73	75	68	40	79	41	...	62	70	45	75	97	725
18	Wright, C. ....	67	56	62	74	72	53	45	38	72	44	30	98	711
19	*Gregg, D. ....	73	73	73	45	57	44	60	50	59	43	31	95	703
20	Wilkins, T. W. ....	71	61	70	67	56	54	...	52	72	50	48	97	698
21	Megatt, H. ....	69	66	60	60	46	49	...	58	53	41	...	90	592
22	Pepper, F. G. ....	78	48	59	70	39	33	20	31	55	46	8	95	582
23	McManus, V. ....	66	46	52	40	42	39	...	67	52	17	31	87	539
24	Hellicar, A. G. ....	66	48	57	63	28	34	7	51	39	38	...	89	520
25	Conolly, R. B. ....	42	41	56	55	29	35	...	34	32	32	6	75	437
26	Prior, F. M. ....	46	37	47	20	27	16	...	35	35	27	25	75	391
27	Smith, F. R. ....	69	...	67	64	...	36	...	...	...	42	...	91	369
28	Toohy, J. W. ....	64	...	60	...	...	53	...	...	...	36	...	100	313
29	Wilson, J. L. ....	72	...	59	...	...	47	...	...	...	37	...	92	307
30	Capp, E. ....	52	...	52	...	...	38	...	...	...	30	...	87	259
31	Mackay, R. ....	59	...	59	...	...	50	...	...	...	12	...	83	263
32	Alderson, P. ....	62	...	19	...	...	6	...	...	...	...	...	92	179
33	Burt, S. ....	22	...	32	...	...	...	...	...	...	35	...	31	120

~ First year certificate.

PRACTICAL STUDENTS, 1898.—FIRST YEAR.

Student.	Practical Agriculture	Farm Diaries.	Conduct	Total.
Class Averages . . . . .	54	60	87	300
Froome, J. ....	84	70	99	253
Houghton, R. W. ....	63	50	96	209
Douglas, B. ....	68	.....	100	168
Colquhoun, C. ....	63	.....	98	161
Henderson, H. ....	64	.....	94	158
Olive, E. C. ....	59	.....	98	157
Reeve, E. P. ....	56	.....	99	155
Spencer, R. H. ....	59	.....	94	153
Cliff, S. ....	56	.....	93	149
Pickburn, R. O. ....	52	.....	94	146
Gregory, P. H. ....	50	.....	94	144
Kevin, R. G. ....	54	.....	88	142
Payer, J. ....	48	.....	92	140
Cropper, H. ....	46	.....	92	138
Graves, R. ....	45	.....	74	119
Ramsay, E. C. W. ....	32	.....	58	90
Coady, H. G. ....	14	.....	20	34

SECOND-YEAR STUDENTS.

Name.	Practical Agriculture		Farm Diaries	Conduct	Total
	Sessional	College			
Class Averages . . . . .	74	75	64	95	400
Faviell, A. E. ....	76	69	72	96	313
Quayle, R. L. ....	75	74	56	92	297
Gibson, A. L. ....	70	81	.....	97	248



## DIPLOMA PAPERS, 1897.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Agriculture.—Diploma Students.*

Examiner: F. B. Kyngdon, M.R.A.C.

Three and a half hours allowed. Marks—100, being 10 to each question.

Introduction.—Answer each question in the order given. Begin an answer on a fresh sheet, and each section of an answer as a fresh paragraph.

- (a) By what means has "soil" been formed? (b) Classify soils. (c) Name the constituents of soils in order of value as plant-food. (d) What are the advantages of drainage? (e) What are the disadvantages of too much water applied by irrigation?
- (a) State briefly the general principles of manuring. (b) Name the commercial fertilisers obtainable in New South Wales, with their market price and percentage of dominant elements of plant-food. (c) For what crops are the fertilisers named by you most suitable, and in what quantities per acre should they be applied? (d) Name crops suitable for "green manures." (e) Describe the procedure of making "farmyard" manure, and of what manurial matter may a "compost" heap be formed.
- (a) What are the peculiarly adverse influences of the New South Wales seasons? (b) What steps should be taken to prevent the losses they occasion to (1) dairy farmers; (2) producers of wheat or other cereal crops?
- (a) Describe the position of maize in New South Wales agriculture, giving the chief centres of its production. (b) Name varieties most suitable for (1) ensilage; (2) maize, hay, or fodder-making; and for (3) corn. (c) Detail the cultivation of each of the two first methods, with cost of production per ton of silage or of maize fodder, that a crop estimated to go 50 bushels per acre would yield.
- (a) Enumerate the most suitable grasses, native and introduced, for the various soils and climatic conditions of New South Wales agriculture. (b) Show how a farmer can select seed for laying down native grasses. (c) Describe the treatment of rich Italian rye-grass pasture over a number of years, commencing with the sowing; quantity of seed per acre; first year's treatment; when to be shut up for a crop of hay; how grazed; how to take crops of grass-seed; number of years it can run; signs of deterioration; what crops to sow on breaking up worn out rye-grass pasture, preparatory to again laying down rye-grass for another term of years.
- Give a detailed list, with cost against each item, of the implements, rolling stock, and live stock necessary for a dairy farm of 200 acres in the Hawkesbury district, of which 30 acres are in rich pasture and lucerne, 70 acres are pasture of average quality, 50 acres are cultivated with various fodder and grain crops, 2 acres are the homestead, garden, fruit, and vegetables, the rest being a bush run for dry stock. The cultivated area is cropped half with maize, the rest with cereal hay. The milk is carted to a factory. (a) Implements of tillage. (b) Hand-tools. (c) Food-preparing plant. (d) Barn implements. (e) List of tools for effecting general repairs. (f) Waggon, carts, harness. (g) Plough-horses, light horses. (h) Cattle—cows in milk, springers, dry, heifers, yearlings, calves, bull. (i) Swine—boar, sows, stores. (k) Head of poultry.
- (a) Contrast a "beef" type with a "milch" type of cattle. (b) Name the various breeds of cattle represented in New South Wales, classifying them as to beef and milk. (c) State the country and district of their origin, with its climatic and general features, such as rich or poor, hill or flat land. (d) What is meant by early maturity, and how is it arrived at? (e) What causes prevail in New South Wales to bring about deterioration in the ordinary run of cattle?
- In breeding horses state (a) the duration of gestation; (b) treatment of mare prior to or during parturition; (c) weaning, feeding, and breaking-in of the foal; (d) procedure in castration. (e) Describe the features required in army remount horses, and the price on the farm at which their breeding would prove remunerative.
- In connection with foods and feeding, what do you understand by a "maintenance diet"? Explain "nitrogenous," "carbonaceous," and "mineral" elements of food. Name a class of food in which "fibre, digestible and indigestible," predominates. Upon what does the "assimilative" value of food depend, and compound a ration for a working plough-horse and a cow in milk?
- Write a description of wheat-growing in Western New South Wales. (a) Soil, climate. (b) Varieties to be sown, and where to be got. (c) Procedure of cultivation, with cost per acre of each operation of husbandry, seed, and harvesting. (d) Give the number of bushels to constitute a poor, an average, and a good yield. (e) What features within the last few years have characterised the expansion of the wheat industry in New South Wales?

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Chemistry.—Diploma Examination.*

- Give a short account of the different classes of micro-organisms affecting the fertility of soils.
- Describe the changes which farmyard manure undergoes during storage.
- Describe the preparation of fermented and of dissolved bones, and explain the difference between the resulting products.
- Distinguish between an organised and a soluble ferment. Give some examples of each.
- Compare nitrate of soda and sulphate of ammonia as manures. How many litres of ammonia gas can be obtained from 10 grammes pure sulphate of ammonia? (1 gm. hydrogen = 11.2 litre.)
- Describe the occurrence, composition, and properties of starch and gluten. How would you extract and separate them from wheat?
- What is an albumenoid? What elements are present in the bodies of this class? Distinguish between gluten, egg-albumin, and casein.
- Describe the preparation of oxalic acid, mention its principal properties, and state what happens when it is heated (1) alone, and (2) with sulphuric acid.
- Describe the preparation of diethyl ether and the chemical changes that occur in the continuous etherification process.
- How are the following substances prepared, and what are their chemical formulæ:—Cellulose, vegetable parchment, gun-cotton, artificial silk?

Department

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Physics.*

Examiner: Mr. S. H. Barraclough, B.E., M.M.E.

Time—Three hours. All questions are of the same value.

1. State Newton's three Laws of Motion. Explain carefully the meaning of any technical terms you may employ.
2. A stone is thrown horizontally from the top of a cliff 100 feet high, with a velocity of 30 feet per second. Find (a) how long it will be before it strikes the earth, (b) how far the point where it strikes the ground is from the foot of the cliff.  $g = 32$ .
3. Give a brief account of the doctrine of the conservation of energy, illustrating your remarks by reference to the College electric plant.
4. Describe exactly the steps you would take in order to determine the specific gravity of a sample of Portland cement.
5. A rectangular beam is 20 feet long, 12 inches wide, and 6 inches deep, and weighs 58 lb. to the cubic foot. It floats on the surface of some water; to what depth will it be immersed?
6. State Boyle's law. A diving bell 7 feet high and 5 feet in diameter is sunk until the pressure of the air inside it is 2 atmospheres. How far is the top of the bell below the surface of the water? Assume any necessary data.
7. What is meant by the term "coefficient of linear expansion"? A sheet of iron is exactly 5 feet long and 3 feet wide at 60° F. What will its area be at 100° F.? Given the coefficient of linear expansion of iron to be .0000067.  
Describe carefully the changes that take place in the *volume* of a certain mass of water as it changes from the state of ice at a temperature of 10° F. to that of steam at 212° F. Illustrate by a diagram, if possible.
9. What do you understand by the terms *unit of heat, specific heat, latent heat, conduction, convection, radiation*?

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Applied Mechanics.*

Examiner: Mr. S. H. Barraclough, B.E., M.M.E.

Time—Three hours. All questions are of the same value.

1. Explain the terms "energy," "work," "power." A shaft is 70 feet deep, and has a square section 6 feet each way. Find the amount of work done in emptying the shaft of water, supposing it to be quite full to begin with.
2. Describe precisely how the indicated horse-power of the College steam-engine could be determined. What is the probable *mechanical efficiency* of such an engine?
3. Sketch some form of hydraulic press. If a force of 10 lb. be applied at the end of the hand-lever, find the total force that can be exerted by the press, neglecting all frictional losses. Assume all necessary dimensions.
4. State the average ultimate tensile and compressive strengths of cast-iron, wrought-iron, and steel. Explain the term "temper" as applied to steel.
5. Define the terms "elasticity," "modulus of elasticity," "limit of elasticity." State Hook's law, and illustrate it by reference to practical examples.
6. What is Portland cement? Describe the tests you would apply in order to determine the quality of a particular sample of cement.
7. A vertical crane-post is 10 feet high, the jib 30 feet long, the stay 24 feet long. Find the stress in the jib and stay caused by lifting a load of 2½ tons. Sketch the winding-gear of such a crane.
8. Enumerate some of the more important Australian timbers, giving a short account of the constructive purposes to which each kind of timber is put.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Veterinary Science.*

By John Stewart, V.S.

Time allowed—Three hours.

Marks.

- 2 1. Describe the difference in the attachment of the fore and hind limbs to the body or trunk.
- 4 2. Name the joints and the parts forming them located at the stifle.
- 4 3. Name the joints and the parts forming them located at the fetlock of the horse.
- 4 4. Name the joints and the parts forming them located in the foot of the horse.
- 2 5. Name the organs contained in the *thoracic cavity*.
- 5 6. Name the organs contained in the abdominal and pelvic cavities of the *cow*.
- 5 7. Describe the circulation of the *heart*.
- 3 8. What effect has respiration on the *blood*?
- 4 9. Name the organs and structures which purify the blood.
- 10 10. Describe the appearance and qualities of sound, healthy flesh.
- 10 11. State symptoms and *post-mortem* appearance of pleuro-pneumonia.
- 10 12. State causation, symptoms, and *post-mortem* appearance of tuberculosis.
- 10 13. State causation, symptoms, and *post-mortem* appearance of anthrax.
- 10 14. Given a back-to-back presentation, with the two fore legs well projected, in what position may you expect to find the head, and how would you proceed to accomplish delivery in the mare or cow?
- 3 15. Before applying force to effect delivery, what must you be very careful to ascertain?
- 5 16. Describe the means used to *hand-rear* a one-day old foal.
- 5 17. State your treatment of lacerated wounds.
- 5 18. State the dose and the best purgative to administer to the horse, ox, sheep, and dog.

Maximum, 100; pass, 60; with credit, 80.

Department

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Book-keeping.—Examination for Diploma.*

Examiner: Alfred Armstrong.

Time allowed—Three hours. Marks, 100.

Journalise, enter in cash-book and ledger the following transactions. Draw up a trial balance profit and loss account and balance-sheet. All payments over £5 to be made by cheque, under that amount from petty cash:—

On the 31st December, 1896, Samuel Thompson commenced business with a capital of £3,000 in the City Bank. On the 1st January, 1897, he purchased the business with the assets and liabilities of Thomas Williams, for which he pays £2,000. The balance-sheet of Thomas Williams on the 31st December was as follows:—

			£	s.	d.				£	s.	d.
To Stock	...	...	500	0	0	By Union Bank	...	...	54	10	0
„ Crops	...	...	350	0	0	„ Bills payable	...	...	173	4	6
„ Plant	...	...	100	0	0	„ A. Thompson	...	...	27	10	6
„ Bills receivable	...	...	130	0	0	„ Capital	...	...	1,604	15	0
„ A. Jackson	...	...	450	0	0						
			<hr/>						<hr/>		
			£1,860	0	0				£1,860	0	0
			<hr/>						<hr/>		

January 2.—Sold to George King, sheep, valued at £45.

January 4.—Sold to F. Carey, horses, valued at £75.

January 6.—Drew cheque for petty cash, £30.

January 7.—Consigned to M'Kenzie & Co., of Adelaide, per s.s. "Rockton," to sell on my account and risk, stock valued at £200.

January 7.—Paid shipping charges on above, £30.

January 7.—Cash sales from dairy, £3 2s. 6d.

January 9.—Received from A. Jackson cheque for £250.

January 12.—M'Kenzie & Co. advise having effected sales for part of consignment ex s.s. "Rockton" for £95, and enclose their draft at sight for £70.

January 14.—Paid wages, £12 12s.

January 14.—Cash sales from dairy, £4 10s.

January 16.—Thomas Williams, acceptance to Arthur Thorne, paid this day by cheque, £174 3s. 6d.

January 17.—Sold to W. Langley, for bill at one month, 200 bushels maize, £20.

January 18.—Paid A. Thompson, by cheque, £27 10s. 6d.

January 19.—M'Kenzie & Co. advise they have sold the balance of consignment for £215, and enclose draft at sight for net proceeds after deducting their commission at 5 per cent.

January 20.—Received from P. Malone cheque on account, £130.

January 21.—Bought of F. Lassetter & Co., for cash, 1 cornsheller, £4.

January 21.—Cash sales from dairy, £4 12s. 6d.

January 23.—Sold to George King—4 calves at 12s. 6d., £2 10s.; 14 sucking pigs at 5s., £3 10s.—£6.

January 25.—Attended a meeting of P. Malone's creditors, and agreed to a composition of 5s. in the £.

January 27.—Paid Union Bank—T. Williams' overdraft, £54 10s.; interest charged, 9s.—£54 19s.

January 28.—Paid wages, £13 10s.

January 30.—S. Thompson drew for private use, £25.

January 30.—Received from P. Malone first and final dividend of 5s. in the £.

January 31.—Stock on hand valued at £240.

January 31.—Crops on hand valued at £335.

{ Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Entomology.*

Time—Three hours. Each question 10 marks.

1. Give a description of the hydro-cyanic acid process of fumigation, with its action upon insects. Describe any other form of fumigation for insect pests.
2. What foliage (other than pear-tree) does "Pear slug" (*Selandria cerasi*) attack? Give its life-history, and when it is most plentiful. Mention remedies for its destruction.
3. Give the names, with short account, of six common Australian insects that have deserted their native food-plants to attack cultivated or introduced ones.
4. Describe the "San Jose scale." Where did it originally come from? Name some of the trees attacked by it, and mention how you would detect its presence in an orchard.
5. What is the method for using arsenate of lead as an insecticide, and for what mixture can it be substituted? State the reason that causes kerosene emulsion to sometimes spot the foliage of plants. Why does Bordeaux mixture sometimes burn the foliage?
6. Describe the general appearance on the tree of "Olive or brown scale" (*Lecanium oleae*), "Mussel or apple scale" (*Mytilaspis pomorum*), "Red scale" (*Aspidiotus aurantii*), and "Mealy bug" (*Dactylopius adonidum*).
7. Describe the action of the different ingredients on the scale when sprayed with lime, sulphur, and salt wash. What is bisulphate of carbon used for? What pests are successfully treated with tobacco?
8. Give the names and brief description of six beneficial insects which feed upon scale and other pests.
9. What is the best method of destroying crickets and cockroaches; also plant-eating grasshoppers and locusts among the crops?
10. Give the life-history of the codling moth in Australia, with the most approved methods for its destruction; also the date of the first emergence of the moths in spring.

## FIRST-YEAR PAPERS, 1897.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Agriculture.—First year.*

Examiner: George Valder.

Time allowed—Three hours.

1. In selecting a site for a farm, how would you judge as to the value of the land?
2. Give full particulars of the methods employed and the machinery used in the cultivation of the following crops:—(a) Wheat; (b) Tobacco; (c) Cow-peas?
3. What are the best means of conserving and applying the following manures:—(a) Farnyard; (b) Bones?
4. Write a short report on the "Rotation of Crops."
5. Give full particulars regarding the best grasses (indigenous and introduced) that would be valuable for use in connection with the laying down of permanent pastures.
6. Describe the methods you would adopt in the conservation of water for the use of stock, and also how you would apply it to small areas for irrigating vegetables in dry districts.
7. Give full particulars of the cultivation of the following vegetables:—(a) Onions; (b) Potatoes.
8. State what are the best root crops to grow for stock, giving a few notes on the cultivation of the same.
9. What crops would you sow, and when would you sow them, in order to obtain a continuous supply of green fodder for milch cows in the Hawkesbury district?
10. Write a short report on the cultivation of medicinal and perfumery plants.

Department of Agriculture, New South Wales, Hawkesbury Agricultural College, December, 1897.

*Agricultural Chemistry—First Year.*

Examiner: Mr. E. Clarence-Wood, M.A., B.Sc. B.E., &c.

Three hours allowed. Chemical equations and diagrams must be given where necessary.

Marks.

- 11 1. Explain the chemical composition and physical properties of water. What are the chief impurities found in water in nature, and how do they affect its physical properties? How would you purify the water in each instance?
- 11 2. How is carbon-dioxide made? Describe its properties. Indicate its importance in agriculture.
- 11 3. Describe the preparation and properties of ammonia. Where and how is sulphate of ammonia obtained, and what is it used for? Do you know of any valuable applications of the physical properties of ammonia?
- 11 4. What will occur if you pour sulphuric acid upon common salt? Carefully describe the chemical and physical properties of the substance formed. Would the presence at the same time of black oxide of manganese have altered the result?
- 11 5. Describe "superphosphate of lime," and how it is made, including an account of the various raw materials that are used, and the qualities of the products severally resulting therefrom.
- 11 6. Compare Thomas' phosphate and bone-meal with superphosphate manure, quoting experiments in support of your views, and explaining carefully how you would proceed to detect the phosphoric acid in each case.
- 11 7. Give a succinct account of the relations of the calcium compounds to agriculture, &c. What is the nature of common mortar and of Portland cement? Explain the manner in which the "setting" of each occurs. Do you know of any similar chemical action that may occur in certain soils?
- 11 8. Explain how you would make the following dry tests:—
  - (1.) Flame colouration.
  - (2.) Borax bead test.
  - (3.) Reduction of metallic bead.
  - (4.) Film on cold porcelain.

Note as fully as you can all the results you should expect to obtain in applying dry tests for—Copper, arsenic, manganese, potassium, sodium, cobalt, iron, and lead.

- 12 9. Describe wet tests for the following:—
  - (a) Calcium in limestone.
  - (b) Potassium in wood ashes.
  - (c) Ammonium sulphocyanate in sulphate of ammonia.
  - (d) Lead in town water supply.
  - (e) Organic matter in water.
  - (f) The sulphuric acid in gypsum.
  - (g) The chloride in kainit.
  - (h) The nitric acid in nitrate of soda.

100

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

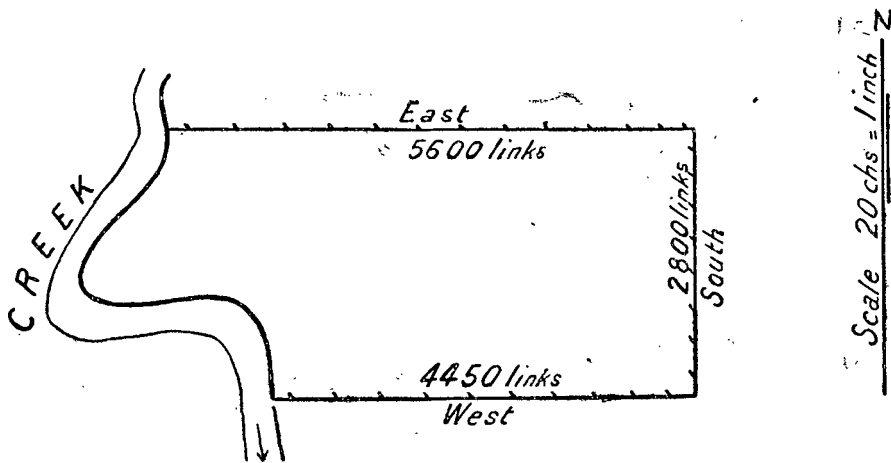
*Surveying and Mensuration.*

1. The following is a traverse or survey of the outside boundaries of a paddock. Draw a plan of the field to a scale of 20 feet to 1 inch:—

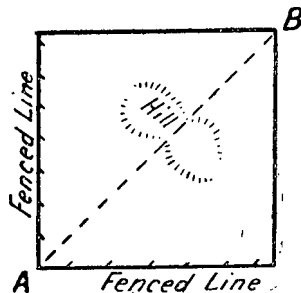
		Feet.
1	354° 30'	30
2	52° 30'	23
3	84° 35'	15
4	151° 30'	12
5	113° 30'	26
6	212° 0'	25
7	243° 0'	35
8	310° 0'	20

2.

2. Compile field-notes of a survey made with a prismatic compass and chain of a field (as per Diagram), and calculate area :—



3. Give dimensions of a rectangular field containing 40 acres, the sides being in the proportion of 3 to 2. Answer required in links and feet.
4. In a square field an orchardist wishes to plant a row of trees along a diagonal, AB, but cannot see from one corner to the other; how can he do it by the aid of a chain?



#### Levelling.

5. Compile a specimen set of field-notes representing twelve or more readings of the staff, and plot out a section from the notes to a scale of 10 feet to an inch vertical and 20 feet to an inch horizontal.

#### Mensuration.

6. The dimensions of a circular haystack are as follows :—Diameter of base, 15 feet; circumference at eave, 60 feet; height of eave, 12 feet; roof, conical, and 10 feet high. Find contents in cubic feet.
7. A tank is 20 feet x 40 feet at the surface of ground, and 6 feet deep, the batter of two sides and one end being  $1\frac{1}{2}$  horizontal to 1 vertical, and the batter of the other end being 4 horizontal to 1 vertical. Find quantity of excavation in cubic yards.
8. What is the weight of a stack of hay cube-shaped, the edge being 16 feet, and weight of a cubic foot 4 lb.-3 oz.?

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

#### Geology.

Examiner: J. E. Carne, F.G.S.

Three hours allowed.

1. Distinguish between *chemical* and *mechanical* denudation; give instances, and mention some of the agencies by which they are effected.
2. Name the constituents of the atmosphere, and explain their effect upon animal and vegetable life.
3. Briefly describe the origin of coal and limestone, and state the effect of their accumulation on the earlier atmosphere of the earth.
4. Explain the following terms :—*Unconformability, Oolitic, dip, strike, false-bedding, syncline, porphyritic, brecciated, faulted, pseudomorphic.*
5. Name the accompanying five rocks, and give their composition.
6. Name the accompanying five minerals, and give their composition.
7. Name the principal geological divisions of the stratified portion of the earth's crust, and mention two fossils characteristic of each division.
8. Define the origin of *sedentary, transported, and organic* soils, and state the most essential elements of fertility in soils.
9. Name and give the composition of five minerals of value for manurial purposes.
10. Name six of the most abundant elements of the earth's crust.

Department

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Botany.—Elementary and Economic.*

The value of each question is the same. Credit will always be given for intelligent diagrams illustrating an answer.

1. Explain the structure of a flower of Rosaceæ: likewise of a quince-fruit.
2. What are the functions of roots? Describe four types of roots. What do you mean by the "growing point" of a root-fibre?
3. What are epidermis, parenchyma, and fibro-vascular bundles? Show how these bundles are differently disposed in the two principal groups of plants.
4. Explain what is meant by rotation of crops. What are the principal considerations which should influence a farmer in regulating the order in which his crops should follow one another?
5. What are the objects of grafting? Explain the various methods of grafting known to you.
6. State what you know about the Darling pea and its effects on stock. What is the nature of the disease it induces?
7. Tell me what you know about the following weeds, and how would you cope with them:—Bathurst burr, Noogoora burr, Cape weed, Paddy's lucerne, and Lantana?
8. What is the difference between a gum and a resin? Describe an ideal gum-arabic. Name any Australian gums and resins of commercial value known to you.
9. Describe the appearance and cultivation of the Canaigre plant. What is sumach, and how is it prepared?
10. What do you know about osiers or *basket-willows*?

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*Vegetable Pathology.*

The value of each question is the same. Credit will always be given for intelligent diagrams illustrating an answer.

1. Describe the structure of the spray-pump in use at the College. What are the chief forms of spray-pump in use in this Colony?
2. How would you prepare Bordeaux mixture?
3. What are the principal fungous diseases affecting the peach, and how would you cope with them?
4. Give an account of the principal fungous pests to which the Citrus tribe is particularly liable to attack in this Colony, and state your mode of treatment in each case.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1897.

*English and Arithmetic.—First-year Students.*

Examiner: Chas. T. Musson, F.L.S.

Three hours allowed.

1. Describe clearly and briefly the various kinds of hoes you have seen in use.
  2. Show a proper use of the words *shall* and *will*, giving four sentences in each case.
  3. What is a synonym? Explain and give examples.
  4. Write an essay on "Climate" (not less than 30 lines nor more than 60).
  5. Find the cost of material for 200 gallons Bordeaux mixture, winter strength:—Lime, 2s. 9d. per cwt.; sulphate of copper, 22s. 6d. per cwt.; water, 1s. 6d. per 1,000 gallons.
  6. One side of a square paddock measures 182 yards 3 feet: Find the diagonal.
  7. Find the compound interest on £150 at  $3\frac{1}{4}\%$  for 2 years 7 months.
  8. The diameter of a wheel is 4 feet: How many revolutions will it make in travelling  $1\frac{1}{4}$  mile?
  9. Four men do a piece of work in 13 days of 10 hours; in how many days of 8 hours will 5 men do it?
- (Answers to 4 places of decimals. All work to be shown up.)

DIPLOMA PAPERS, 1898.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1898.

*Agriculture.—Diploma Students.*

Examiner: F. B. Kyngdon, M.R.A.C.

Three and a half hours allowed. Marks, 100.

Introduction.—Answer each question in the order given. Begin an answer on a fresh sheet, and each section of an answer as a fresh paragraph.

1. Write a paper on manures.
  - (1) Name the fertilisers generally available on an Australian farm, or that can be purchased in the Colony.
  - (2) Give percentage of nitrogen, phosphoric acid, and potash in five of the most useful fertilisers for general farming.
  - (3) State the special crops for which each of the three abovenamed dominant factors are most suited.
  - (4) How is farmyard manure best made; name the two general defects in its treatment.
  - (5) With what agent of inducing fertility can a soil be inoculated, and upon what does its action depend?
2.
  - (1) A deep sandy soil like that of the College farm has the drawback of a poverty of fertilising constituents, yet it has compensating virtues: Name them.
  - (2) Enumerate what particular crops will thrive best on such poor sand.
  - (3) What precautions are necessary in applying mineral fertilisers to very porous, sandy soil?
  - (4) Give percentage of sand and clay in a typical sandy soil, a soil of medium texture, and a stiff clay loam.
  - (5) How would you improve the texture of a heavy clay so as to make it more easy of cultivation?



- A spring bursting out half-way down a moderate hill-slope, yields a steady flow of 500 gallons per hour ; the problem is to determine the most economical appliance to raise water to a reservoir 80 feet higher up the hill so as to command a vegetable garden :
- (1) Name the various water-lifting appliances available in the Colony.
  - (2) Enumerate the motive powers that can be applied to lift water.
  - (3) Select the most economical one for this spring, remembering that only that 500 gallons per hour can be dealt with.
  - (4) If the reservoir holds 175,000 gallons, in how many hours will the apparatus you select fill it?
  - (5) Give an approximate estimate of the cost of this apparatus, with iron tubing to reservoir, so that it be in complete working order.
4. A crop of 10 acres of potatoes is grown in an average season on fair land, with a good yield : Give the following particulars :—
- (1) Sequence of operations in preparing laud for planting, with cost of each operation per acre.
  - (2) Preparation of sets for planting, the operations of planting and completing the seed-bed, with costs of each item per acre.
  - (3) Operations of cultivation till crop is ripe, with detailed cost per acre.
  - (4) Method of lifting the crop, yield, grading, cleaning, and bagging of whole 10 acres.
  - (5) Prepare a balance-sheet for the 10 acres, placing to credit at current Sydney prices the potatoes marketed, and allow value for the small potatoes kept for farm use. On debit side, carry out the cost of production as detailed in questions Nos. 1, 2, 3, 4, and adding, to cover rent, taxes, and deterioration,  $12\frac{1}{2}$  per cent. on the capital of £15 per acre invested in the farm. Show the profit or loss on the 10 acres.
5. Describe dairy-farm management with 80 cows actually in milk :
- (1) Your ideal farm ; locality, area, proportion of river-flat, hill-side, and cultivation land.
  - (2) Approximate cost of buildings, bails, sheds, shelters, and yards for this farm.
  - (3) The breeds you prefer, with number of bulls, milkers, springers, drys, and head of young stock.
  - (4) The total milk yield per annum of this farm.
  - (5) Your profit, when all outgoings are paid.
6. You farm 3,000 acres of good holding in the Central Division of the Colony, and combine wheat-culture with the production of fat crossbred sheep for export :
- (1) Enumerate your farm horses and implements necessary to put in work, harvest, and deliver to rail the crop off 500 acres under wheat.
  - (2) Name varieties of wheat you would grow for grain and fodder, with reasons.
  - (3) What type of crossbred sheep would you prefer ? Would you breed or buy ?
  - (4) If breed, what number of breeding ewes would you require to supply the annual output of fat sheep ? Estimate how many fats would be turned yearly, taking into consideration the wheat stubbles and specially-grown crops.
  - (5) The wheat land would need a rest : How many consecutive seasons would you crop the same land with wheat, and what would your rest-crops be, before wheat came round again ?
7. You keep 100 head of laying hens :
- (1) How many eggs per annum would you expect if one-half be laying breeds and the rest a good all-round fowl ?
  - (2) Name breeds you would keep ?
  - (3) State your opinions as to cross-breeding in reference to egg-production and to an export bird.
  - (4) How would you manage to get data as to the egg-record of each hen ?
  - (5) Describe the rapid raising of ducks for table, mentioning breed, nature of food, and diseases to be feared.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1898.

*Sheep and Wool.*

Examiner : A. Hawkesworth.

Time allowed—Three hours.

1. What is wool ?
2. What is combing wool ? What is the difference between combing and clothing wool ?
3. What breed of sheep produces the finest wool, and what the coarsest ?
4. What do we mean by the following terms :—
  - (a) A staple of wool ?
  - (b) Lustre in wool ?
  - (c) Crossbred wool ?
  - (d) Shafty wool ?
5. How do you tell the age of a 2-year, 3-year, and 5-year old sheep ?
6. What are the main objects to be observed in :—
  - (a) Breeding ?
  - (b) Shearing ?
7. Having a swampy, cold country, what kind of sheep would you keep ? Give your reasons.
8. What kind of land would you select for Lincoln sheep ?
9. For early maturity, what two English breeds would you select for crossing with the merino ?
10. What crosses would you select for exporting ?
11. About what weight for a dressed sheep is required for the English market ?
12. About what age would you cut and mark lambs ?
13. How many ewes would you put to a ram ?
14. What is the best time of the year for lambing ?
15. What effect has dipping upon sheep and wool ? How much mixed dip does it take for a sheep ?

Department

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1898.

*Chemistry.—Diploma Examination.*

1. Describe the preparation and principal properties of chlorine.
2. Describe two ways of preparing ferrous sulphate, and write the equations representing them. By what qualitative tests would you prove its composition?
3. Given 10 litres of oxygen at 0°C. and 760 mm. pressure; calculate its volume at 15°C and 710 mm. pressure. What is the weight of this quantity? (1 litre hydrogen = 0.0896 gm.)
4. What volume of gas at normal temperature and pressure will be obtained by decomposing 10 grams pure calcium carbonate with hydrochloric acid?
5. What are the principal wet and dry reactions for zinc?
6. The following reagents are added separately to a solution of copper sulphate:—Potassium hydrate, barium nitrate, ammonium sulphide: Describe what happens in each case, and represent the changes by equations.
7. Explain why gypsum (calcium sulphate) is specially adapted for application to clover crops.
8. Describe the chemical and mechanical changes produced by burning clay soils.
9. Explain why, in general, granite soils are poor, and soils of trap origin are fertile.
10. Describe the functions of food in the growth of an animal, and classify the different kinds of food.

*Practical Chemistry.*

Three simple salts are supplied for analysis. The student is required to find the base and the acid in each, and to describe the tests that establish the results arrived at.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1898.

*Applied Mechanics and Heat.*

Examiner: S. Henry Barraclough.

Not more than nine questions to be attempted.

1. What do you understand by the terms "Acceleration," "Force," "Momentum," "Work," "Power," "Inertia," "Moment of a force?"
2. Prove from Newton's Second Law of Motion that the kinetic energy of a body of mass  $M$  moving in a straight line with a uniform velocity of  $V$  units per second is  $\frac{1}{2} M V^2$ .
3. Explain the term "centre of gravity of a body." How would you determine experimentally the centre of gravity of a three-legged stool? Give examples of stable, unstable, and neutral equilibrium.
4. The section of a stream is 12 square feet, the average velocity of the water is 2 feet per second; there is an available fall of 25 feet; what is the horse-power available; A turbine placed at the bottom of the fall drives a dynamo which sends electric power to a motor at a distance. The efficiency of the turbine is 70 per cent.; of the dynamo, 87 per cent.; 10 per cent. of the energy from the dynamo is wasted in transmission, and the efficiency of the motor is 72 per cent. How much power is given out by the motor?
5. Make a neat sketch of some form of the Bramah press.
6. Explain clearly the principle of Weston's differential pulley-block.
7. Define the terms "density" and "specific gravity." A rectangular punt is 12 feet long, 6 feet wide, and 2 feet deep, and is observed when empty to float with 9 inches out of the water. Find the weight of the punt.
8. Why is it necessary to have compensated pendulums in clocks and compensated balance-wheels in watches? Describe some form of compensated pendulum or balance-wheel.
9. Write a short essay on "The mechanical equivalent of heat."
10. How is it that on a cold day a piece of iron feels much colder than an adjoining piece of wood?
11. Describe the phenomena which occur when water is heated in an open vessel. On what circumstances does the temperature at which water boils depend?

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, 1898.

*Entomology.—Diploma Examinations.*

Students may answer any 10 of the 12 questions. Time allowed—Three hours. Each question 10 marks.

1. Give the scientific name of the pear mite; where does it live in winter? Give a general account of its habits, and the remedies for its destruction.
2. Explain the best method of mixing Bordeaux mixture: give formula. Name the six diseases for which it could be used.
3. Give a brief description of the chief pests which attack the orange-tree.
4. Mention an effective remedy for each of the following pests:—Peach aphid, red scale, cut worms, pear slug, Rutherglen bug, and crickets.
5. Why does the Agricultural Department inspect all fruit and plants coming into the Colony? What precautions do exporters take when sending oranges to other colonies?
6. Give the life-history of the codlin moth. What fruits does it attack? How does it spread from place to place, and what methods would you take to destroy it?
7. Give examples of three different forms of insect mouths, and describe the different manner in which they feed.
8. What kind of day would you choose to spray a tree with Paris green? When would you use lime, salt, and sulphur mixture? Under what conditions could pure kerosene be used to spray a tree without killing it?
9. What is meant by the metamorphosis of an insect? Give a brief account of the metamorphoses of a grasshopper and a butterfly.
10. Give an account of the effects of San Jose scale in an orchard. How would you recognise it on an apple, and what means would you take to check it?
11. Define "Friendly" insects. Give examples of six belonging to different orders of insects?
12. What are the chief points of difference between a locust, a grasshopper, and a cicada? On what do they feed?

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College, December, 1898.

*Book-keeping.—Examination for Diploma.*

Examiner: Alfred Armstrong.

Time allowed—Three hours and a half. Marks, 100.

Enter in cash-book, journal, and ledger the transactions as stated below, making the closing entries, and draw up a "Trial Balance," "Profit and Loss Account," and "Balance-sheet."

William Morris and James Archer carry on business as farmers in partnership, having £1,430 16s. 8d. and £1,230 10s. respectively standing to their credit in capital account on January 1, 1898.

Partners' capital and drawings are to be subject to interest at the rate of 5 per cent. per annum, and the net profits or losses to be equally divided.

The following is a statement of their affairs at the beginning of, and their transactions during the month of, January :—

	£	s.	d.
Cash in hand ... ..	35	0	0
Cash in Union Bank ... ..	1,245	10	0
Implements and machinery ... ..	500	0	0
Crops at valuation ... ..	450	0	0
Stock at valuation ... ..	675	0	0
Sundry debtors—			
E. Lyle ... ..	180	0	0
J. Ashton ... ..	133	12	6
W. Malone ... ..	245	0	0
R. Glendon ... ..	173	7	6
	<hr/>		
		732	0 0
Bills receivable—			
No. 12—H. Reiman, due 20th January ... ..	150	0	0
No. 13—W. Roberts, due 24th February ... ..	75	0	0
	<hr/>		
		225	0 0
At the same time their liabilities consisted of—			
Amount due to Horton & Co. ... ..	75	10	0
"    "    Anderson & Co. ... ..	116	0	0
"    "    J. Martin & Co. ... ..	226	0	0
	<hr/>		
		417	10 0
Bills payable—			
No. 23—W. Inglis & Co., due 16th January ... ..	400	0	0
No. 24—F. Lassetter & Co., due 4th February ... ..	253	13	4
	<hr/>		
		653	13 4
Amount due to Arnold & Co., lent at 6 per cent. per annum, payable quarterly..		130	0 0
Jan. 2. Sold to H. Price for bill at two months—			
150 bushels barley, @ 2s. 6d. ... ..	18	15	0
150 "    oats, @ 2s. 3d. ... ..	16	17	6
	<hr/>		
		35	12 6
4. Received from F. Ashton, cheque ... ..		130	0 0
Discount allowed ... ..		3	12 6
6. Paid by cash—Wages ... ..		15	12 6
Cash sales of butter and eggs ... ..		5	5 0
8. Sold to A. Barker—			
10 pigs, @ 30s. ... ..	15	0	0
25 cows, @ 70s. ... ..	87	10	0
20 bushels corn, @ 2s. 6d. ... ..	2	10	0
	<hr/>		
		105	0 0
12. William Morris drew for private use ... ..		25	0 0
13. Cash sales of butter, &c. ... ..		6	0 0
16. Paid at Bank, W. Inglis & Co.'s p.n. due this day ... ..		400	0 0
18. Lodged with Bank for collection, H. Reiman's bill, due 20th inst. ... ..		150	0 0
20. Paid wages by cheque ... ..		17	10 0
Cash sales for week ... ..		5	17 6
H. Reiman's bill returned by Bank dishonored, with noting charges, 2s. 6d. ... ..		150	2 6
22. Shipped on board the s.s. "Arawatta," and consigned to McEwen & Co. of Melbourne, to be sold on our account and risk—			
500 bushels of wheat, at 3s. ... ..	75	0	0
200 "    barley, at 2s. 6d. ... ..	30	0	0
150 "    oats, at 2s. 3d. ... ..	16	17	6
	<hr/>		
		121	17 9
Paid freight and insurance on above ... ..		10	10 0
23. Cash withdrawn by James Archer ... ..		50	0 0
Petty expenses paid by cash ... ..		3	2 6
Sold to W. Malone—			
4 tons hay, at £3 10s. ... ..	14	0	0
5 "    chaff, at £4 ... ..	20	0	0
	<hr/>		
		34	0 0
Drew on him at 2 months for ... ..	250	0	0
And received cash ... ..	26	13	4
Discount allowed ... ..	2	6	8
	<hr/>		
		279	0 0

	£	s.	d.
24. Received from H. Reiman in lieu of dishonored bill, cheque for ...	150	2	6
25. McEwen & Co. advise having sold consignment ex "Arawatta" for And after deducting their commission; at 5 per cent., enclose draft at seven days' sight for net proceeds.	175	0	0
Paid into bank ... ..	120	0	0
27. Discounted at Bank, W. Roberts' promissory note, due 24th February	75	0	0
Discount charged ... ..	1	5	0
Paid wages by cash ... ..	8	2	6
Cash sales of butter and eggs ... ..	6	10	0
28. Paid by cash for stationery and stamps...	1	15	0
30. Received first and final dividend of 13s. 4d. in the £ from the estate of R. Glendon ... ..			
31. Interest on William Morris's capital ... ..	0	12	7
" " James Archer's " ... ..	0	10	10
" " William Morris's drawing ... ..	0	1	4
" " James Archer's " ... ..	0	1	1
Interest accrued on Arnold & Co.'s loan ... ..	0	13	0
Depreciation on implements and machinery ... ..	2	10	0
Valuations—			
	£	s.	d.
Stock ... ..	600	0	0
Crop ... ..	300	0	0

Dear Sir,

Spring Hill, 19 December, 1898.

I have the honor to append herewith the result of my examination of the twenty students in Practical Agriculture. The report, I think, will speak for itself, which to me is very satisfactory. I beg to tender my very best thanks to yourself and all the officers over the various branches of work for their courtesy and kindly assistance rendered during the examination.

With best wishes to yourself personally, and to all your assistants,

I remain, &c.,

THOS. C. WORBOYS.

To the Principal, Hawkesbury Agricultural College, Richmond.

On December 15 I commenced the examination of the twenty students which came up for examination in Practical Agriculture numbering 1 to 17 and 50, 51, and 52, the examination lasting three days. It gives me great pleasure to report:—

First.—The conduct of the students throughout the examination was all that could be desired, although the work expected from them was very trying, especially that part in working horses, both in ploughing, mowing, hay-raking, carting, &c., not a bad word was used from any of them.

Secondly.—The work performed by the whole of the students was very satisfactory throughout, showing great improvement since last year, owing no doubt to the increased area being under cultivation which allows the students to have more practical work. I was pleased to see a much larger increased number of stock, such as horses, sheep, pigs, &c., which I consider very necessary, in order to give the students a proper training in the management of farm stock. I was very glad to see that a start has been made in the right direction with stock, namely, the breeding, rearing, and fattening for the use of the College, &c., and also the breeding for stud purposes, which is a splendid example for the students, and gives them a thorough practical training in this branch of farm stock. I was also pleased to see such a general improvement in the appearance of the farm all round. In addition to the large hay-shed full of hay, I noticed six stacks of wheat, barley, and oats, and, considering the season, I think it turned out very well. The maize and other fodder crops are looking well, which is a strong evidence of good cultivation, as the season is a very trying one. The students all round seemed to take a deep interest in all branches of their work, and answered all questions very readily, besides taking every opportunity to obtain information from me with regard to settling on the land, and inquiring for the best localities for certain branches of farm work. The work of the students was very even in character, as will be seen by the marks awarded. In some cases it was very difficult to decide which was the best workman, the whole of the students doing very good work, and only varying a very trifle—the highest obtaining 82 and the lowest 70 marks.

THOS. C. WORBOYS,

Examiner.

Department of Agriculture,

Sydney, 20 December, 1898.

Sir,

It affords me the greatest pleasure to have to report on the improvement in the work of the students this year in every branch of orchard work, and in the readiness and intelligence of the replies to questions, and also in the method with which the practical part of the work was carried out.

I put the eighteen students through a severe test, the examination lasting three days; and those students who made eighty or more marks out of a possible 100, did very good work indeed.

In grafting, budding, and summer pruning the work was neatly and well done. In team work, comprising cultivation, ploughing, and single horse work, harnessing horses, &c., everything was carefully and well done, and with due expedition. The conduct of the students during examination was everything that could be desired, and the results reflect great credit on the Principal, and also on Mr. Alford, the orchardist, who has done his best to teach students the practical part of the work.

I have, &c.,

W. J. ALLEN.

Geo. Valder, Esq., Principal H. A. College, Richmond.

Department

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College.—December, 1898.

*Agriculture.—First year.*

Examiner: Mr. George Valder.

Time allowed—Three hours.

1. What are the physical properties of the following soils:—Sandy, clay, and those containing a heavy percentage of humus?
2. Describe the method of laying a tile drain?
3. What is the action of lime on different soils? For what crops is it most beneficial?
4. Why do we fallow land?
5. Name the principal nitrogenous fertilisers, and state from what sources they are obtained.
6. Describe the systems adopted for the improvement of cereal crops.
7. Which soils are generally found the most suitable for irrigation purposes in this Colony?
8. What is the effect of deep cultivation?
9. Mention some of the chief exotic grasses, and state in what districts of the Colony they can be successfully grown.
10. Describe fully the cultivation of the following crops:—
  - a. Maize.
  - b. Sugar Beet.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College.—December, 1898.

*Practical Chemistry.—First Year.*

Examiner: Mr. E. Clarence-Wood, M.A., B.Sc. B.E., &c.

Three hours allowed.

You must describe fully all the experimental work from which your conclusions are drawn. Preliminary examinations should always be confirmed.

Marks.

- |    |   |
|----|---|
| 15 | 1. Examine the substance ( <i>A</i> ) for one acid and one base.                                      |
| 15 | 2. Examine the substance ( <i>B</i> ) for one acid and one base.                                      |
| 15 | 3. Show the difference in the substances ( <i>C</i> ) and ( <i>D</i> ).                               |
| 20 | 4. Examine the phosphatic manures ( <i>E</i> ) and ( <i>F</i> ), and compare their actions in a soil. |
| 15 | 5. What is the nature of the manure ( <i>G</i> )?   |
| 20 | 6. What manurial substances are contained in the sample ( <i>H</i> )?                                 |

100

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College.—December, 1898.

*Agricultural Chemistry.—First Year.*

Examiner: Mr. E. Clarence-Wood, M.A., B.Sc., B.E., &c.

Three hours allowed.—Diagrams and chemical equations must be copiously supplied.

Marks.

- |     |   |
|-----|---|
| 12  | 1. Explain what is meant by chemical action, and the statement that matter is indestructible. Cite experiments in illustration of your remarks.   |
| 12  | 2. Describe the preparation, properties, &c., of oxygen.  |
| 12  | 3. What is sulphate of ammonia used for in agriculture? Where do our supplies come from, and how is it manufactured?  |
| 12. | 4. Write an account of carbonic acid. How is it concerned in the chemistry of agriculture? Name several carbonate minerals.   |
| 20  | 5. How is superphosphate of lime made? Mention various raw materials used in the manufacture, and point out their respective merits or demerits as influencing the quality of the manure.   |
| 20  | 6. Mention various substances having a manurial value for potash. In what classes of soils would you expect potash to be abundant? State why. Write an account of the distribution of potassium in Nature. What percentage of potassium sulphate would be equivalent to 20 per cent. of potassium chloride in a manure? |
| 12  | 7. Explain the chemical nature of the following:—Glass, brass, gun-metal, felspar, quartz, hæmatite, steel, Paris green, Condyl's fluid, humus, sal-ammoniac, iron pyrites, gypsum, copperas, and kaolin.   |

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Department of Agriculture, New South Wales, Hawkesbury Agricultural College.—December, 1898.

*Mensuration and Surveying.*

Examiner: S. R. Dobbie.

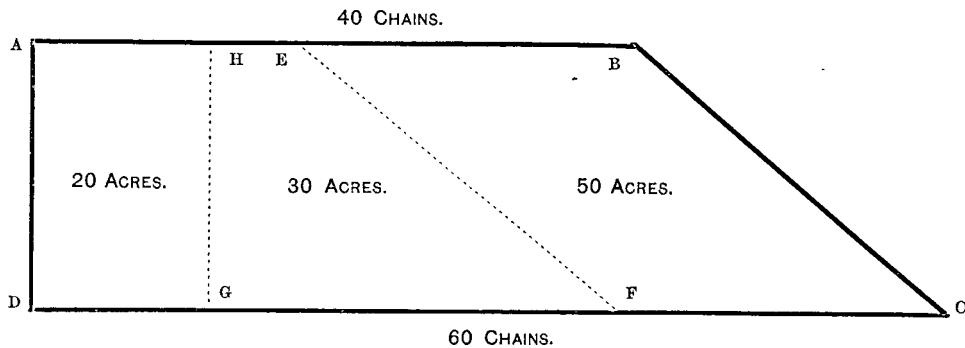
Mensuration.

1. An iron tank, 4 ft. x 4 ft. x 5 ft. is full of water: How many gallons are there in it, and what is the weight of the water?
2. A tank is 50 ft. x 25 ft. at the surface of ground, and 8 feet deep; the batter of two sides and one end being 1 horizontal to 1 vertical, and the batter of the other end being 4 horizontal to 1 vertical: Find quantity of excavation in cubic yards?
3. Calculate the number of cubic feet in a haystack with gable roof, dimensions being 20 ft. x 10 ft. at base, 20 ft. x 14 ft. at eave, height of eave 10 ft., and height of gable 5 ft.
4. In an orangery of 500 trees it is proposed to top-dress each tree with loam 6 inches deep for a radius of 5 feet from trunk: How many cubic yards of loam are required?

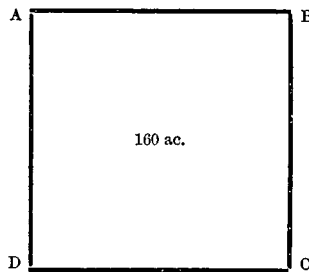
Surveying.

## Surveying.

1. A, B, C, D, is a farm of 100 acres, and in shape is a trapezoid. The farmer wishes to divide it into 3 paddocks of 20, 30, and 50 acres respectively. Find dimensions of paddocks from data given. H G is parallel to A D, and E F is parallel to B C.



2. A, B, C, D is a square paddock containing 160 acres. Corner A is 30 chains higher than corners B, C, and D. What length of fencing would be required to enclose the land?



3. It is proposed to lay out 3 ac. 3 rds.  $19\frac{1}{2}$  per. of land as an orchard. The trees are to be 25 feet apart, and the shape of the land is rectangular, the sides being in the proportion of 2 to 1: How many trees will be required, the rows being parallel to and distant 25 ft. from the sides?

## Levelling.

COMPILE field-notes of a section of levels comprising at least ten readings of the staff, and plot the section, giving the grade from end to end.

Department of Agriculture, New South Wales.—Hawkesbury Agricultural College.—December, 1898.

*Botany and Vegetable Pathology.*

The value of each question is the same. Credit will always be given for intelligent diagrams, illustrating an answer.

1. Give a full account of the functions of roots.
2. What is a seed? What do you mean by exospermous and endospermous seeds? Name any commercial "seeds" that are really fruits, and give a reason for your answer.
3. Describe the process of germination of a pea.
4. Give an account of the life-history of the maize-plant. State what are the conditions most favourable to its development.
5. What do you mean by hybridisation? How would you set about the process, choosing any kind of plant you like? Give some account of practical advantages of the process to the farmer.
6. Give an account of the chemical properties and microscopical characters of starch. How would you set about making it from potatoes or maize?
7. Compare and contrast the characters of the Leguminosæ, Viniferæ, and Graminacæ.
8. A damaged leaf is brought to you, and you cannot tell at first sight whether the injury is to be attributed to fungi or insects. Explain (with the aid of drawings) how you would set the matter at rest.
9. Give a full account of any fungus disease affecting maize, and state how you would combat it.
10. What are the fungus diseases affecting any part of an apple-tree? Give an account of any one of them.



Department of Agriculture, New South Wales.—Hawkesbury Agricultural College.—December, 1898.

*English and Arithmetic.—First-year Students.*

Three hours allowed.

1. Write a letter to an insurance office, giving full particulars as to effecting an insurance on certain farm buildings.
2. Explain the meaning of—Forecast, renovate, instigate, progressive, tangible, obligatory, indurated, diagnosis, consolidate, appellation, adventitious.
3. Write an essay on "Fruit Growing." Not more than 60 lines.
4. Give the meaning of a "A cord of wood," "One point of rain." Give the weight of 1 cubic foot of water. What is meant by the statement, "That milk tests 4.1 for butter fat"?
5. A rectangular paddock measures—diagonal, 820 feet; end, 350 feet: Find its value, at £7 18s. 6d. per acre.
6. If 13 men can do a piece of work in 21 days, working 8 hours a day, how many hours a day would 19 men, working 16 days, have to work to do it?
7. Find the compound interest on £371 for 5 years, at  $3\frac{3}{4}\%$ .
8. Find the square root of 11111111 (5 places of decimals).
9. Find the cost of ploughing 171 ac. 3 r. 13 p., at  $3/8\frac{1}{2}$  per acre.

Memo from the Director to G. Valder, Esq., Principal Hawkesbury Agricultural College,  
Richmond.

Botanic Gardens, Sydney, 2 January, 1899.

THE examination paper in Botany and Vegetable Pathology was, in my opinion, a little less difficult than any of the preceding papers I have set College students. At the same time, I do not hesitate to say that the quality of the answers was much more satisfactory than at any previous examination. I am pleased, not only with the high standard reached by many of the students, but also with the more even quality of the papers. It seems to me that the students, as a body, are more uniformly paying attention to the teaching they receive in Botany and Vegetable Pathology.

Yours, &c.,  
J. H. MAIDEN.

### Report of the Chemist.

1 January, 1899.

I HAVE the honour to submit herewith a condensed report of the work done in the Chemical Laboratory of the Department during the year ending December 31st, 1898.

The routine analytical work includes:—

Soils .....	86
Fertilizers.....	130
Waters .....	22
Wheats and flours .....	118
Miscellaneous .....	95

Under "Miscellaneous" is included analyses of all kinds of agricultural products, such as beet-roots, milk, butter, fodders and fodder-plants, ensilage, honey, preservatives and insecticides, tobacco, &c., &c.

There is in addition a large amount of unrecorded work, such as replies to inquiries, personal interviews and advice, analyses and investigations for other officers of the Department, &c.

The number of official papers dealt with during the year was 589.

#### *Soil Analysis.*

As in previous years, analyses of soils are made for farmers who forward samples taken in accordance with directions. In forwarding the result of the analysis a report is furnished explaining technicalities, and advising, as far as possible, as to the best treatment for the crops it is intended to grow, suggesting appropriate manuring, and replying to any special points on which information is required.

In addition to the estimation of the chemical ingredients and their availability, special attention is directed to determine those physical characteristics which directly influence the soil's fertility, such as the capillary power, absorptive power for water and salts, &c.

In future I hope to be able to add to these the determination of the power of promoting nitrification, thus furnishing what is, in my opinion, the most important indication of the fertility or non-fertility of the soil.

On account of the large area from which these soils are obtained, a much greater number will have to be examined before we are able to speak definitely as to the characteristics of the soils of New South Wales. A commencement has been made with the soils obtained in County Cumberland and the neighbourhood of Sydney, and the results published, together with an explanatory map, in the *Agricultural Gazette*. The results point unmistakably to the fact that the Cumberland soils are poorly supplied with plant-food compared with soils under cultivation in other parts of the world, being notably deficient

in lime and mineral plant-food, and to the advantage to be derived by the application of lime and more thorough methods of cultivation in order to increase and maintain their fertility. I hope very shortly to be able to discuss the soils from County Cook in the same way, and thus in time include the whole of the Colony.

The examination of soils occupies a considerable amount of time, as each examination involves fourteen or fifteen distinct determinations, and the time of one of our staff (Mr. Barker) is almost exclusively taken up with this work.

#### *Fertilizer Analysis.*

Analyses of fertilizers are performed gratis for farmers, and on payment of a small fee for manure agents and buyers.

There is, consequently, no excuse for a farmer who allows himself to be deceived by the appearance of a manure, as by forwarding a sample to the Department he can always have an analysis made without cost, and can easily protect himself in this way from purchasing inferior articles.

A list of the principal fertilizers purchasable in Sydney, showing their composition as determined by analysis, is issued by the Department, and revised each year. All manures appearing in this list have been sampled by officers of the Department and analysed in the laboratory, and every care is taken that only reliable firms and vendors are represented.

#### *Fertilizers Bill.*

A short time ago you instructed me to draw up the draft of a bill to regulate the sale of fertilizers in New South Wales. Such a bill is in force in the other colonies, and is found to ensure protection to the farmer in the purchase of manures. I have carefully compared the bills in force in the neighbouring colonies, and have drawn up a set of regulations which, I think, will suit our requirements. This draft has been submitted to you, and is now in the Minister's hands. The usefulness of such a bill in protecting the farmer from unscrupulous dealers will be very great, and I trust that the bill will soon become law, making it penal to offer for sale any manure without a statement as to its composition as determined by analysis.

#### *Wheat Testing.*

The work already done in this connection, of which I had the honour to lay before you a short sketch in my last annual report, has been continued on a more extensive scale than heretofore. The rollers, hitherto driven by hand, have now been attached to a machine which is driven by a small water-motor, thus enabling a considerably larger number of wheats to be examined than formerly. A description of this mill, and the work claimed for it, appeared in the *Agricultural Gazette* for July.

Since it has been erected, it has been kept almost constantly at work till the end of the year, and it is being largely availed of by practical millers who desire information as to the probable behaviour of samples of wheat with which they are unfamiliar, as well as by farmers, and as a means of awarding prizes to wheats competing at shows.

I am glad to be able to report that this branch of work, which was commenced in a small way, and in the nature of an untried experiment, has passed the experimental stage.

The results obtained are recognised as being reliable by all millers, who have seen the machine at work, and we have been able, on several occasions, to furnish millers with information which enabled them to decide upon the desirability of purchasing costly appliances or of otherwise modifying their methods.

I am further pleased to be able to report that the operations of the testing-mill have obtained considerable recognition outside the Colony, and have everywhere received favourable comment. The desirability of erecting similar testing-mills has been urged upon the Governments of the other colonies by millers and others who have seen this one in operation, and inquiries have been made of our Department by the Agricultural Departments of Victoria, South Australia, and Queensland as to the fitting-up of such a mill; so that it is only a question of time for this method of testing wheat to become universal throughout Australia.

#### *Corn Trade Section, Chamber of Commerce.*

In connection with this work, the Minister nominated me in conjunction with Mr. Valder as a member of the above body.

The work performed by this section has been of a preliminary nature. A circular letter has been drafted inviting farmers, through the local Agricultural Societies, to furnish samples of grain grown in their district, with the object of establishing a fair average quality standard as a basis for exporting. It will be possible to furnish with each average sample so obtained a certificate as to its milling qualities.

In connection with this matter, I found that no official method was recognised for ascertaining the weight per bushel of wheat in any of the Australian colonies. As it is of great importance in view of the contemplated action of the Chamber of Commerce, that some uniform method be adopted for fixing the standard, I am giving this matter attention, and am examining the methods adopted in wheat-buying countries, with the object of laying before the Chamber of Commerce the details of a scheme which, if it meets with their approval, may be submitted for adoption by the other colonies, so as to ensure a uniform standard throughout Australia. In this I am working in conjunction with Mr. Evans, Government Inspector of Weights and Measures, and propose that when the details of the method are finally decided on, the necessary apparatus and appliances for taking the standard shall be lodged in the office of Weights and Measures, so that all similar apparatus may be tested against these standards, and certified by Mr. Evans.

#### *Fumigation of Fruit.*

Owing to the reciprocal action of the Governments of the different colonies in prohibiting the introduction of fruit infested with scale within their border, inquiries were made into the efficacy of different methods of treating such fruit, with the object of destroying the vitality of the scale without injury to the market value of the cargo. Under your instructions, I conducted a series of experiments, with the object of testing the efficacy of fumigation with hydrocyanic acid in this direction.

The

The result was to show that such treatment effectually destroyed the scale without in any way injuring the appearance of the fruit, and that by taking proper precautions there was absolutely no danger to be apprehended that the fruit would be injurious to health if eaten.

I suggested that, if private shippers were allowed to erect fumigating chambers, they should be obliged to follow certain instructions as to their construction and method of fumigating, and have visited several such chambers in Sydney and found them to comply with all requirements.

#### *Hawkesbury Agricultural College.*

Early in the year Mr. E. H. Gurney temporarily acted for Mr. Wood as lecturer at the Hawkesbury Agricultural College during the absence of the latter on account of illness. In addition to his ordinary duties as instructor, Mr. Gurney superintended the equipment of the newly erected laboratory and helped to get it into working order.

I am glad to be able to report that the Principal of the College furnished Mr. Gurney with a letter expressing his appreciation of the efficient manner in which he had carried out his duties.

#### *Export of Fruit, &c.*

Late in the year I was appointed member of a board to carry out experiments in connection with the best method of exporting fruit to England. The failures of recent shipments of fruit have rendered it advisable to investigate the conditions under which fruit is shipped, with the object of ascertaining the causes of recent failures, and the suggestion of a method which shall ensure success in future.

The committee have held a preliminary meeting, at which it was decided to obtain floor space in one of the cool chambers at the cold storage works at Darling Harbour.

#### *Miscellaneous Work.*

During the year I have been engaged in examining a number of applications for letters patent dealing with chemical subjects, for the Department of Justice, and have acted on sub-boards appointed by the Public Service Board in the matter of the appointments of a Demonstrator in Metallurgy at the Technical College, and of two assistants to the Dairy Expert of the Department of Agriculture.

#### *Future Work.*

In the coming year, with the help of the additional assistance provided for in the Estimates, I look forward to being able to commence the carrying out of a scheme involving several lines of experimental research, an outline of which was submitted to you early in the year. I have long felt that the Department has neglected this most important side of its usefulness.

There are many problems connected with the treatment of the soil and the choice of crops the solution of which is a matter of the greatest importance to farmers, and which can only be satisfactorily dealt with by such a Department as ours which is well qualified to undertake the work. The large amount of routine and official work and the small size of our staff has hitherto prevented my undertaking work of the kind.

The lines of research which I consider would be of the most immediate practical benefit to the community and which could be undertaken with advantage at first are—

1. Study of nitrifying organisms and soil-bacteria under Australian conditions.
2. Best methods of treatment of wheat lands in the dry districts.
3. Study of native grasses and fodder-plants, in respect to their feeding qualities and resistance to drought.
4. Manure experiments, both in the field and in pots.
5. Study of wheat grain.
6. Systematic examination of plants reputed to be poisonous to stock.

#### *Publications.*

The following is a list of articles, dealing with chemical matters, published during the year in the *Agricultural Gazette* :—

	1898.
“On the Constitution of Wheat gluten” .....	April.
“Notes on the Soils of County Cumberland” .....	May.
“Wheat Testing—Description of Mill” .....	July.
Chemical Notes—	
“Fumigation of Fruit with Hydrocyanic Acid” .....	} October.
“Products of Dry Distillation of some N.S.W. Timbers” .....	
“Composition of Tobacco Leaf from Government Experiment Farms” .....	
“Analysis of Plants and Fodders” .....	
“Note on the Adulteration of Oatmeal” .....	} November.
“Soil Moisture” .....	

In conjunction with Mr. E. H. Gurney :—

“Table of Analyses of Commercial Fertilizers” .....	April.
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In conjunction with Messrs. Allen, Blunno, and Froggatt :—

“Insect and Fungus Diseases of Fruit Trees and their Remedies” .....	{ June, September, October, December.
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A third edition of the “Farmers’ and Fruit-growers’ Guide” appeared during the year, which involved my revising and largely re-writing the articles on “The Soil” and “Manures and Manuring” contributed by me to that publication.

*Australasian Association for the Advancement of Science.*

At the meeting of the above Association, held in Sydney early in the year, a considerable number of papers on agricultural subjects was read before the Agriculture Section, of which I acted as Secretary. Although this formed no part of my official work, I think a brief review of what was done is not out of place in the Annual Report of the Department, whose officers contributed largely to the success of the Agriculture Section of the Association. The papers read were all of considerable interest to farmers, and were in nearly all cases followed by discussions of even greater interest. Most of the contributions were published in newspapers and journals, several of them being reproduced in the *Agricultural Gazette*.

The following is a list of the papers read before the Agriculture Section, which will furnish an idea of the nature and scope of these meetings :—

- |                            |   |
|----------------------------|---|
| 1. Wm. Farrer .....        | “ On the making and improvement of Wheats for Australian conditions.” |
| 2. M. A. O’Callaghan ..... | “ Bacteriology in relation to Dairying.”                              |
| 3. A. H. Benson .....      | “ On the Propagation of Fruit Trees.”                                 |
| 4. F. Turner .....         | “ On the Gramineæ of West Australia.”                                 |
| 5. Do .....                | “ On the Salsolacæ of West Australia.”                                |
| 6. Do .....                | “ On the Poison Plants of West Australia.”                            |
| 7. C. Fuller.....          | “ Applied Entomology in West Australia.”                              |
| 8. W. W. Froggatt .....    | “ Economic Entomology.”   |
| 9. H. T. Baker .....       | “ On the Pine Trees of New South Wales.”                              |
| 10. H. W. Potts .....      | “ Milk Analysis.”   |
| 11. F. B. Kyngdon .....    | “ Wine Culture in New South Wales.”                                   |
| 12. A. Gale .....          | “ On the Colour of Flowers, and its Influence on Bee Life.”           |
| 13. D. M’Alpine .....      | “ Experiments in Fodder Plants.”                                      |
| 14. T. Steel .....         | “ The Mesquit Tree and its Pods.”                                     |
| 15. A. N. Pearson .....    | “ Notes on Soil Analysis.”  |
| 16. T. U. Walton .....     | “ Economic Feeding of Working Horses.”                                |
| 17. J. P. Dowling .....    | “ The Queensland Tick—How its progress southward may be prevented.”   |
| 18. H. Lord .....          | “ The Farmers’ Weights and Measures.”                                 |
| 19. W. S. Campbell .....   | “ Conservation of Forests.”   |
| 20. Do .....               | “ Farmers’ Unions.”   |
| 21. R. Helms .....         | “ Note on <i>Emex Australis</i> .”                                    |

In conclusion, I wish to express my high sense of the value of the assistance rendered to me by Messrs. E. H. Gurney and C. R. Barker. In addition to their assistance in carrying on the general routine work of the laboratory, Mr. Gurney has specially occupied himself with the milling of wheats, and Mr. Barker with the analysis of soils, both of which are special lines of work requiring considerable skill and efficiency. Their work has always been thoroughly reliable and willingly undertaken. Mr. Gurney contributed a paper on the colouring matter and wax of certain scale insects to the Science Congress (Sydney Meeting, 1898), and Mr. Barker has carried out some experiments into the retentive power of soils for moisture, which were published in an article on “ Soil moisture ” in the *Agricultural Gazette* for November last.

I have, &c.,

F. B. GUTHRIE.

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### Report of the Dairy Expert.

I have the honor to report as follows :—Statistics show that there is a steady and large increase both in the number of people taking up the dairy industry, in the cattle used for dairying purposes, and the amount of dairy products manufactured. The number of factories also shows a considerable increase, and so firm has the belief in the future of the industry become, that whenever there is sufficient milk produced to warrant the establishment of a separating station, people, representing either private or co-operative concerns, are ready and willing to erect the necessary building and plant. Since the Government has shown that it means to support and encourage the industry without in any way hampering those engaged in the commercial side, the development of dairying has been remarkable. When I first came to the Colony there seemed to be a great fear among farmers and large land-owners that the industry would be overdone, and that they would be unable to sell their produce except at a very low rate. An explanation of the conditions under which dairying has to be carried out in the Northern Hemisphere for five or six months of the year went to show that it should be possible for the Australians to produce butter to sell at a profit in England during the late autumn, winter, and spring at a lower rate than producers in the Northern Hemisphere could possibly do, and this, together with satisfactory present prices, went far towards reassuring people of the stability and growing possibility of the industry. There is still very great room for development, and, were it not for the cost and difficulty of procuring skilled labour, the industry would develop even more rapidly and among people who are now only prevented from embarking in it by this labour question alone. If a milking machine is ever perfected and introduced, the industry will make unthought-of progress. Referring to this point, it might be mentioned that

the report of the Highland Agricultural Society of Scotland relating to their recently-conducted trials of milking machines is most encouraging, and it seems as if the Murchland machine was worthy of a trial in these Colonies.

The feature of the year's work of this department has been the importation of a goodly number of dairy stock from the British Isles and from Holland. All the well-known dairy breeds are represented in the importation, and there is no doubt whatever but the introduction of this new and varied blood into the colony will mean an immense benefit to our dairy farmers, and a great stimulus to the dairy industry. A number of these imported bulls have been loaned out to the Agricultural Societies throughout the Colony, and there has been evidenced the greatest desire among farmers to procure one of these animals for their district, so much so that the department was unable to supply one-fourth of the number of animals required. However a breeding farm has been established near Camden where cattle will be raised from these imported stock, and thus the Government will be able to keep up a constant supply, either for sale or loan to the farmers, and when necessary a new change of further imported blood in the shape of bulls can be introduced.

*Pasteurising.*—An officer has been appointed for the purpose of teaching those interested how to correctly apply this process to milk and cream with a view to making a better article of commerce in the shape of butter, especially as regards the English market. Experience has proved in European countries most notably in Denmark, that this system of Pasteurising milk or cream so as to destroy the micro-organisms that produce injurious flavours, and afterwards adding pure "starters" of lactic acid so as to bring about a correct and uniform ripening of the cream, have revolutionised the system of butter-making for the better, and it is only a question of time when all butter-making countries will thus utilise pure cultures of lactic acid bacteria, just the same as breweries employ only pure yeast cultures. This department has given me space and fitting for a laboratory, and now pure cultures of lactic acid bacteria can be, and are being sent out free of charge to those factories desiring to use them. It takes considerable time, as a rule, to generally introduce any new methods, and no doubt some time will elapse before all our factory owners see the wisdom of adopting these methods. Cultures of lactic acid and bacteria can be imported from Europe; but owing to the time that must elapse before they reach here, and the method in which they have to be put up for such importation, render it impossible to rely on their purity. I have examined a good many of these preparations, and have never found them to be a pure culture. One sample of ferment handed to me for report was most inferior, and would be injurious wherever introduced, yet this article was being placed on the market at a high price. The establishment of a laboratory has also enabled me to make bacteriological examinations of all samples of milk, cream, or butter in any way tainted or inferior, and, no doubt, as time progresses, these examinations and reports will be taken due advantage of by butter and cheese-makers. Only recently I received eight samples of inferior cream for examination. Hitherto it has been the custom in this Colony to ascribe nearly all injurious taints and flavours to some weed or weeds in the pastures, but I have proved this theory to be fallacious, and have shown that taints which the factory manager had for years ascribed to the cows eating some weeds, were entirely due to some species of unfriendly micro-organism which got access to the milk or cream. When the correct cause is known, these evils can be remedied, and I have great hope that this system of bacteriological examination will prove of unlimited benefit to our dairy industry, especially as regards the keeping quality of our butter, which is the main feature we have to look to for our export trade.

The great defect in the year's progress has been the spread of the private separator system, to the detriment of the factory system of separating milk, and to the uniformity and quality of our butter. To save labour principally, farmers have taken to running their own separator; but, unfortunately, every farmer does not understand the ripening of cream, hence a large number of inferior and varied creams reach the central factory, resulting in the production of a bad butter, which would be useless as an article for export to England, with the result that it is placed on the home market, and conduces to lower the price of good butter.

A great deal of this mischief would be overcome if the farmers who separate their own milk would see that the cream is cooled down immediately after separating. This can be done by means of a cream cooler through which cold water passes. If the cream was cooled down even to 70° F. great good would be done. Besides this, the farmer should send this cream to the factory every second day at least. Some steps will have to be taken to regulate this system of dairying, or the amount of butter that the Colony will produce of a quality sufficiently uniform and sufficiently good to command fair prices in England will seriously diminish.

#### *Educational.*

The dairy section of the Hawkesbury Agricultural College is doing good work, and the answering of the dairy students at the last half-yearly examination was very creditable. Students get there a good knowledge of butter and cheese-making on a small scale, but in order to perfect this I am of opinion that the State should have a training factory where students, after they leave the college, could get experience in dealing with large quantities, which would enable them to take over and manage with success a commercial dairy factory. If the State will not have its own factory, than I am of opinion arrangements ought to be made with some existing factory, so that students could, after they leave the college, go there and acquire that knowledge so necessary if they are to successfully control a factory which manufactures butter in large quantities for export to England.

During the past six months I have delivered lectures and given demonstrations in various centres, all of which have been well attended and well received. I find the interest which dairy farmers are taking in the prevention and detection of bovine tuberculosis is increasing rather than diminishing. For the first time at any show in the Colony a prize has been awarded for dairy stock that have passed the tuberculin test. This was done in connection with the last Berry Show, when there were exhibited twenty animals I had subjected to the test. I am of opinion that the law relating to this disease in the Colony will require amending if farmers are to be got to test all their dairy cows with tuberculin. It is my opinion that any law which asks a farmer to destroy his best-looking young cows without giving compensation therefor will be either unsuccessful in its aims or will be an unfair hardship to the dairy farmers of this colony when compared with those of other colonies and other countries. A law which would compel the treating of all separated milk to a temperature sufficient to destroy tubercle bacilli (say

185 F. for five minutes); the testing of all dairy cattle with tuberculin; the *isolation* of all reacting animals where the disease is not evident, and the destruction of all animals that appear in an advanced stage of the disease, as well as those whose udders are not above suspicion, would after some time bring about an almost total disappearance of the disease. The present law, which provides for the destruction of tuberculous animals without the use of tuberculin as a means of detection, means the removal of only the dying trees, while the young, vigorous seeds are left behind to guarantee a continuance of the crop in all favourable soils; or, in other words, to infect the healthy animals.

Yours, &c.,  
M. A. O'CALLAGHAN.

### Report of the Government Botanist.

IN compliance with your request, I have the honor to submit a Report of the work during 1898 done by me for the Department of Agriculture.

My work for the past year has, as in previous years, been of a miscellaneous character. A very large number of plants have been identified for various correspondents, who usually desire to know whether they are of economic importance, or poisonous to stock, or belong to the category of weeds. Some correspondents desire plants to be named, as they are interested in them simply for botanical reasons. Assistance of this character has also been freely given to those in charge of the various experiment farms wherever it has been sought.

Following form the subjects of specific reports:—The so-called Burnet Grass, and its value as a Fodder Plant; Fasciation in Plants; Salt-bushes and Perfumes; Collections of Native Grasses; Report on a Weed introduced into the Colony in Dirty Flower-seeds; Issuing a Solemn Warning on the spread of the cockle-burr (*Xanthium strumarium*); The usual batch of replies to inquiries in regard to *Euphorbia Drummondii* as a supposed poison-plant, and the weed *Stachys arvensis* reputed to cause "staggers" in horses; Australian gums and resins, particularly Sandarach and Grass-tree Gum; Answering inquiries in regard to Natal Red-top Grass (*Tricholæna rosea*); Reporting on *Eremophila maculata* as a supposed stock-poison; Observations on the trees which pass under the name of Quinine in New South Wales; Reporting on Stinking Roger (*Tagetes glandulifera*); Notes on plants reputed to collect sand in their leaves or inflorescence, and hence cause Sand-binding in horses; Report on *Cymbonotus Lawsonianus*, reputed to have medicinal properties, at Uralla; Report on the Cape Weed (*Crypostemma calendulacea*); Notes on *Swansonias*, with remarks on their fodder value; On the utilization of *Dolichos lignosus* as fodder; Remarks on the Doubah (*Marsdenia Leichhardtiana*) and the use of the fruits as food for the blacks; Reporting on specimens of Darnel (*Lolium temulentum*); Urging attention to the danger of the Water Hyacinth *Pontederia crassipes* becoming a hindrance to navigation on the northern rivers.

I have to report that Mr. P. Corbet, in charge of the Government tank at Mt. Browne, has been most assiduous in the collection and investigation of the flora of the interesting botanic region in which he lives. This has resulted in the record of several plants not hitherto known from this particular locality. In addition, Mr. Corbet has made useful observations on salt-bushes and plants which induce sand-binding in horses. I wish that more employees of the Department, particularly those in the western division, would follow Mr. Corbet's excellent example.

The new Caves House at the Jenolan Caves having been completed, the grounds and adjacent slopes have been planted under my personal supervision. I venture to express the opinion that the grounds are now a credit to the Department.

I attach a list of articles I have contributed to the *Agricultural Gazette* during the year. The subjects have been made as varied and as interesting as possible.

J. H. MAIDEN,  
Government Botanist, 8/2/99.

#### List of Articles published in the *Agricultural Gazette* of New South Wales during 1898.

- Useful Australian Plants.—No. 49.—The Pigmy Panic Grass. (*Panicum pygmaum*, R.Br.) No. 50.—The Stringybarks of New South Wales.  
Some Food Plants of the Aborigines.  
Botanical Notes.—A new Indigenous Food-plant; a sand-holding plant, dangerous to horses; Spotted Medick; *Trifolium incarnatum*, increasing around Corowa; Wild Orange as a Fodder-plant.  
The Weeds of New South Wales, No. 5.  
Sheep's Burnet.  
Mount Seaview and the way thither.  
The Flora of Mount Kosciusko.  
Botanical Notes.—Supposed poisoning of sheep by Native Fuschia; White Cedar Berries.  
A study of the Prickly-pear naturalised in New South Wales.  
Indigenous Vegetable Drugs.  
A Chat about Wattles.  
Botanical Notes.—A sand-holding plant, dangerous to horses; of what value as a Forage-plant is the Grass *Eragrostis Brownii*; abnormal Colours of Native Flowers; a large White Honeysuckle; the Cockle Burr.  
Some Exotic Grasses.—No. 1.—Prairie Grass.  
New South Wales Weeds.—Nut-grass.  
Botanical Notes.—Wentworth Falls and Burragorang Valley; some plants in the Botanic Gardens interesting to the Farmer and Grazier; supposed Poisoning of Sheep by the Native Fuschia Plant (*Eremophila maculata*, F.v.M.).  
Botanical Notes.—Note on two Solanums reported to be poisonous to stock; Prickly-pear.

J. H. MAIDEN.



## Report of the Entomologist.

I HAVE the honor to submit herewith a general report of work done during year ending 31 December, 1898.

*Fumigation and Inspection under the Vegetable Diseases Act, 1898.*

During the months of July and August a good deal of time was taken up in the superintendence of the fumigation of oranges for the Sydney exporters, as well as the fumigation of nursery stock, and afterwards samples of a great number of different cases were tested by microscopical examination to see if all animal life was destroyed by the fumes generated by the hydrocyanic acid gas process, and in no case where the fruit or plants were properly treated, was a single live larval scale discovered, though much of the fruit before treatment was covered with living scale insects in all stages of development.

Since this Act came into force, I have taken an active interest in its administration, and am glad to see that fumigation and preventive measures, which were advocated by me from the first, are now being more generally adopted, so that the export and import will be greatly facilitated, and at the same time less danger accrue from the introduction of injurious pests, some of which, upon the roots or among pot-plants, so easily escape detection under the most careful inspection.

Our Act has already done a great deal of good, but our own growers should be protected at home, first by the registration of all plant nurseries, an annual inspection of them, and a guarantee of their fumigation to the buyer. It would be a very good thing if power were given to the inspectors under the Act, to condemn all badly-diseased fruit exposed for sale in our City Markets; and I hope to see a Codlin Moth Act introduced in the near future.

*Some of the Chief Insect Pests of the Season.*

The well known introduced Indian Wax Scale (*Ceroplastes ceriferus*) that has been common in our gardens and several allied bush shrubs for some years, has now commenced to attack the Citrus family, and is particularly bad upon the Thorny mandarin, in several orchards in the County of Cumberland. I have also seen it upon Persimmon trees near Manly, but a much more serious pest to the persimmon has been found near Ryde, in an American Mealy Bug (*Pulvinaria innumerabilis*) which is very destructive in its native country. A small black beetle belonging to the Scolytidæ (*Hylesinus sp.*), that bores down the centre of the young branches killing the limb, seems to be increasing in our suburban gardens and will be a serious pest to fig trees. San Jose Scale (*Aspidiotus perniciosus*) is spreading over most of our warmer districts and many new localities have been recorded this season. The fruit fly (*Tephritis Tryoni*), has not appeared in any great numbers as yet, but will be probably more or less in evidence later in the season. Though reports are always being circulated that Queensland Cattle Tick has been discovered in New South Wales, among all the specimens sent to me through the Chief Inspector of Stock, I have found no species closely allied to the true cattle tick (*Böophilus bovis*). A new pest to poultry-men has been found near Sydney in the Fowl Mite (*Dermanyssus gallinæ*) which is very destructive in America, but has not been recorded from this Colony until now, so far as I know.

*Visiting and Inspecting Orchards.*

Towards the latter part of July, in consequence of the report that San Jose Scale had been found in the Wollongong district, I spent four days going round the chief orchards and gardens on Cordeaux River, Mount Keira, Bulli, Sherbrook and Thurrol; later in the month I visited several orchards at Ourimbah and Gosford. In August, I travelled through the Goulburn district visiting the chief orchards and nurseries, and spent two days at Barber's Creek. In the middle of September I left Sydney for the western districts, spending a fortnight among the orchards of Orange, Molong, Cumnock, Parkes, and Forbes, and returned *via* Wellington, about 1,000 acres of orchards having been gone over in the fortnight. A special request was made to the Minister that I should again visit Goulburn, and in October I visited that town, Crookwell, Yass, Bowning, and Murrumburrah. On the 3rd November, in conjunction with Mr. Allen, I visited Collector to report on Mr. Robjohn's orchard, and inspected others in that district.

On the 16th November, left for Armidale in consequence of San Jose scale being forwarded from several gardens in that district; from Armidale went on to Uralla, and then to Walcha. I believe that a great deal of good has resulted already from these general inspections in which I have been greatly aided by the Secretaries of the different Agricultural, Pastoral, and Fruitgrowers' Associations, and in no single instance have I been refused permission to enter and examine an orchard; if my visits have only caused the destruction of a number of scale infested trees and the treatment of others, it means thousands of pounds to the fruitgrowers in a very short time.

The Codlin moth and most of the common introduced scale insects are widespread in New South Wales, but the orchardists are beginning to take up arms against them; and our business is to warn them how to keep a clean district clear of pests, and how to fight pests in the cheapest and most effective manner in infested districts. At the present time the Codlin moth destroys fully 25 per cent. of all the apples grown in this Colony. With combined action the fruit-growers could reduce this to 5 per cent., if not eradicate the pest altogether in a few years, as has been done in several districts in Tasmania; but to be successful the orchardist must have a knowledge of its habits and life history, and it is here where the Economic Entomologist comes to their assistance. Besides these extended visits, I am frequently away from town on short trips, such as Camden, Gosford, Beecroft, Ryde, Penrith, &c.

*Lectures.*

Since the department has furnished me with a lantern and outfit for lecturing, I have had a number of lantern slides prepared by our artists, which have greatly enhanced the value of my addresses on the different phases of Economic Entomology, as most persons can grasp the characteristics of pests under discussion when it is accompanied with an accurate figure thrown on a screen. At the request of Secretaries of Pastoral and Agricultural, Fruitgrowers', and Progress Associations, I have lectured during the last six months at the following centres:—Kenthurst, Marsfield, Dundas, Smithfield, Goulburn, Crookwell, Ryde, Parkes, Yass, Toronto, and Largs. After the address I have always invited a free discussion, answered questions, and examined specimens, as this appears to me to be one of the most important functions of a lecturer to a practical audience. That these lectures have been of interest is proved by the fact that I have seldom lectured in a district without an application being forwarded soon after from an adjoining neighbourhood to the Department asking me to visit them as well.

*Correspondence*

*Correspondence and Exchanges.*

A large amount of correspondence and specimens for report and identification have been submitted to me, and, as a direct result of my travelling and lecturing, is still daily increasing. Some of these deal with the naming of specimens, the remedies for well-known or obscure pests, and, since Dr. Cobb's departure, a great number of those dealing generally with the diseases of plants and their remedies are also attended to by me.

All specimens of ticks and animal parasites received by the Stock Branch are forwarded to me for identification, as well as the insects received by the Forest Branch; and if the Inspectors and Foresters only knew how interesting their sendings are they would probably preserve many more specimens.

Of course these letters do not represent one tithe of the office work, with its reports and routine work, as well as the many visitors who come to see the specimens and receive advice.

Among the exchanges received and forwarded to other parts of the world were—A collection of Scale Insects (*Coccidae*), from U. S. America; another from Ceylon; live ladybird beetles, from South Africa; Beetles from Indiana, U.S.A.; and another collection from Russia. Specimens of San Jose Scale have been sent from here to New Zealand, South Australia, and Austria; Fruit Fly to Victoria, South Australia, and New Zealand; live ladybird beetles to New Zealand; Hymenoptera and Hemiptera to Austria; collection of injurious species pinned insects to the United States; and co-type collections of white ants (*Termitidae*), in spirit tubes, to the Museums of Adelaide, Queensland, Victoria; Royal Museum, Austria; and Cambridge Museum, England.

*Mounting and Registering Specimens.*

All entomological specimens in good condition, and those collected by me during my visits to the country, as well as the foreign collections, are named, labelled, mounted or pinned, and placed in the departmental collections. The collections of micro specimens, mounted on glass slips in a permanent manner, have also been largely added to and recorded.

*The Study of Life Histories.*

This important branch of the entomological work has been carried out under great disadvantages, on account of the want of an insectarium, or large room, that could be fitted up so that the many curious larvæ and obscure insect pests could be fed and watched under natural conditions upon living plants. The primitive manner in which I have to carry out my investigations, either in the office or my private laboratory at Croydon, is very disheartening, when one reads of the splendid results in American and Continental Insectariums.

*Assistance.*

As the entomological work has increased so rapidly, and other duties spring up, I would suggest that it be advisable that a cadet be appointed as an assistant, to take over some of the routine office work, the care of the collections, and other duties that would fully occupy all his time. I would point out that on my appointment as Entomologist, I had an assistant (Mr. Fuller) who resigned shortly afterwards, and this position remains unfilled.

*Original Papers in the Agricultural Gazette.*

During the last six months I have written up all the entomological part of "Insect and Fungus diseases of fruit trees and their remedies," parts I, II, and III.

- (4.) The Plague Caterpillars, Climbing Cut worms.
- (5.) Insects attacking dried fruit, seeds, and vegetable matter.
- (6.) The spread of San Jose Scale in N.S.W.

WALTER W. FROGGATT.

**Report of the Fruit Expert.**

I HAVE the honor to submit herewith a report on the work accomplished under my branch during the past year.

Outside of my especial duties as Fruit Expert, which have entailed a great amount of travelling all over the Colony, I have devoted a large percentage of my time to a personal supervision and direction of the work being carried on at the various Government orchards, and I am pleased to be able to report that, in spite of the continued droughts which we have had to face during the last three seasons, the orchards, without any exception, are in a highly creditable and flourishing condition, owing to the thorough and regular system of cultivation practised, which is the only means of retaining sufficient moisture in dry countries where irrigation is impracticable. At the many lectures and practical demonstrations which I have given throughout the year, I have again and again advocated this system to the growers, sometimes, I fear, without successfully converting them to my views, and to these doubters, or those who consider that it is possible to over-cultivate the orchard, I would point to these orchards as an object lesson.

At the various orchards, many of the young trees have fruited for the first time, but reliable information as to their productiveness from year to year, their adaptability to particular districts, and their commercial value cannot be given until the trees have borne for at least two or three seasons.

In the beginning of the year a quantity of bottled fruits was put up at both the Hawkesbury and Wagga orchards, and a fair quantity of fruit was dried at the latter orchard, sufficient to at least demonstrate what can be done. These, with a number of jams and jellies which I put up at my own place in Bathurst, were exhibited at the Royal Agricultural Show in Sydney, and I can fairly say that this exhibit was not by any means the least attractive in the section allotted to the Department of Agriculture. Around this exhibit there was always to be found a number of interested inquirers seeking information as to the different processes, and both in the Metropolitan and Country Press, where this exhibit was afterwards sent to the various shows, very favourable attention was drawn to it, and to the good work being done by the Department in instructing the growers thus to deal with their fruits.

As the crops last year were small, only a few of the trees having come into bearing, it was not deemed warrantable to erect a plant for handling same, so that the work was done under rather unfavourable conditions, the only building which was adapted to the purposes of the work being the fumigator erected

erected at the Wagga orchard. This year, however, anticipating the handling of larger crops, which will naturally increase from year to year, it was deemed advisable and warrantable to provide a permanent building for processing same, and also to afford those students who wish to do so ample opportunity to learn how to handle the fruits in all their stages and branches. On 23rd May I therefore recommended the erection of buildings at both the Hawkesbury Agricultural Farm Orchard and Wagga Orchard which would serve the purpose of a combined cannery and packing house, and I am pleased to say that these are now nearing completion and will be in readiness to process at least a portion of this season's fruit.

Owing to the death of Mr. Waters, the orchardist at the Hawkesbury Orchard, as much time as I could spare from my other duties was spent at this orchard, directing the work, until the transfer here of Mr. Alford, then orchardist at Wagga; his place being filled by Mr. S. A. Hogg, who took charge of the Wagga orchard early in May. Of the intelligence and efficiency of these two officers in carrying out my directions I cannot speak too highly.

Early in March I visited Victoria for the purpose of securing a collection of the best apples grown in that colony, and I also secured a collection of the best grown in Tasmania, in order that we might compare these two with the same varieties as grown in this Colony, and from the three samples the best were chosen with a view to preparing as correct and complete a collection of models as possible, for purposes of identification. Considerable time was spent over this matter, and models were prepared at the Technical College, but owing to pressure of other work the painting was neglected until the fruit had gone off in appearance, and in consequence I will be under the necessity of securing another collection of fruits, with, I trust, more satisfactory results. This is a most important work, as with the ever-increasing varieties of the different fruits it is absolutely necessary to have a reliable collection of models of this kind for purposes of identification.

In order to introduce new and improved strawberry plants and to give this industry a much needed impetus, I recommended in July last that some of the best American varieties should be imported and the Departments of Agriculture at Washington, D.C., and Ottawa, Canada, were communicated with, with the result that both Departments forwarded a supply of plants, but I regret that these were found on arrival to be quite dead and useless.

The Vegetation Diseases Act having come into force early in the year, I assisted in examining some large shipments of fruits, and also visited many of the Customs officers on the borders for the purpose of instructing them in detecting the diseases proclaimed under the Act.

#### *Wagga Experimental Orchard.*

Although the past three seasons have been the driest on record for some years, the past season in particular being the worst of the three, we have, in spite of such adverse circumstances, kept the trees growing, and the few which are bearing are producing the best samples of fruits of their respective kinds.

Apricots.—Contrary to what might have been anticipated, these have borne only a light crop, but this is due to the damage done by the grasshoppers last season, they having eaten the greater part of the best fruit-producing wood out of the centres of the trees. I am pleased to say, however, that the fruit which we have produced from these trees is of the very best quality. Many varieties have fruited, of which the following are some of those which have done best, viz.:—Moorpark, Hemskirke, Alsace, Newcastle, Suizet, Blenheim, Peach, Warwick, Kaisha, and Mansfield Seedling (which produced the largest fruit of any this season). Already some excellent samples of fruit have been cured, the quality being even better than last year—the average time required to dry the fruit in the sun was about two days. Some very good bottled fruits have been put up also; so that, notwithstanding the small crop, there will be a sufficient quantity to show what can be done in this branch of the work. We are also putting up some pulp; and I consider that drying, canning, and pulping will, in the near future, develop into very profitable industries.

Peaches are bearing a very good crop this season, but most of those which are ripening are purely dessert varieties and not suitable for canning or drying—the sorts most suitable for the latter purpose not ripening for some weeks yet.

Cherries.—Many of these have also fruited for the first time this year, and, judging from the appearance of the trees, several of the varieties will be found profitable in this district, but no reliable information can be given this year.

Plums.—There are many varieties fruiting this season for the first time, and, from present indications, this district is well adapted for this fruit. Experiments are being made with all varieties which are at all suitable for drying, and the results will be made known in a future number of the *Agricultural Gazette*.

Prunes are growing well, but are too young yet to bear crops; however, with the few which we have found on some of the trees, we hope to make a test of their drying quality this year, but it will be at least three years before anything reliable can be published as to their commercial value in this district.

Apples.—The young apple trees are growing exceedingly well, but only a very few are carrying any apples, and these are only allowed to carry three or four each, as the trees are too young yet to be allowed to carry a crop.

Figs.—So far the figs have proved a failure here on account of the dry seasons, and I fear that unless we have more favourable seasons these will not fruit much.

Olives are doing exceedingly well, and this season are carrying quite a crop sufficient to enable us to make samples of pickled olives and oil.

Pears.—These are doing as well as can be expected, and a few trees are carrying some fruit this year, and in the course of a year or two we shall be able to give very valuable information as to the best varieties to grow in this hot dry climate.

Grapes.—There is a large assortment of table grapes, many of which are bearing, but the dry season is very much against them. The following are a few of the varieties which did the best last year, viz.:—

Gros Guillaume	Black Champion	Late White	Black Tokay
Golden Queen	Doradillo	White Prince	Quirk's Seedling
White Nice	Mrs. Pearson	Blue Imperial	Aramon
Duke of Buccleugh	The Pierce	Flame Tokay	Catawba
Waltham Cross	Iona	Rose of Peru	Goethe.
Wortley Hall			

The

The Zante Currants promised well in the spring, but the hot winds of November have reduced the crop by half; we will, however, turn out some good currants this season.

Sultanas are cropping well again this season, and from present indications these will prove an exceedingly paying crop in this district, and the quality of the dried fruit is equally as good as the imported and commands just as high a price.

So far the raisin grapes have not done well here, partly owing to their having been badly attacked with Powdery Mildew, the dry seasons also being against them.

The cannery and packing house, now nearing completion, will be a very valuable addition to the orchard. In this we will carry on pulping, canning, pickling olives, and making oil, and packing all fruits. There is a specially-built cool-room in which to keep all preserved fruits as also to hang the bunches of grapes. The building is a substantial wooden structure, with a cement floor which is easily kept clean, is cool, and does not harbour vermin, moths, &c.

Mr. Hogg, who succeeded Mr. Alford in May last and who is responsible to me for the carrying out of all work connected with the orchard, is a thoroughly practical and reliable orchardist.

Great interest is evinced by visitors in the system followed in all branches of the work in connection with the orchard, and good educational work is being carried on here. My only regret is that many are kept from visiting it on account of the expense in reaching there. If cheap excursions were run, say once in three months, one of which would include the fruit-processing season, I am convinced that the amount of good derived by those interested would be incalculable.

Owing to the dry seasons nursery work had to be abandoned here.

#### *Hawkesbury Orchard.*

During the past year this orchard has improved wonderfully, and although goods results can never be expected on the poorer portion of the orchard which is composed of poor white sand, the trees are doing as well as could be hoped for, while on the better soils the trees and vines are growing and cropping well, producing first-class fruit.

Grapes are carrying a good crop of fruit. Some of the vines were grafted to better varieties last spring, and eventually, in place of having chiefly Black Hamburg, we hope to have some good varieties of table grapes for the late as well as the early market, as also more of the drying varieties—Sultanas and Gordo Blancos.

Peaches do very well on this sandy soil and many of them are carrying good crops of good fruit, some of which are being dried and bottled.

Japanese Plums.—Many varieties of these are growing here, most of which are cropping well.

Persimmons are carrying a good crop of fruit this year and are doing well in this sandy soil.

Apples.—I do not consider will ever be a success here, however they are doing as well as could be expected and are bearing some fruit.

Citrus Fruits are looking much better than they did a year ago, and some of them are carrying a little fruit; these trees are planted on very poor white sand, on which such trees never do their best.

Pears are doing fairly well but not carrying fruit.

There are twenty thousand young orange seedlings set out in nursery rows and more coming on in the seed-bed. These are all doing very well considering the fact that no water was available for irrigation purposes. The land which is being prepared for a nursery could not be prepared in time for this year's planting, and in consequence the stock which should have been planted there had to be held over. Some of the best varieties of orange trees were imported, and from these we will take buds to be used in budding the young orange seedlings.

Mr. Alford, who took charge here early in May, has, since his installation, been successful in almost completely cleaning the trees from the different scale insects and fumagine with which they were almost smothered at that time.

A cannery and packing house, similar in every respect to the one at the Wagga orchard, has been erected here, where the students will be taught how to process fruits, and which will be an additional attraction to the many hundreds of visitors who yearly visit this farm and orchard.

Much loss and damage is occasioned from the ravages of the fruit thief who frequently honors this orchard by a visit, and I fear that to save the fruit the Department will be compelled to erect a high netting fence with three or four rows of barbed wire as a heading.

#### *Bathurst Orchards.*

This orchard is doing very well and will, I predict, prove of great value as an apple, pear, cherry, and plum orchard. Although the apple trees are young many of them are carrying two and three apples. Some of the trees would have had a good many had I not pulled all but two or three, as it is not desirable that they should bear fruit just yet, while so young.

I regret that there have not been horses enough on the farm to give this orchard the cultivation which it should have had, and it has had to be neglected in order that other work might be carried on. Sufficient horses are I believe being arranged for so that the work will receive the same attention as the other orchards.

#### *Pera Bore.*

This orchard, on my last visit, was, with the exception of a few peach trees, looking well and the trees putting on good growth. The few trees which were suffering were those for which the manager was unable to get a sufficient supply of water, the supply having run short during the last few months. There will be little, if any, fruit this year on any of the trees.

Citrus trees are growing very well, there being a good assortment of the best varieties in this orchard. Some imported varieties were planted last spring, and from these buds will be taken to bud the young seedling orange trees now being grown in the nursery. There are also planted in the nursery fig cuttings, vine cuttings, apricot and peach pits, a fair percentage of which Mr. Gorman has been successful in striking.

Apricots.—These, with the exception of a few planted this year, have made good growth.

Peaches.—These also, with exception of a few which did not get a good watering, are making good growth.

Prunes are only doing fairly well.

Figs.

Figs.—Something resembling the *mal di goma* has attacked the roots, and I consider that it is only a matter of time until they all go with this disease. I have never seen fig roots rot away in this manner before.

All the orange and lemon trees which took last year are doing well, but there will be a great loss among the seedlings planted this season, owing, I consider, to an insufficient supply of water.

Olives.—The trees planted this year are not taking very well, also owing to an insufficient supply of water.

The orchard is in a good state of cultivation, and all trees planted and alive before this season are at present doing well and looking as well as they did last year, but this year's planting, including trees and cuttings, have suffered for lack of water.

#### *Wollongbar Orchard.*

Some of the best varieties of imported oranges were sent to this orchard last spring and arrived there in good condition. These will be grown and the buds used in budding young trees, and any surplus buds will be used for distribution among the fruit-growing districts, as also for use in departmental nurseries.

Pineapples were looking well, as also some orange trees planted in the orchard. Citrons do exceedingly well here, and the manufacture of candied citron peel should prove a profitable industry in this district. Many varieties of trees have been planted in this small orchard, but I am of opinion that the orange, citron, and pineapple will prove the most profitable.

#### *Export of Fruit.*

During the months of June and July, acting under instructions from the Hon. the Secretary for Mines and Agriculture, I managed the packing arrangements of certain shipments of oranges and also, for the Board for Exports, passed all fruits which I considered fit for export during these two months. Of the 30,000 cases exported, not more than half the number received the brand of the Board, owing to various causes, some being carelessly packed, in some cases the fruit was inferior, in others it was too damp (not having been properly sweated), and there were many other reasons why fruits were rejected; while on the other hand, some shippers who had good fruits did not wish them inspected. Between the first and last shipments I could see a great improvement in the packing, and many of the exporters, acting on my suggestion, branded plainly on the outside of each case the number of fruits in each—this step being highly commended on the London market.

While some of the best fruits which were grown in the Colony were exported, the results were far from satisfactory, as most of the fruit arrived in London in a very damaged condition; and I fear that until there can be a guarantee that the fruit will be carried in perfectly dry, cool chambers the export trade in oranges will be practically abandoned. I may say that the packing and quality of some of the fruit exported were equal to some of the best Californian; the greater part, however, could only be classed as second-grade fruit, but was of such quality that it should have carried to the Old Country if accorded anything like fair treatment.

Much has been written concerning the failure of these orange shipments, but nothing reliable has been placed before the public; and I consider that much harm is done by indiscriminate writers who rush into print with suppositions and hearsays. The causes of the failure are many and are well known to many of the exporters, but until some satisfactory system for handling and carrying has been arrived at, there is little use dealing in conjectures. One thing is clear—that the loss to the growers might have been greatly lightened had the consignees sorted the fruit, repacking the good before placing them on the market.

During the year I was asked to judge at many of the largest shows, and while the fruit receives a fair amount of consideration, I think that better and larger displays would be made if larger prizes were offered.

Fruit drying and canning are attracting the attention of a great many growers, and during the year there have been many inquiries as to how best to carry these operations into effect—not a week passing in which I do not receive letters written direct to myself asking for information on this and kindred subjects. Some of these letters call for lengthy replies—to keep up with which and the official papers necessitates working early and late while at head quarters.

Much of my time has been spent in visiting different parts of the Colony in order to give demonstrations in practical orchard work. In some instances, I have been specially asked to deliver lectures in public halls, but I do not consider that nearly as much good is done in this way as by a lecture and demonstration in the orchard, as in the former case, one does not meet the fruit-growers, so much as a class, who may be interested in fruit culture, but having no practical interest at stake, whereas in the case of the orchard demonstrations only those who desire to learn and are in need of specific information are likely to turn up and they can then be shown what they wish to learn by making known their needs.

I have noticed in my many visits that many new orchards are being planted in the best fruit-growing districts of the Colony and I may say, and correctly so, that fruit-growing is attracting more notice than it has for many years. Those orchardists who have been most careful in the selection of land and suitable fruits to plant on same are all doing well, and while some believe that fruit-growing is already overdone, I predict that it is only in its infancy. This Colony still imports thousands of pounds worth of fruit annually and while it is known that we have an area of over 40,000 acres under fruit trees, still 15,000 cases of apples, pears, &c., are imported weekly during the season. All of our dried fruits such as raisins, sultanas, currants, prunes, apples, apricots, &c., &c., are imported, most of which could, under irrigation, be grown on the banks of the Murray and its tributaries were care exercised in the selection of the soil. Others could be grown in any part of the Colony, so that in place of being importers we should be principally exporters.

During the year I have written the monthly orchard notes for the *Agricultural Gazette*, and also from time to time articles on different subjects relating to fruit culture, and answers to inquiries from all over the Colony as well as some from the adjoining colonies.

Last month I examined a number of the students at the Hawkesbury Agricultural College in the different branches of the work, and I am pleased to say that the standard this year was far and away ahead of the work done last year, which reflects credit on both the Principal and Orchardist.

W. J. ALLEN.

Report

## Report of the Viticultural Expert.

## PHYLLOXERA.

THE year 1898 will be marked as one during which the greatest anxiety was aroused through a succession of outbreaks which followed with startling rapidity. In fact, no sooner was a case disposed of than a fresh one was reported.

Those who would only judge by the number of fresh discoveries made during the year 1898 might come to the conclusion that there is a recrudescence of this plague. Such conclusion, however, would not be correct.

We did not dissimulate the existing danger in the Central Cumberland, and, personally, I was of opinion that, though for nearly five months before the outbreak at Canley Park, no outbreak had been reported.

Phylloxera was still to be found, and it was only a matter of carrying on a simultaneous examination of vineyards over a large area to be able to locate the possible infections.

When phylloxera was found in Mr. Eli Beckingham's vineyard at Canley Park, and a deep agitation started among the vine-growers of the Canley Vale and Cabramatta district, two additional inspectors were appointed, thus, with a staff of five, the examination of vineyards was thus extended to a larger zone, and six fresh discoveries were reported from July to December, while it took five months at the time when there were only three inspectors engaged.

That is the reason why I refute the possible opinion which may be advanced of any recrudescence of this plague. In fact, the infections were over two years old, and none of them originated since this service has been reorganised on a thoroughly scientific footing.

From January to December, 1898, the following outbreaks were reported and dealt with:—

*Canley Park.*

One acre of vineyard; owner, Mr. Eli Beckingham; 49 vines actually found with the disease on. The whole area was eradicated. The infected vines were found in one section of the vineyard; the second section was, however, destroyed too—there having been communication between them, as well as the general use of some implements. This drastic measure was suggested by the fact that this outbreak is the first one ever reported in that district.

It is surrounded by many vineyards, to which any stock left, and likely to be found infected in a very near future, would have been a continual danger, and a large seat of infection thus caused in a district placed on the outskirts of the acknowledged zone of old infections.

*Glenfield.*

1. Three acres, and 1,300 rooted vines in a nursery bed; owner, Mr. W. H. Hosking; tenant, H. L. Sanderson; vines actually found infected, 150; all the vineyard and the rooted vines have been destroyed.

2. Three adjoining vineyards respectively owned by Messrs. M'Gory, S. Loftus, W. Davis. Total acreage, about 17 acres. About 9 acres have been destroyed, phylloxera having been found scattered on different sides.

3. Five acres, owned by G. Groat, Esq.; 25 vines were found actually diseased and located in one of the extreme corners of the vineyard; 1 acre was destroyed.

*Liverpool.*

A small vinery of about 120 vines; owner, J. Hindes; 25 vines were found infected. The whole vinery was eradicated.

On the whole, no less than 14 acres have been uprooted, and the ground located with bi-sulphide of carbon.

The trenching in every instance has been omitted—the rational use of the said insecticide making it unnecessary. A saving of £2,000 has thus been effected.

*Inspection of Vineyards.*

The staff of the inspectors, acting under the Vine-Disease Act, was raised to five through the temporary appointment of two additional officers.

All inspectors had two men for root digging since June, thus making a double amount of work, and being just as reliable as when they had only one man, such being a great improvement over the system of one inspector one man, which did not fully utilise the time and activity of both.

Since the outbreak at Canley Vale, and the first at Glenfield, the whole staff of inspectors, except one, has been concentrated in these two places—thus having to work within short distance from centre of infection, the examination was carried very closely. Over 30 acres, where disease was found, every vine had to be examined in order to ascertain the extent of the infection, so as to be able to take the proper step accordingly, while a greater part of the whole inspected zone was examined, one in four being always within a short distance from recent or new outbreaks. Tentative examination of one in nine have also been made in vineyards rather away from the seat of the plague in order to be sure that at least no old infections were left undetected.

It was a cause of great anxiety to this office, the delay interposed between the time of the discovery of the pest and that when the proposed measures were sanctioned by the competent authority.

The Minister, fully realising the danger involved in such delay, gave instructions to this office to take the necessary steps to check the disease soon after the discovery of phylloxera was reported, thus rendering such measures much more effective and more consistent with the urgency of the case.

I have, &c.,

M. BLUNNO.



## Report of the Travelling Agricultural Instructor.

I HAVE the honor to submit my report for the year 1898.

Early in January, at the request of Sir Joseph Abbott, and the approval of the Minister, I proceeded to Balranald, Euston, and Wentworth, and lectured, and conferred with the farmers on agricultural subjects at those places. It is surprising to note the enthusiasm of the cultivators of the soil in those dry distant parts of the colony.

They have, indeed, much to put up with, and are deserving of every possible assistance the Department of Agriculture can give them.

It was pointed out that, on two pieces of land, with only a wire fence dividing them, the wheat in one instance yielded 16 bushels to the acre, and in the other it was not worth harvesting. A reason for this extraordinary discrepancy was asked, and it was found that on the land which yielded 16 bushels to the acre, the soil had been deeply cultivated and thoroughly pulverised, sown with suitable seed and at the correct quantity per acre. The land that produced next to nothing was simply scratched, the seed sown too thickly, and moreover the wrong kind of wheat for that district used.

The Wentworth Irrigation Area is now fully established, and with good soil, heat, and moisture, the best vegetable results may be expected. My next trip was to the northern rivers district, in order to give practical demonstrations as to the making of ensilage. When visiting this part of the colony in July and August, 1897, complaints were made that I had come at a time when there was no fodder fit to operate upon. With the approval of the Minister this second visit was made, and ample opportunities were afforded the residents to obtain the latest information on this subject, I also gave several practical demonstrations in the field. The supply, however, of fine succulent herbage is generally so abundant that the dairymen are not so enthusiastic as they might be, with regard to the conservation of fodder by this method.

Dairying in the North Coast, is making rapid strides, and there is no doubt that in a few years will far surpass the South Coast. It is the South Coast men and the South Coast cattle, however, which have made dairying the success it now is. Dairy stock do much better in the North than in the South Coast; maize, potatoes, and other crops do remarkably well in this district. My next trip of importance was to the Karuah, Manning, Hastings, Macleay, Nambucca, and Bellinger Rivers. These districts have also a grand future before them, so far as agricultural and dairying prospects are concerned. Vegetation flourishes here most luxuriantly and dairying is making rapid strides; maize, potatoes, pigs, poultry, and eggs are produced in large quantities. The methods of cultivation of the soil are somewhat behind the times, but there is an earnest desire for improvement. My lectures were well attended and well appreciated.

After attending several important shows and acting as sole judge at same, I made a visit to the South Coast where I inspected farms and lectured at the following places:—Albion Park, Kiama, Dapto, Berry, Kangaroo Valley, Wollongong, Robertson (most), Cooma, Nimitybelle, Bungendore, Queanbeyan, Duntroon, Bombala, Delegate, Pambula, Eden, Canelo, Bega, Cobargo, Tilba Tilba, Bodalla, Moruya, Braidwood, Milton, and Nowra. At all these places I was well received, and the people seemed grateful for the information obtained. During my visit this part of the Colony was suffering from want of moisture, and vegetation was very scarce. In some instances, however, advantage had been taken of conserving large quantities of fodder in the shape of ensilage. Where this had been done the stock were looking well and giving a full supply of milk. On the whole, however, there was a lamentable deficiency of any kind of suitable food for dairy stock and many of the animals were very poor, and the milk supply seriously reduced. At Bega several stockowners were obtaining lucerne, bran, cocoanut-oil cake, and other fodders from Sydney to keep their stock alive.

I have spent a considerable time in the wheat-growing areas of the Colony, and visited Crookwell, Albury, Wagga, Corowa, Young, Moama, Jindera, Temora, Yass, Burrowa, Taralga, Tenterfield, Murrurundi, Singleton, Inverell, Muswellbrook, Warialda, Moree, Narrabri, Deniliquin, Jerilderie, Hay, Hillston, Berrigan, Finley, Mulwala, Carcoar, Lyndhurst, Molong, Cummoock, Cudal, Cargo, Manildra, Parkes, Forbes, Urana, Narrandera, and Bolero.

I lectured at most of the places mentioned, and answered many questions pertaining to all subjects in connection with agriculture. During the earlier part of the season, the prospects for a bountiful yield were all that could be desired. The area put under wheat was nearly 1,500,000 acres, but owing to the excessive drought, and the comparative failure of a large area, about 350,000 acres have had to be cut for hay, or not harvested at all. This will leave about 1,125,000 acres for wheat production, which with an eight (8) bushel yield should give about 9,000,000 bushels, which will just supply sufficient for our own requirements for food and seed, and a little for exportation.

Until the harvest is more advanced in the later districts, it is impossible to say if there will be any exportable surplus. In some places, such as Albury, Carcoar, Cargo, Cudal, Germanton, Gulgong, Gundagai, Goulburn, Inverell, Mudgee, Manildra, Molong, Millthorpe, Orange, Narromine, Rylstone, Singleton, Scone, Tenterfield, Wellington, and Yass, there are undoubtedly some very good crops, and the samples of new wheat are excellent, but at such places as Bingara, Cowra, Deniliquin, Hillston, Narrandera, Nevertire, Narrabri, and Temora, they have proved a partial failure.

During the last fortnight, under approval 7932, I have been trying to find out what methods of cultivation, quantity of seed per acre, and the varieties of wheat which give the best results. There is great diversity of opinion with regard to the methods of cultivation; but, on the whole, there is a decided consensus of opinion that deep cultivation, thorough pulverisation, thin seeding, and harrowing of the growing crop, have given by far the best results. It will be seen by the tabulated returns herewith that the three leading wheats are Steinwedel, Purple Straw, and Allora Spring; White Lamas and Australian Talavera come next. Early sowing in most instances has given the best results. It is a fallacy to expect early wheats to produce satisfactory crops if sown late. Early wheats should be sown early, whilst a late wheat may be sown somewhat later with a fair amount of success.

None of the new wheats brought into existence by cross fertilization and hybridization show any superiority in the way of drought-resisting or prolificacy to those in existence for many years, but it is hoped that they will do so by and by. I am certain that the steps taken by the Department of Agriculture for improving the methods of cultivation are producing good result. In parts of the Colony which I have been able to visit a second time, I find there is a vast improvement in this respect; and, throughout the whole Colony, those who have been guided by my advice with regard to deep cultivation and

and thorough pulverization of the soil, notwithstanding the severity of the season are reaping fair crops. If we could increase the average yield of wheat by 1 bushel it would mean an extra £125,000, and maize by 2 bushels, would produce over £50,000 increase; but if the farmers would only take my advice and cultivate and sow their land as it ought to be done, it would not be an increase of 1 bushel of wheat and 2 of maize, but five times that amount at least, which would mean an increase of hundred of thousands of pounds.

In the first development of the wealth of the soil in a newly peopled country, emergencies are generally such as to compel the cultivator to confine himself to those ready and cheap methods which bring him in a rapid return. The time has arrived in New South Wales when the more primitive methods must be abandoned, the consideration of systems of cultivation, by which the fertility of soils might remain unimpaired becomes imperative; and the solution of this problem is necessary to the vitality of successful farming. It is satisfactory to know that a general improvement in our system of husbandry is now being realised. The time has passed away when it was supposed that scientific knowledge and practical farming could not go together, the practical man did not like to be dictated to about his own calling.

Further research and more moderation have resulted in a better understanding, the scientific man acknowledging the importance of practical experience, and the practical farmer recognizing truth in the general deductions of science. Science as pertaining to agriculture is what has been proved by a long series of practical experiments. There is too great a desire among our farmers to cultivate too large an area, irrespective of how the work is done. In many instances it would be much more profitable to cultivate one-half, and perform the work in a better manner. I am a strong believer in the old adage, "A small farm well tilled means large barns well filled."

In almost every place I have visited I have urged the members of the Agricultural Societies, Farmers' Progress' Associations, and other organisations, to meet together once a month during moonlight, one of the number to read a paper on some subject of importance to the particular district, and then those present to discuss it. A vast amount of valuable information could be obtained by this means. I am glad to say that in several instances, particularly at West Maitland, my advice has been carried into effect. Several papers have been read of sufficient merit to warrant their insertion in the Government *Agricultural Gazette*. The Societies are beginning to realise that something more is required of them besides the annual show. I believe that the offering of prizes for the best cultivated farms would prove beneficial. Having become acquainted with so many persons in the various parts of the Colony, my correspondence has increased to an alarming extent; and on my return from short trips to the country there is an accumulation of sometimes thirty or forty letters, asking for information on almost every subject pertaining to agriculture. This I have always given without stint, but it leaves me very little time to read, and prepare myself for the lectures, and keep myself abreast of the times in all that pertains to advanced agriculture. It will be necessary during the coming year to devote an occasional office day, as the matter is of too much importance to be lightly passed over.

I have contributed numerous articles to the *Agricultural Gazette*, more particularly with regard to ensilage up to date, labour-saving implements and appliances, the Angora or wool-bearing goat, &c.

It will be seen from the attached list that during the year I have travelled 26,823 miles by rail, sea, coach, and private vehicle (had one capsized), gave 103 lectures of an average of over two hours duration each, attended and judged at seventeen shows, held 122 conferences, and made 136 inspections, and sundry practical demonstrations.

I have tried to curtail my travelling as much as possible; but it is utterly impossible to meet the conveniences of the people at the various centres without a good deal of zig-zagging.

This year I am making arrangements to stay longer in each district, address meetings at small centres, where a fair number of intelligent men can be got together, and also give practical demonstrations when required.

Thanking you for your kind assistance in enabling me to carry out my duties,

I have, &c.,

J. L. THOMPSON.

PLACES visited and miles travelled during 1898 :—

Date.	Name of places visited.	Business.			Miles.
4 Jan. ....	Hay .....	.....	.....	.....	Inspection.
5 " .....	Maude .....	.....	.....	.....	do
6 " .....	Oxley and Balranald .....	Lecture .....	.....	.....	do
7 " .....	Buston and Gol Gol .....	.....	.....	.....	do
8 " .....	Mildura .....	.....	.....	.....	do
11 " .....	Wentworth .....	Lecture .....	.....	.....	do
14 " .....	Swan Hill .....	.....	.....	.....	do
20 " .....	Glen Innes .....	.....	.....	.....	do
21 " .....	Grafton .....	.....	Conference...	.....	.....
22 " .....	Coldstream .....	.....	do .....	.....	.....
25 " .....	Maclean .....	.....	do .....	.....	Inspection.
26 " .....	Harwood .....	.....	.....	.....	do
28 " .....	Chatsworth Island .....	Lecture .....	Conference...	.....	do
29 " .....	Woodburn .....	.....	do .....	.....	.....
29 " .....	Broadwater .....	Lecture .....	.....	.....	Inspection.
31 " .....	Coraki .....	do .....	Conference...	.....	do
1 Feb. ....	Alstonville .....	.....	do .....	.....	.....
3 " .....	Casino .....	Lecture .....	do .....	.....	Inspection.
5 " .....	Lismore .....	.....	do .....	.....	do
7 " .....	Bangalow .....	Lecture .....	.....	.....	do
8 " .....	Murwillumbah .....	do .....	Conference...	.....	do
10 " .....	Rous .....	.....	do .....	.....	do
10 " .....	Woolongbar Experiment Farm .....	Lecture .....	do .....	.....	do
11 " .....	Ballina .....	do .....	do .....	.....	do
22 " .....	Tumut .....	.....	do .....	Show .....	do
1 Mar. ....	Stroud .....	Lecture .....	do .....	.....	do
					2,460½
					1,420

Date.	Name of places visited.	Business.				Miles.
3 Mar.	Croki	Lecture	Conference		Inspection.	
5 "	Taree	do	do		do	
7 "	Wingham	do	do		do	
8 "	Coopernook	do	do		do	
9 "	Rollands Plains	do	do		do	
10 "	Wauchope	do	do		do	
11 "	Port Macquarie		do		do	
14 "	Kempsey	Lecture	do		do	
15 "	Fredericktown	do	do		do	
16 "	Smithtown	do	do		do	
17 "	Macksville	do	do		do	
18 "	Fernmount	do	do		do	
19 "	Bellingen	do	do		do	
23 "	Bathurst		do	Show	do	
30 "	Cooma	Lecture	do	do	do	1,294
1 April	Nimityabelle	do	do		do	
6 "	Sydney Show			Show		
7 "	Penrith	Lecture				
9 "	Hawkesbury Agricultural College					
14 "	Albion Park	Lecture	Conference		Inspection.	
15 "	Kiama	do	do		do	
16 "	Dapto	do	do		do	
19 "	Wellington	do	do	Show	do	
23 "	Wagga Experiment Farm	do			do	
26 "	Bungendore	do	Conference		do	
27 "	Queanbeyan	do	do		do	
27 "	Duntroon	do	do		do	
28 "	Bombala	do			do	
30 "	Bibbon Lake		Conference		do	2,152
2 May	Delegate	Lecture	do		do	
3 "	Pambula	do	do		do	
4 "	Eden	do	do		do	
5 "	Candelo	do	do		do	
6 "	Bega	do	do		do	
9 "	Cobargo	do	do		do	
10 "	Tilba Tilba		do		do	
11 "	Bodalla		do		do	
12 "	Moruya	Lecture	do		do	
14 "	Braidwood	do	do		do	
16 "	Milton	do	do		do	
17 "	Nowra	do	do		do	
18 "	Berry	do	do		do	
19 "	Kangaroo Valley	do	do		do	
20 "	Wollongong	do	do		do	
25 "	Robertson	do	do		do	
27 "	Menangle	do	do		do	
30 "	Campbelltown	do	do		do	950
6 June	Crookwell	do	do		do	
8 "	Albury	do	do		do	
11 "	Tenterfield	do	do		do	
20 "	Murrurundi		do		do	
21 "	Singleton		do		do	
23 "	Muswellbrook	Lecture	do		do	
24 "	Walcha	do	do		do	
28 "	Inverell	do	do		do	
30 "	Warialda	do	do		do	3,251
1 July	Yagobie	do			do	
4 "	Moree	do	Conference		do	
8 "	Tamworth	do	do		do	
12 "	Singleton	do	do		do	
15 "	Narrabri	do	do		do	
20 "	Deniliquin		do	Show	do	
26 "	Jerilderie	Lecture	do	do	do	
29 "	Hay	do	do	do	do	3,406
2 Aug.	Carrathool		do		do	
5 "	Hillston	Lecture	do	Show	do	
8 "	Wonnamurra	do	do		do	
9 "	Berrigan	Lecture	do		do	
10 "	Finley		do		do	
11 "	Mulwala		do		do	
17 "	Hurstville	Lecture	do		do	
18 "	Corowa		do	Show	do	
23 "	Singleton		do	do		
26 "	Eastwood	Lecture	do		Inspection.	
29 "	Camden	do	do		do	2,608
1 Sept.	Carcoar	do	do		do	
2 "	Lyndhurst	do	do		do	
5 "	Molong	do	do		do	
6 "	Cumnock	do	do		do	
8 "	Cargo	do	do		do	
9 "	Cudal	do	do		do	
12 "	Manildra	do	do		do	
14 "	Young	do	do		do	
15 "	Young	do	do		do	
20-1 "	Moama	do	do		do	
23 "	Jindera	do	do		do	
27-8 "	Temora	do	do	Show	do	
30 "	Yass		do	do	do	2,810
4 Oct.	Burrowa	Lecture	do		do	
6 "	Parkes	do	do		do	

Date.	Name of places visited.	Business.				Miles.
7 Oct.	Forbes	Lecture	Conference	.....	Inspection.	2,323
13 "	Urana	do	do	Show	do	
17 "	Bolero	.....	do	.....	do	
19-20	Narrandera	.....	.....	Show	.....	
25 "	Moss Vale	Lecture	Conference	.....	Inspection.	
27 "	Taralga	do	do	.....	do	
31 "	Bargo	do	do	.....	do	
2 Nov.	Bungonia	do	do	.....	do	
3 "	Inverary	.....	do	.....	do	
8 "	Cooranbong	Lecture	do	.....	do	
9 "	Cooranbong	do	do	.....	do	
10 "	Martinsville	do	do	.....	do	
11 "	Tuggerah Lakes	do	do	.....	do	
12 "	Wallsend	do	do	.....	do	
16, 17, 18	Young	Judging farms for Government Prize.				
22 "	Dural	.....	Conference	.....	Inspection.	
23 "	Luddenham	Lecture	do	.....	do	
24 "	Wentworthville	do	do	.....	do	
26 "	Molong	Inspecting wheat crops.				
29 "	Oberon	Lecture	Conference	.....	Inspection.	2,069
1 Dec.	Hartley	.....	.....	.....	do	
2 "	Toronto	Lecture	Conference	.....	do	
6 "	Gresford	do	do	.....	do	
7 "	Clarence Town	do	do	.....	do	
8 "	Hinton	do	do	.....	do	
9 "	Largs	do	do	.....	do	
13 "	Berry	.....	.....	Show	.....	
14 "	Berry	.....	.....	.....	Inspection.	
19 "	Wagga	.....	.....	.....	do	
20 "	Albury	.....	.....	.....	do	
22 "	Narromine	.....	.....	.....	do	
23 "	Bathurst	.....	.....	.....	do	
29 "	Hawkesbury Agricultural College	.....	.....	.....	.....	2,086
Total number of miles.....						26,823

### Report of the Wheat Experimentalist.

I have the honor to report, in reference to the work of my office during 1898, that, inasmuch as I only entered upon my duties on 1st September, I have little to report of work actually done.

In order to get a knowledge of the different Experiment Farms, and the conditions under which I shall have to carry on my work at them, during the months of September and October I visited all of them at which it is possible to grow wheat with any prospect of success. The Hawkesbury, Wagga, Coolabah, and Bathurst farms were visited in the order named, the first three in September, and the last early in October. For the purpose of observing the conditions under which cultivation can be carried on at them, I also, when I was in the west, took advantage of the opportunity to inspect the bores at Pera and Tenandra.

I found that experimental wheats were being grown to a greater or less extent at all the farms I visited. At the Hawkesbury College Farm only a few sorts were being tested, but all on a comparatively large scale. Mr. Valder, however, has special objects in view in testing wheats there. His aims are to find varieties which (1) will give abundant yields of grain of such a character as is specially suitable for feeding poultry, and (2) to see what varieties are the most suitable for growing for hay in the coastal counties for sale in the Sydney market. A third object of experimenting with wheats at Richmond might, I think, to be (3) to find out whether it is possible to grow macaroni wheats in the coastal counties, and if so, what varieties are the most suitable for their climate. I have long thought that these wheats might be grown with advantage in places near the coast, where bread-wheats are destroyed by rust. When I was in South Australia, about six years ago, I found that some of these wheats were being grown for hay by some of the farmers in the neighbourhood of Adelaide, and that they were liked for this purpose (1) by the farmers who grew them, because the straw is, in general, much taller and more solid than that of the bread-wheats, and the hay weighs well; and (2) by the consumers, because the hay which is made from these wheats is supposed to be peculiarly sweet. I was told that the beards, which are carried by all the macaroni wheats, were not considered very objectionable. This, I can only think, is the case when the hay is cut not later than when the plants are in flower. The beards would not then have had time to become hard. The unfortunate prejudice which exists in the Sydney market in favour of hay with grain in the ears, and, consequently, with relatively hard, woody, and innutritious straw, over that which has been cut before grain has been formed, and, in consequence, is green, soft, digestible, and more nutritious, will, I fear, prevent the merits of hay made from macaroni-wheats from selling for its true value for some time. If it be found that macaroni-wheats can be grown successfully in the coastal counties, they might also be grown there for the production of grain, at least as profitably as bread-wheats are grown for grain in the interior; for although the flour made from these wheats is inferior for the making of bread, mainly because it is of a grey colour, it is, on the whole, even more nutritious than bread-wheat-flour, and these wheats find a ready sale at excellent prices in France and Italy; the macaroni-making industry might then, also, be established in the Colony with the highly desirable result that we should then be able to purchase our macaroni fresh, and would enjoy it the more from knowing that it had been made under the eyes of sanitary inspectors. With the above objects in view, I am proposing in the immediate future

future to test experimentally the growth of macaroni-wheats at the Hawkesbury Farm, and for this purpose am growing at Lambrigg some new wheats, which are the results of crosses between macaroni wheats and between these wheats and *Triticum polivicum* (mammoth rye), seed of which I shall be able to send to Mr. Valder this autumn. I have also this summer made a few fresh crosses between these wheats for this special purpose.

It is at the Wagga Farm, however, that I am hoping to do much experimental work with wheats—with bread-wheats. I have already paid two visits to this farm, one of nearly a fortnight, in September, and a second towards the end of November. I found that a considerable number of wheats had been planted in the paddock which is devoted to wheat experiments, and that when I visited them in September they were, considering how late many of them had been planted, growing exceedingly well. In this paddock I found a collection of over 300 varieties, which Dr. Cobb has been growing for many years for educational purposes, and calls the Nomenclature wheats. This collection was made originally (and largely by myself) with the object of discovering varieties which are specially suitable for our climate. As the collection contains representatives of most of the types which are in cultivation in any part of the world, and Dr. Cobb has increased their number, he has continued to grow them because he considered that so representative a collection could not but possess an educational value for the visitors to the farm. While I agree with him that this collection is valuable on that account, I think that the growing of the whole of it every year takes more valuable time and space than is commensurate with the practical value of the educational benefits it affords. I propose, therefore, to reduce the collection considerably by rejecting many inferior varieties, which for all practical purposes are of the same types as other more desirable sorts in the collection. I propose, also, only to grow the whole of the reduced collection once in three years by growing a third of it each year. In this way the collection will be kept together, and good seed of any variety in it will be accessible at any time. In the wheat-experiment paddock I also found a collection of what Dr. Cobb calls his "stud" wheats. This collection consists of twenty-seven varieties, which have been grown for a succession of generations from selected seeds taken from selected plants. I am proposing to continue the growth of a stud-plot, but for a different purpose. The stud-plot I propose to grow each year will consist of not more than six selected varieties, and will not be the same each year. I propose to grow in the stud-plot about one-sixth of an acre of each of the varieties selected for the year. These wheats will be planted by hand in drills about 16 inches apart, the seeds being placed about 6 inches apart in the drills. Each plant can then be examined by itself. Repeated examinations of the drills will be made, and any plants which are not of the variety, or are in any respect departures from its type or for any reason inferior representatives of it, will be pulled up and rejected. In this way it is hoped that sufficient absolutely pure seed of each sort will be harvested and handed over to the Farm-manager for planting a plot of 3 or 4 acres in drills, in such a manner that they can, as before, be examined easily for stray as well as for bunted plants. In this way the main crops of the farm will, it is hoped, be grown each year from fresh and pure seed, and that the farms can be made to raise for sale stocks of seed which is both pure, true to name, and free from bunt-spores, of such varieties as trial in the Wagga climate and by Mr. Guthrie's mill have shown to be likely to suit the district and to do credit to the colony. I may here give expression to an opinion of my own, that in selecting varieties for selling to the farmers for seed purposes, regard ought not to be paid entirely to the preferences of the farmers themselves, who usually value the quality of productiveness alone, whether or not it be associated with good milling quality; but that the interests of the colony as a whole ought to be consulted for, and only varieties disseminated which are likely to cause by their high-milling excellence the wheats of New South Wales to be looked upon as the very best in the markets of the world. In addition to the "Nomenclature" and "Stud" plots, I found growing in the wheat-experiment paddock two other series of wheats. These consisted of (1) cross-breeds which I sent to Dr. Cobb several years ago, and he has since been growing. This series consists almost entirely of crosses I have rejected at Lambrigg, in some cases because, like most of my earlier crosses, they were too late for our climate; and in others because Mr. Guthrie's milling tests have led me to think they are not likely to be up to the mark for flour-making; a few of the best of this series will be retained for further trial. The second (2) series consists of fixed and partially-fixed cross-breeds I sent from Lambrigg last autumn. This, the most important series of all, was unfortunately planted the last—near the end of July—and too late to judge of the value, or probably even of the relative value at Wagga, of the sorts included in it. I found when I visited the farm in November that Mr. Hurst had marked the earliest and best plants of each sort, and he is now harvesting them separately in accordance with the system I follow with my own experimental wheats at Lambrigg.

#### *The Bathurst Experiment Farm.*

Since I entered upon my duties I have paid two visits to this farm also—the first at the beginning of October, and the second at the end of November. I find that the Nomenclature wheats are being grown at this farm, as well as at Wagga. I think that, as at Wagga, a considerable reduction of their number ought to be made, and that it would be well to continue to grow this reduced collection at Bathurst every year. The Bathurst Farm is situated quite close to the town, and I am told that the townspeople are in the habit of pausing in their Sunday afternoon walks and looking at the present collection, which contains some curious-looking varieties. Although I feel no great amount of confidence in the value of the educational benefits it is likely to bestow in this manner, as I think that everything ought to be done to make the farms interesting and attractive to the public, I am proposing to grow the reduced collection at Bathurst every year.

The other experimental wheats I found growing at this farm consisted of seventeen fixed and partially-fixed cross-bred varieties I had sent from Lambrigg. I find that the work of marking selected plants of them for the purpose of securing strains to suit the climate of Bathurst was being well done by Mr. Dovey. Beside these wheats, I saw growing collections of varieties of oats and barley which Mr. Dunningcliff had secured.

#### *The Coolabah Experiment Farm.*

My visit to this farm was made towards the end of September. The drought on the west of the Bogan had been so severe and so protracted at the time of my visit that the wheats which had been grown on the farm were rapidly dying off, and all hopes of a harvest disappearing. I saw enough, however, to form the opinion that this farm is most favourably situated for carrying on experiments for the purpose  
of

of discovering what can be done in the direction of making agriculture, and especially wheat-growing, possible in our dry interior. It is at this farm that the problem of discovering whether special methods of managing the soil can be devised, and to what extent they can be made to take the place of irrigation in counteracting the effects of drought ought to be worked out. This, apparently, is a very formidable problem to attack; but I think that the measure of success which is likely to follow eventually, if the attempts to solve it are intelligent, will quite justify the expenditure they will entail in view of the large extent of the territory which would be benefited by them, I think that the institution of these experiments is urgently required. I am strongly of opinion that for the present the Coolabah Farm should be carried on for experimental purposes alone, and that the experiments made on it should be not only agricultural, but pastoral also; and that on it extensive trials should be made of exotic and selected native grasses and forage plants which are likely to be of value to the pastoral industry in our dry country.

With regard to the wheat experiments which are being carried on at Lambrigg, I may state that I am growing there this season 64 old-named varieties, 122 named and fixed, or partially fixed, cross-breeds or varieties which have originated in my hands, and 390 unfixed cross-breeds. Of most of the new varieties and cross-breeds, I have more plants than one—in one case at least a dozen—representing either different strains of the variety or different selected types of the cross-bred. I find that in consequence of this I have at present growing in the experiment paddock no less than 1,478 separate plots. When it is considered that I harvest at least six selected plants from each plot, and that each plant has to be threshed by itself, and the seed it yields placed in a separate envelope, on which a description of the plant and of its peculiarities is recorded, it must be plain that the work of planting, watching and taking notes of the peculiarities, not only of the different sorts, but of individual plants of each sort, marking the selected plants of each plot, harvesting and thrashing, together with all the manifold details connected with these operations, conjoined with all the book-keeping, making records, correspondence, the work of cross-breeding, and the precautions which have to be taken at every stage to prevent mistakes and the mixing of seeds—that all this keeps me fully occupied the year round and, more than that, exceedingly busy. It is quite plain, therefore, now that I have undertaken the work of superintending or directing the experimental wheat-work at the farms, that I must next season very gently curtail the work at Lambrigg if I am in any degree to do justice to the work at the experiment farms.

Since I have entered upon my office, and my work at Lambrigg has been carried on in the interests of the Department, I have departed somewhat from my former policy in cross-breeding of aiming for results of a somewhat abstract character, such as increasing to an indefinite extent the flour-strength and the gluten content, and have rather directed my aims to the making of improved varieties which are likely to be of immediate and practical value; and from this time, or in the immediate future, I shall hope every year to introduce into general cultivation through the experiment farms at least one or two varieties which are, in some respects at least, improvements on the old standard sorts we have hitherto been growing.

WILLIAM FARRER.

### Report of Mr. Martin, Fruit Inspector.

I HAVE the honor to submit the attached schedules of particulars shewing the duties performed by me under the Vegetation Diseases Act, from February 19th to December 31st, 1898. 583 steamers carrying fruit and plants to Sydney were attended to, and 704 inspections were made on those steamers. Mr. Campbell, the Chief Inspector of Agriculture, was with me during 47 of the inspections, and Mr. Chomley rendered valuable assistance from the 10th of May, while he was not engaged in supervising the packing of citrus fruits for export and spraying operations.

The number of cases of citrus fruits fumigated with hydrocyanic acid gas for export to the other colonies were 121,128, and 1,694 certificates were issued for West Australia *re* Fiji bananas.

The work in connection with fruit and plant inspection, seed distribution, supervision of the six fumigators, inspection and classification of timber, also work in connection in the Agricultural and Forestry Museum has kept me fully employed—in fact, I have been engaged on public duties overtime to the extent of 678½ hours during the year, also on eight public holidays, to keep in touch with the various work allotted to me.

I have inspected fruit and plants on thirty wharves in Sydney, but principally attended to Intercolonial, the Islands, and San Francisco boats.

J. MARTIN, Junr.

#### PARTICULARS of Fumigation of Citrus Fruits for Export from July 1st to December 31st, 1898.

Month.	Victoria.		Queensland.		South Australia.		Tasmania.		New Zealand.	
	No. of certificates issued.	No. of cases fumigated.	No. of certificates issued.	No. of cases fumigated.	No. of certificates issued.	No. of cases fumigated.	No. of certificates issued.	No. of cases fumigated.	No. of certificates issued.	No. of cases fumigated.
July .....	54	7,207	8	480	7	547	.....	.....	.....	.....
August .....	258	24,242	25	873	24	1,471	.....	.....	21	695
September ...	288	30,188	73	2,298	19	1,549	60	1,981	8	300
October .....	257	25,898	100	3,935	14	1,246	18	741	3	123
November .....	129	8,595	102	2,200	6	300	10	278	3	70
December .....	54	2,401	113	2,645	.....	.....	12	206	28	659
Totals .....	1,040	98,531	421	12,431	70	5,113	100	3,206	63	1,847



PARTICULARS of Fruit and Plants Inspections *re* Vegetation Diseases Act from February 19th to December 31st, 1898.

Month.	No. of Steamers carrying Fruit and Plants, &c., to Sydney.						Cargo of Fruit and Plants.			Condemned.			No. of Steamers.	No. of Inspections.
	From Queensland.	From Victoria.	From New Zealand.	From Tasmania.	From Fiji and Islands.	From San Francisco.	No. of Bunches of Bananas.	No. of cases of Mixed Fruits.	No. of Parcels of Plants.	No. of Bunches of Bananas.	No. of cases of Mixed Fruit.	No. of Parcels of Plants.		
February .....	7	6	1	2	1	1	20,146	9,607	21	...	334	4	18	23
March .....	20	22	5	7	3	2	48,046	61,000	53	10,000	3,546	10	59	65
April .....	23	19	6	9	2	2	43,000	72,000	34	7,100	3,312	23	61	71
May .....	24	18	10	9	2	2	53,886	45,250	65	8,197	4,133	15	65	78
June .....	20	16	3	8	2	1	40,800	36,080	74	3,132	2,391	20	50	59
July .....	17	14	6	9	3	1	61,465	33,032	82	4,587	2,068	7	50	62
August .....	20	16	2	8	2	2	49,384	32,607	66	6,013	1,161	19	50	61
September .....	23	14	4	7	5	3	58,407	29,400	50	6,492	871	20	56	70
October .....	24	13	2	9	2	2	56,300	13,446	24	9,895	563	5	52	67
November .....	20	23	6	6	4	3	55,040	17,860	72	2,878	4,919	2	62	73
December .....	20	22	6	6	5	1	62,550	21,076	56	1,528	216	6	60	75
Totals .....	218	183	51	80	31	20	543,824	371,358	597	59,822	23,514	131	583	704

### Report of the Manager, Experimental Farm, Wollongbar.

I have the honor to state I took charge of the Wollongbar Experimental Farm in November, 1897. The total area of the farm may be stated at 263 acres, more or less. At the time of my arrival there was a cultivated portion of some 27½ acres, which had been laid out partly as an orchard, in which citrus trees in variety had been planted, also a few olives, persimmons, and deciduous fruits. A small plot was under grape vines on trellises; other parts had been planted with bananas, pineapples, sugar-cane, and experimental grass plots. There were 6 acres also of land only recently opened up, on which maize in varieties was being grown, and also specimens of pumpkins, squashes, melons, &c. There was also an old grass paddock, of some 6 or 7 acres in extent, and a newly-sown grass paddock of some 20 acres. Men were busy clearly and burning off some 26 acres, which they had to plough and subsoil, the balance of the area of the farm being in various stages of standing timber, fallen timber, and felled and fired portions. In January, 1898, the 26 acres by this time available for cultivation was pegged out into acre blocks, in order to enable experiments to be made with crops in bulk portions or areas, thereby enabling us to obtain actual results from stated areas in preference to estimated yields from narrow strips or rows.

#### *The Soil.*

This manner of laying out good-sized experimental portions brought into evidence the variable nature of the soil on this red volcanic upland. Such variability has frequently been brought under my notice by visiting farmers, who were anxious to know the cause of the sterility in certain rings or patches of their paddocks under cultivation. I therefore, in due time, forwarded to Mr. Guthrie, F.C.S., Chemist to the Department of Agriculture, some specimens of top soil and lower soil from an area bearing good crops, and specimens of top soil and lower soil from within a few feet of the previous mentioned area, in which whatsoever crop was planted made poor growth and was miserable in appearance. That gentleman kindly furnished me with his report and analysis, which went to show that the general characteristic of the soil was a tendency to sourness or acidity with a low percentage of lime constituents. In the good soil the quantity of lime was indifferent, the amount of potash was also indifferent, whilst phosphoric acid was stated to be very good, and the proportion of nitrogen good. On the other hand, in regard to the soil in which plants do not thrive, Mr. Guthrie said his investigation showed the soil to be strongly acid. Lime was very deficient; potash indifferent, but the amount of phosphoric acid was very good, and the amount of nitrogen good. He recommends a dressing of not less than 1½ tons of lime to the acre on soil of the quality of the sterile plots, together with deep cultivation. In some portions of the Farm the soil is a deep, red, friable loam under cultivation; in other parts it is the same soil but exceedingly stony, and one of the peculiar features is, that the best crops of cane, maize, etc., are obtained from off such stony land. There is also some alluvial soil which we have not yet tested, on the low lying and less steep portions of the Farm bordering Marom Creek. This latter portion of the Farm will probably eventually be found the most suitable for agricultural operations, the soil being of a more loamy nature, and, owing to the drainage from the hills above, there is a moisture pervading the soil not obtained on the high lands. Owing to the initial clearings of the Farm having been made on the higher ridges where water is only obtainable by artificial means, an effort is being made to get this 40 acres of land cleared of timber and rubbish in order to give the Farm the benefits of its water frontage.

#### *The Climate and the Crops.*

One hears so much of the Richmond River and its wonderful fertility that it was with some surprise when I arrived here to find the locality suffering from what was called a dry spell. This dry spell, though of very short duration, extending from part of September through October to about November 14th, was sufficient to check the progress of various experiments, including experiments that were being made with varieties of onions and potatoes, and when the rain did come, it was so heavy and prolonged that the onions never came to a satisfactory crop. Very nice specimens were obtained for the shows, but the bulk for market was insignificant. Some seventeen varieties of potatoes that had been sown in August did better in point of yield in some cases than I anticipated; the marketable quantity, however, was very small, nearly the whole of the crop being infested with nematode worms, and consequently they had to be destroyed. These potatoes were planted in newly-cleared virgin land.

Varieties

Varieties of maize had also been planted in another portion of the same area. These varieties were grown in rows, and the estimated yields are as given below:—

Hickory King ... ..	17.2 bushels per acre.
Yellow Flint ... ..	20.5 " "
White Meal ... ..	32.5 " "
Iowa Silver Mine ... ..	36 " "
Thousandfold ... ..	19.6 " "
No. 1 D. Clark ... ..	29.9 " "
Hadfield No. 1 ... ..	53.4 " "
No. 2 D. Clark ... ..	32.03 " "
Hadfield No. 2 ... ..	25.9 " "
No. 3 D. Clark ... ..	35.8 " "
Monaghan ... ..	44.9 " "
Big Yellow ... ..	39.5 " "
Leaming ... ..	56 " "
Mastodon ... ..	57.75 " "
Chester County ... ..	35.8 " "
Pedrick's Golden Beauty ... ..	42.3 " "
White Cap ... ..	34 " "
Golden Beauty ... ..	44.3 " "
King of the Earlies ... ..	32 " "
Iowa Gold Mine ... ..	41 " "
Large Hawkesbury ... ..	49.6 " "
Red Core ... ..	33.6 " "
Conqueror ... ..	Heaviest grain, but not sufficient yield to estimate.
Golden King ... ..	55.7 bushels per acre.

A considerable quantity of coffee seed was sown, and gave promise of yielding a fine nursery stock of young coffee trees. The bleak winds experienced in the early winter, and later on occasional frosts, played havoc with the crops. By careful nursing under shaded seed beds, some of these may turn out satisfactory; but towards the close of the year the droughty condition of the district generally has been against the growth of the coffee. A few coffee trees growing in the shade of adjacent bananas, bore fair crops of berries, but coffee trees in the open acquired a wilted and unhealthy looking appearance, resulting mainly from dry, hot winds.

A small plot of ginger did not give a satisfactory return.

A quantity of arrowroot was made from the *Canna edulis*, particulars of yield, &c., being published in the *Agricultural Gazette*. The plot of Bermuda or White Arrowroot made very good growth, and about half an acre has now been sown with this variety, and next season it is intended to manufacture arrowroot from these bulbs, and so compare the yield with that obtained this season from the *Canna edulis*.

Some upland rice was sown, but at the present time there is no cultivated land available on the farm suitable for growing rice, and consequently the result has not been encouraging. It has held its own during the dry weather, but the stalks are light and short. Some rice had also been grown in a low-lying portion of the town, somewhat moist from soakage, and here it made great growth of stalk. Later some of the lower land will be cultivated. Some two acres of pineapples were planted out, the varieties being Smooth Cayenne and Queen. Considering the dry weather experienced in the latter part of the year the plants look exceedingly well. The papaw trees growing at the farm have fruited fairly well, but do not look particularly robust in this climate. The most satisfactory tropical plants so far experimented with on the farm appear to be the banana, pineapple, and the mango tree. Several of these latter show signs of bearing heavily this season. In the orchard the deciduous fruit trees, such as Japanese plums, peaches, &c., in some instances have never fruited; therefore during the fruiting season they were "root pruned," in order to check the root action, and thereby if possible throw them into fruit. In one or two instances the operation has proved successful. The oranges and lemons produced fair crops, very fine specimens being on exhibition at the Royal Agricultural Show in Sydney during Easter. The gall worm, fruit fly, and borers, and also the bronzy orange bug are the chief troubles to contend with in the orchard.

The early crop of tomatoes was practically a failure. A late crop turned out much better, and the standing crop, growing on trellises, notwithstanding the dry weather, looked very well indeed in December. Cucumbers, pumpkins, squashes, and melons have been grown in variety, and, considering the porous nature of the soil, and the fact that it is yet slightly acid, the growth of some of the varieties was very good, and as the land becomes sweetened through tillage there is no doubt these and other crops will improve.

The investigation into the growth and qualities of new varieties of New Guinea sugar-canes, as also the varieties that have been long established on the northern rivers, has been continued, and the result of such investigation, analysis, &c., published in the *Agricultural Gazette*. The manner of giving the information in a tabulated form is much appreciated by those interested. Some 12,000 sets of cane have been distributed to cane farmers. In order to follow out the life history of these cane plants in their various stages, a new planting has been made covering an acre in extent, while two or three of what are now considered best varieties have been planted in half-acre or quarter-acre sections, so as to arrive at a yield in bulk.

In the matter of pulses—beans, &c., the heavy rains of December, January, February, and March made it difficult to satisfactorily harvest such crops. Only a small quantity of Black Cow Pea seed and Wonderful Cow Pea seed was saved, while the crops sown later in the year languished and gave poor results in consequence of the droughty conditions. Of table peas, the Duke of Albany and Heroine were undoubtedly the best. In beans, the Canadian Wonder and Governor Denison are the heaviest croppers, while Davis's Wax, Horticultural, and Startler are very good yielders.

In cereals, rye is the most satisfactory grain raised here, for the simple reason that it is free from rust. The crop was sown in May and harvested in November. The yield was 20.18 bushels per acre of grain and 2 tons 8 cwt. 1 qr. per acre of straw. A late sowing was made of Allora Spring Wheat; 30 lb.

of seed was sown in drills per acre, the seed being obtained from the Wagga Experimental Farm. The sowing met with dry weather, and it was fairly dry all through to harvesting. It was sown on new land, on which there proved to be a good deal of sour soil, on which there was stunted growth. However, taking the plot as a whole—good, bad, and indifferent—the yield obtained from the acre was  $5\frac{1}{2}$  bushels of grain and 7 cwt. 3 qrs. 3 lb. of straw. There is sufficient acclimatised seed, therefore, to make a proper early sowing in the coming season, it being exceedingly satisfactory to have raised this seed free of rust.

The farmers of the locality grow oats largely as green fodder for stock, and one of their troubles is loss arising from rust. A small parcell of Algerian Seed Oat, received through the courtesy of Mr. Albert Benson, of the Queensland Agricultural Department was sown on June 16th and harvested in November. The crop was free from rust, and the yield was equivalent to 40 bushels of grain and 2 tons 8 cwt. 2 quarters of straw per acre. With the seed thus obtained a further experiment will be made, and it is intended to try two or three other varieties that may possibly answer in this locality.

Of pasture grasses—Cocksfoot, Prairie, *Paspalum Dilatatum*, Guinea Grass (*Panicum maximum*), and Natal Red Top have so far shown the most hardihood during the severe weather experiences in the latter part of the year. From the close of the winter Prairie Grass held out fairly well for a time, the Cocksfoot dried up considerably but did not actually burn off with the sun and drying wind, while the *Paspalum dilatatum* and the Guinea Grass may be said to have kept green all through a dry time, the like of which is said not to have been experienced on the Northern Rivers for some ten or twelve years. The Natal Red Top is a prolific seeder, and is a valuable addition to a grass paddock. It will not stand frost, however.

As some farmers appeared anxious to take up the making of ensilage, a small model tub silo was made and exhibited at the Lismore Agricultural Show. A temporary square wooden silo was also erected on the farm for making silage of whole stalks of Maize, Planter, &c. The ingredients used were Amber Cane, Planter's Friend, Maize, Guinea Grass, Red Top and Teosinte. At the expiration of three months the silo was opened, and was found to contain about 12 tons of very excellent ensilage. At this time I never anticipated it possible we should have such a dry spell as that experienced later, otherwise I should have husbanded this feed stuff more carefully. I had heard of cattle having to be removed from the locality for want of grass in November, and must admit I was somewhat sceptical. I have now realised, however, to what an extent this sort of country suffers during a drougthy time in consequence of the excessive evaporation and the wonderful porosity of the soil. While in other parts the farmer may lay up his store of silage for use in cold winter months, here the store is apparently required for the early summer onwards, say October and November, perhaps December,—this, of course, only applies to such an exceptional season as recently experienced. While it is a vexed question as to whether the destruction of forests causes a diminished rainfall, I am of the opinion the gradual destruction of the scrub causes a dry time to be felt more keenly than it was a few years ago. Though the rainfall may be just as heavy throughout the year, it has not the same permanent effect during months of a light fall; the winds have fuller play, and sweep across hill and dale where, in former times, they were deflected by the tall belts of scrub. The silage was served out to the horses of the farm in a chaffed condition, at first only in small quantity mixed with bran and maize. As they became accustomed to the fodder the bran and maize was reduced, and finally discontinued when it was apparent that the horses relished the silage alone. The animals put on condition, and threw off their winter coat of hair very quickly when put on the silage ration. Farmers were allowed small quantities of the silage, as samples with which to try their stock, &c.

In December, 1897, in point of quantity, the crop of grapes in variety was a very promising one, but the rain spoilt a good deal of it. This season there is also a very excellent crop, and in the early part of December the varieties Early Chasselas, Golden Chasselas, and Madeline Royal were fit to market.

A winter crop of potatoes, consisting of Brownell's Beauties, Early Rose, and Ruby Red, gave fairly good results, particulars of which were published in the *Gazette*.

About an acre was sown with onion seed obtained from Queensland—variety, Brown Spanish. They were sown in the latter part of April, and made most excellent growth until the dry season overtook them, since when they have not made the bulbs they would otherwise have done. The harvesting of this plot has to be done from time to time in consequence of the unevenness of the crop, and the total yield cannot at present be stated. Though uneven, there are some very fine samples of onions on the plot.

In order to be able to make a bulk estimate of the production of fibre from the Ramie plant, 5 acres have been sown with root cuttings from time to time, and 1 acre is lying fallow waiting for favourable weather to plant, so that we shall have a total of 6 acres under ramie. Since planted, there has not been weather calculated to promote the vigorous growth desirable for manipulation by machinery. One of Faure's Ramie decorticating machines has been imported from France, and the necessary driving power is being supplied and fitted. With the machine ready and suitable rain to bring on the crop, it is hoped to make a trial for fibre production in February or March next. Per medium of the *Agricultural Gazette*, an effort has been made to give every information possible about this plant and its fibre.

Exhibits of farm produce were made at the Royal Agricultural Society's Show in Sydney, at Lismore, Bangalow, Alstonville, and Murwillumbah.

The particulars of temperature and rainfall are as follows:—

	Maximum.	Minimum.	Rainfall.
January.....	82·9	65·5	points. 2,617
February.....	80·9	65·01	1,740
March.....	76·7	63·03	1,614
April.....	73·49	56·8	300
May.....	64·29	47·1	396
June.....	63·8	47·2	911
July.....	61·9	44·9	426
August.....	64·4	49·38	420
September.....	71·1	54·18	379
October.....	77·63	58·14	465
November.....	87·8	63·49	78
December.....			

## Plants, &amp;c., distributed from the farm:—

Sugar-cane sets .....	12,000
Grass roots .....	2,422
Ramie roots.....	300
Banana plants, pineapple suckers, grape cuttings, &c. ....	623
Small trial packets of seeds .....	87
Miscellaneous .....	133
	15,565

*Cattle.*

In response to a desire expressed by various Agricultural Societies, an Ayrshire bull, imported from New Zealand, was received at the farm, where he remained some six months. During that period, the animal was not extensively patronised by the local farmers, and consequently he was removed to Coraki, in response to representations made by the Agricultural Society of that place. There was some dissatisfaction locally upon the removal of the Ayrshire bull, as some dairymen were disappointed in not being able to obtain his services when they were in a position to make use of him. In this connection there has been some little difficulty, some farmers contending they cannot travel their cows long distances, and consequently the various Societies scattered over the district, and others interested, keep asking for any bulls at the farm to be sent into their own particular neighbourhood. It is of course impossible and unreasonable to expect the services of bulls located at the Wollongbar Farm can be available beyond a certain radius, nor is it possible even when removing the bulls to another centre to please all parties. On the low-lying country of the Richmond, many of the dairy farmers work their cattle in such a way as to bring their cows in in the spring; on the other hand, in the higher country the dairy farmers mostly work their cattle in such a way that they come in in the winter months, to attain which object they paddock their own bulls from January up to the second week in May. It appears, therefore, from investigations I have made that it will be advisable to hold any stud bulls depastured at the farm for a full term of twelve months, at the expiration of which, perhaps, other arrangements may be made for service elsewhere in the Richmond River District. In October two of the recent importations from England were received at the farm, namely the Durham bull "Cornish Boy," and the Guernsey bull "Nutcracker." Very much interest toward the Durham strain of dairy cow; and secondly, the Guernsey, in consequence of his representing a breed hardly known here, and a type of dairy animal a great many of the farmers had never before seen. From the time of the arrival of the bulls they met with just as much patronage from local breeders as was, perhaps, good for them. Feed was scarce, the weather was very hot and dry, and the bulls, being somewhat high in condition, they appeared to feel the change of climate somewhat acutely. Proper bull paddocks and housing accommodation has been provided for these animals, and, in order to meet the convenience of farmers at a distance, matters are so arranged that a cow may be cared for and milked, if it is necessary that she should be paddocked for a day or two.

Paddocks are being fenced, and clearing and burning off the fallen scrub and sowing of grass seed to make pasture is progressing, so that in course of time it will be possible to carry a small milking herd of pure bred cows of whatsoever breed may be decided upon.

H. V. JACKSON.

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### Report of the Manager, Coolabah Farm.

EARLY in 1898 the Department commenced clearing the land set apart for the Coolabah Farm.

The country was very thickly timbered, comprising red and white box, pine, mulga, iron-wood, and many other small trees and shrubs. As this area was a portion of the West Bogan scrubbed lands, the trees had, previous to clearing operations, been ringbarked and the scrub felled.

Two hundred acres were cleared for cultivation, and fenced in with a substantial 6-wire fence.

The first furrow was turned on the 30th March, and the ploughing was carried on under adverse conditions, it being virgin soil and no rain to soften it. The first wheat was sown on the 9th April, but did not germinate until the 11th June, it not having sufficient rain until that date. The following wheats were sown in large areas, viz.:—Hudson's Early Purple Straw, Australian Talavera, Blount's Lambrigg, Zealand, Steer's Purple Straw, Rattling Jack, Steinwedel, and Allora Spring.

Experiments were carried out with these as regards the depths of ploughing, viz., 5 inches, 6 inches, and 7 inches; light and heavy sowing, ranging from 20 lb. to 60 lb. of seed per acre; drilling and broadcasting, and harrowing after the crop was well above ground, to conserve the moisture after each fall of rain of consequence. The results, as far as they went, being in favour of 7-inch ploughing, light sowing, drilling, and harrowing the crop after rainfall. The varieties withstanding the drought best being Hudson's Emly Purple Straw, Steer's Purple Straw, and Zealand. The results respecting the drought-resisting qualities of the varieties cannot be relied upon, as the crops grown upon the land which was cleared first withstood the dry weather very much better than those upon the land which was cleared later; the trees on the latter having absorbed all moisture, it also not having time to sweeten before winter.

It is to be regretted that the many experiments could not have been followed further, owing to the prolonged drought which, coming after a year such as 1897, with its rainfall of 13.13 inches (the observations were taken at Coolabah Station), proved too dry for successful wheat-farming.

The rainfall in February last being the last fall which caused any appreciable growth in the natural and indigenous grasses of the adjoining country. The rainfall for 1898 up to the present (12th December) being about 8 inches. Since farming operations were commenced here only 5½ inches have fallen, it raining on 26 days, the heaviest on one day being 76 points. In addition to the wheats above mentioned, 236 other varieties were sown, and I was surprised to note that amongst these the Manitoba (Hard Duluth), obtained from F. Crago, Esq., Newtown, came into ear, but did not mature seed, proving that this wheat, which is considered by many to thrive only in the cooler districts, might do well in this climate under ordinary conditions. Also, 6 acres of Nepaul barley were sown, but did not do as well as the adjacent wheats.

Thirty

Thirty acres were subsoiled to the depths of 14 inches and 16 inches for vegetable and spring crops. A great variety of vegetables was sown, those withstanding the dry weather being onions, snake-beans, tomatoes, melons, and pumpkins. The spring crops were comprised of potatoes, four varieties of maize, several sorghums, millets, Kafir corn, cotton, rice, soy beans, lucerne, cowpeas, and four varieties of salt-bushes. Amongst the grasses sown were Mitchell, Prairie, Cocksfoot, and Kentucky Blue Grass. Owing to insufficient moisture great difficulty was experienced in getting the smaller seeds to germinate, the percentage in many instances being very low. Amongst the grasses germinating the Mitchell has done the best. Of the salt-bushes, one variety alone came up, viz., Old Man Saltbush, and the plants are weathering it splendidly, again proving the excessive hardness of this plant and its value in the arid districts. Of the many sorghums and millets, the broom-millet succumbed first, the others are still alive, but are making no growth. The cowpeas look the best of all, showing no signs of wilting, although impossible to make any growth. The lucerne, also, is alive, which proves that this plant will, with proper cultivation—under reasonable conditions—hold its own in the dry districts.

A number of plants of the Purslane tree were obtained from Mr. Maiden, of the Botanic Gardens, and, although transplanted in very hot dry weather, are doing remarkably well, and should prove very valuable as a fodder plant in such a climate as this.

Notwithstanding that the results of these experiments are remuneratively unsatisfactory, some were decidedly interesting and of no small value, and will prove helpful in the choice of seeds in the future.

The improvements consist of a four-roomed cottage, a commodious stable, machine and fodder sheds, as well as a tank which has not yet been filled.

The plant is comprised of eight draught and one light harness horse, five ploughs, disc and ordinary harrows, seed drill, and cultivators.

The number of men employed will now be reduced to three, irrespective of manager; the number employed previously being greater as the most of the improvements were completed by day labour. Notwithstanding the disastrous effects of the drought, the Department has decided to give it a fair trial by continuing operations for another year, as nothing could be expected under the conditions obtaining here last season. The experiments, nevertheless, have proved what might be done under ordinary and reasonable conditions.

R. W. PEACOCK.

### Report of the Bathurst Experimental Farm.

THE Bathurst Experimental Farm contains 596 acres of Crown lands, with 196 acres leasehold adjoining, consisting very largely of granite and poor, stiff clays. Fully 700 acres, including all the cultivated area, may be so described; and, as the farm is strictly typical of large areas in this and other districts of the west, the present object of bringing these uncongenial soils into profitable work with the least possible expenditure of capital and labour is one which is already attracting considerable attention amongst holders of similar lands hitherto considered worthless.

Our difficulties have been accentuated by the very adverse conditions which have existed throughout the year, this being the fourth year of drought, and one of great hardship to agriculturist and stockowner alike. Notwithstanding these and other drawbacks, our crops have been better in quantity and quality than others grown on the good lands of the district, and the farm all through has made definite and substantial progress.

#### *The improvements for the year*

may be briefly summarised as follows:—

The area under cultivation has been increased from 200 acres to 350 acres, nearly all being faithfully ploughed to a depth of 8 or 9 inches some twice, thrice, or even more times in the year. A number of subdivision fences have been erected, for the more efficient and economical working of the crops and live stock, and about a mile of rabbit-proof netting has been put up to protect the experimental crops.

The large creek which runs through the length of the farm, with its branches, has been improved by the construction of a series of flood-gates, and the smaller watercourses have been checked by small weirs or dams. Six culverts have also been constructed. A large amount of work has been done, and which does not make much show, in grubbing, grading, and bringing into good mechanical condition about 130 acres of land, which had only been taken into rough cultivation by my predecessor.

The large dam has been completed, fenced, and planted, whilst several long races through the catchment area have been made, with the necessary reservoir, to feed the said dam. A smaller dam has also been excavated and finished, and has proved invaluable for all our stock.

Several hundreds of shelter and ornamental trees have been planted, a portion of which, however, have failed through the severity of the season.

A sheep dip, with its necessary adjuncts, has been constructed, and a shearing-floor has been laid, together with the tables, gates, and other fittings.

Also a shed for roots and other crops, &c., 120 feet long, together with a separate room for a watchman.

Two sheds have been built and fitted for the stud bulls, and four styes with houses for pigs, and copper for cooking food. A substantial floor of brick and cement, 30 feet by 30 feet, has been laid in the ground of the seed and implement store.

A temporary nursery for the propagation of vines and fruit-trees has been fenced, ploughed, and planted, with the accompanying work of grafting, &c.

Six propagating frames have been built, and prove really valuable additions to our appliances.

Twelve large farm gates have been made, fixed, and painted; a useful farm roller in three sections, drawn by two horses; a water truck, carrying 350 gallons; three large garden barrows; three long stack ladders; twenty-four long troughs, for sheep feeding; six smaller ones; improvements and additions have been made to the chaff-cutting, threshing, and seed-cleaning plants; and a large number of other matters too numerous to particularise.

The

The whole of the foregoing works have been done by the hands employed on the farm, and the outlay beyond current wages has been for material only.

The irrigation scheme which has been carried out during the past year consists of a well, 6 feet in diameter and 39 feet deep, being 18 feet below the summer level of the Macquarie River, with a cross-cut drive at the bottom, running towards the river. A "Blake" pump, driven by a Tulloch "Colonial boiler," lifts the water, and forces it a further 28 feet into the high-level tank, at the rate of 20,000 gallons per hour. The water is then distributed through about 16 acres of small plots, by 4 inch and 5 inch galvanised iron mains, with the necessary delivery valves. The pump, boiler, and well are covered under a neat building, containing also a smith's bench and appliances for repairs. The average cost of pumping is about 1d. per 1,000 gallons. The bulk of this work also has been done with our own labour.

#### Farm Crops.

One hundred and ten acres of various wheats were grown for seed purposes, consisting of Australian Talavera, White Lammas, White Tuscan, White Naples, Berthond, Golden Drop, Farmers' Friend, Hudson's Purple Straw, Steer's Early Purple Straw, Steinwedel, Rattling Jack, King's Jubilee, Allora Spring, Manitoba, and Tardent's Blue. The average yield may be stated at 9 bushels per acre; but to give a tabulated statement of the various varieties would be misleading as to their relative productiveness, because whilst some gave a return of 12 and 14 bushels per acre on our average soils, other prolific sorts had to be planted on lands which, had the seasons been fairly moist, would have given large yields; but during this dry one have given the least returns of any. One valuable fact, however, stands out distinctly: that Australian Talavera and White Lammas are better adapted to our circumstances than any of the others. The former gave 12 bushels of clean grain per acre off 27 acres, and the latter returned 11½ bushels per acre off poor land.

Twenty-two and a half acres of oats, for seed, in four varieties, viz., Carter's Royal Prize Prolific, Algerian, Dun, and White Tartarian. These crops, owing to their location, suffered severely from the hot, drying winds of early harvest-time, and their yields were, consequently, very trifling, except Carter's lot, which gave 18 bushels per acre, off 16 acres.

One acre of skinless barley suffered under the same conditions as the oats, and yielded only 8 bushels.

Rye, 11 acres, in three varieties, viz., 8 acres Common Black, on particularly poor land, returned 6 bushels per acre; 1 acre, Mammoth, on fair land, gave 3 bushels; and 2 acres of Arctic Rye, on better land, and drilled in with 2 cwt. of Sugar Company's No. 3 manure, 7½ bushels per acre. This latter sort seems better adapted for grazing purposes.

For hay we had 70 acres, of oats and wheat chiefly, grown on our poorest lands, and under most unfavourable conditions; return—an average of half a ton per acre.

The early crops of potatoes, beet, mangolds, carrots, parsnips, and turnips, covering 21 acres, were all total failures owing to the drought.

At present we have also 72 acres of miscellaneous farm crops, consisting of lucerne, maize in varieties, sorghums, broom millet, tomatoes, onions, and potatoes, all suffering severely by reason of the drought.

Amongst the experiments which attracted the most attention from all classes of visitors was a series of 330 selected varieties of wheat, all planted the same day, and grown under exactly the same conditions. A similar lot of forty selected varieties of oats adjoining, and also under like conditions, were equally interesting. The experiments in connection with the new hybrid and cross-bred wheats for Mr. Farrer covered 7 acres, and entailed a considerable amount of labour, the results of which will be, no doubt, embodied in Mr. Farrer's report. The experiments with grasses and clovers, &c., were not particularly successful, owing to the adverse season; but some useful knowledge has been obtained as to what plants may be cultivated on these dry hills. The following were tried:—*Trifolium incarnatum*, *Alexandrinum*, \*Prutense, \*Repens, and \*Hybridum, with \*Yellow or Trefoil, Japanese Clover, \*Lucerne, \*Sanfoin, \*Sheep's Burnet, Sheep's Fescue, Purple Fescue, \*Meadow Fescue, Meadow Foxtail, Timothy, \*Rib-grass, \*Crested Dogtail, Poa Prutense, and \**Paspalum dilatatum*. Those marked \* have grown and withstood the drought; the others either died off after germination or did not germinate at all. It is suspected that the seed was old in each case, as I have had considerable experience with these varieties elsewhere, and anticipated success here. Three acres laid down with Prairie, Cocksfoot, and Perennial Rye-grass, although sown rather late in the spring, caught well, and withstood the fierce heat of summer. Salt-bushes, *Atriplex nummularia* and *Atriplex semibaccata* have done very well from seed, and are thoroughly established.

#### Orchard.

Containing 30 acres of land, and planted with 2,600 choice fruit-trees, has been ploughed 6 inches deep, and well cultivated five (5) times during the year. Other details will appear in Mr. Allen's report.

#### Sheep.

For the purpose of continuing former experiments in the cross-breeding of sheep, a small flock of two hundred (200) selected merino ewes was purchased at the commencement of the year; but, owing to the severity of the drought, these were not only sent elsewhere, but the whole of the sheep of the place had to be removed. The flock of ewes mentioned was brought here in May, and put to eight pure rams, viz., Shropshire, Southdown, Border Leicester, Lincoln, Romney Marsh, Dorset, English Leicester, and Cheviot.

The number of lambs was reduced by accidents to two of the rams at an early period of the season; and a considerable number were lost at the lambing through surreptitious visitors and depredations by the town dogs, although every possible care was bestowed. Very few lambs were lost through natural causes. The percentage saved was 64 per cent. It is too early yet to give any details of the results of these experiments. The whole of the sheep have done pretty well since being brought here, as, notwithstanding the dryness of the season, sufficient food has been available about the farm.

The greatest trouble we have had to contend with has been the visits of the town dogs to the flocks of both ewes and lambs, numbers of which have been killed; and it will be necessary for their protection, and also of the crops, to close in with netting a considerable portion of the farm before the next season.

#### Cattle.



*Cattle.*

The imported Ayrshire bull, "General," has been stationed here for service throughout the past year, in the hope of improving the herds of the small dairy farmers. He has been well patronised, and his value is very noticeable in the handsome lot of young stock which have followed his services. He attracted much attention when exhibited at the Royal Agricultural Society's Show last Easter, and also at Bathurst Show. The young Jersey bull, "Corall's Lad," from imported parents, was purchased from Dr. Hay, of Coolangatta, after taking first prize at Royal Agricultural Society's last Show, and has also been stationed here for service. Since his arrival in April last, he has developed into a very symmetrical and showy beast, and consequently his services are in request. Our other horned stock merely consists of the cows for College use, and their calves. The conditions of the farm are not sufficiently advanced for keeping dairy stock; but it is hoped that we may be ready for this work in the course of another year.

*Horses.*

The whole of the farm work—ploughing, sowing, harrowing, discing, cultivating, rolling, mowing, harvesting, and drawing, besides constant spring-cart work—has been done with an average of nine draught horses. Two light horses are kept for College use.

*Students.*

We have had for this year an average of nine students in residence, and are here to learn practical farming. They are put by turns through all the details of farming operations throughout the different seasons, made expert with the various implements and machines, and taught the most improved methods in agriculture, horticulture, orchard and nursery work, with the care and management of the several kinds of live stock. They work with the carpenter, blacksmith, and farrier, the fencers, and have a hand in almost everything which is going on about the place; so that when they leave here they should be able to go and manage profitably their own property, or for others.

We have had a good stamp of youths, and their conduct, both on the farm and in the College, has been generally satisfactory. Two have left us to commence for themselves, and one has gone to a station for more experience. In two other cases the parents are so well pleased with their sons' progress that they have asked permission for them to have an extended term.

*Machine Trials.*

During the year we have had several public trials of agricultural implements and machines, by request sometimes of farmers, and again by wish of makers. The tests have comprised single and double ploughs for all kinds of work, and also three, four, and six furrow ploughs, new and improved cultivators, harrows, seed drills of various sizes and types, &c., &c.

They have been found very interesting and useful, and were well attended by the farmers, who in many instances adopted new implements thus presented to their notice, and avoided purchasing in others.

*Commercial farm.*

The late Minister for Mines and Agriculture, the Hon. Sydney Smith, several times expressed a wish that someone of his officers would take a low-class farm, and endeavour to work it under the same conditions as the average small farmer, only employing better methods. With this object in view, a small farm of 156 acres was leased for one year, at a rental of £50. The farm had been under constant cultivation for thirty years, and was so far impoverished and dirty that the owner was leaving it, and going out west to new lands. Possession was obtained in May, and during May and June 80 acres were cleaned, ploughed, and sowed to various crops. These received frequent attention, and before harvest the cereals were pronounced by experts to be well grown, exceptionally clean, and fit for sale for seed purposes. The grains and hay crops, at close of year, have all been harvested; but as they are not all threshed, the actual results cannot be all given. Enough, however, has been seen to show a very fair return for the labour, which is the chief item. The total outlay for the season, including rent, £50, and charging current rates for all the different operations, such as ploughing, sowing, rolling, reaping, mowing, carting, threshing, with repairs to fences and fixing a new gate, amounted to £95 2s.; and the yields of crops, carefully estimated where as yet unknown, and calculated at prices below what has already been offered for them, or at low market rates, amount to £154 10s., showing an apparent profit at present of £59 8s. To this should be added the advantages of a comfortable cottage, with garden, ample stabling, milking shed, and many other conveniences, with two large dams of water. These accommodations were well worth, and indeed saved an expenditure of fully £30 per year. Time and space will not admit of giving fuller details; but enough has been said to show that a large number of our farms might, in other hands, be worked to much greater advantage to the community.

In conclusion, I may say that our experimental and farm crops, with the various other operations, have attracted a constant stream of visitors, both from the farmers out west, when they visit Bathurst, who spend hours here seeking information, sometimes repeating their visits, and latterly amongst the more local people.

During the year the number of men employed on the farm has been curtailed, and the expenditure thereon reduced at the rate of fully £1,000 per annum. At the same time, the money returns for products sold have doubled those of the preceding year. Taking into consideration the present conditions of the farm, notwithstanding the terribly adverse season, I see a hopeful outlook, and am sanguine of the future.

A. A. DUNNICLIFF,  
Manager.

## Report of the Manager, Wagga Experimental Farm.

DURING the year just closed the farm, with a large portion of the Riverina district, has again suffered severely from drought, consequently crops are light and in some cases they have proved failures.

During four successive years drought has prevailed here, no good season having been known since 1894 to 1898.

The rainfall recorded during the past year is 14.33—the average for twenty-five years being 22 inches.

During the month of September sharp frosts were experienced, and towards the end of the month hot winds set in, continuing at intervals to the end of November to the great detriment of all growing crops.

Wheat.—Early in January threshing of the 1897 crops of wheat, &c., was commenced and carried out without delay, the yield in most cases being light.

The lowest yield was that of Stienwedel—9 acres producing only 10 bushels; the best yield having been obtained from Marshall's No. 3, viz.,—13½ bushels per acre. The late sown Allora Spring yielded at the rate of 4 bushels 26 lb. per acre.

The farm foreman's field-book for the previous season (1896) shows the lowest yield to have been 1½ bushel and the best a little over 9 bushels per acre.

The whole of this season's crops have been cut and stacked, and threshing will be carried out when the students return from vacation.

Owing to the failure of moisture in the months of September and October—a critical period in the life of the early sown crops—some of the varieties which were sown for grain production had to be cut for hay, and the grain of other varieties will be limited in quantity.

Allora Spring, Canning Downs, Velvet Pearl, and King's Jubilee failed completely and will not pay to harvest in any form.

Crops cut for hay returned from 5 cwt. to half a ton per acre.

Experiments have been carried out in the application of manures and in the comparison of subsoiling with ordinary ploughing for wheat production.

The results of these tests will be published as early as possible.

The whole of the cereal crops have been remarkably free from disease.

Oats.—135 acres sown for hay yielded from 6 cwt. to 9 cwt. per acre.

Barley.—40 acres sown; crop light, not yet threshed.

Sorghum.—1897 crop maturing in this year was too poor to harvest. Thirty acres sown in October last thriving well.

Maize.—31 acres sown in September making rapid growth.

Millet.—4 acres, making fair growth.

Mangels.—8 acres sown; growth unsatisfactory.

Rape.—It was intended to sow an area in last autumn to be fed off by sheep but drought prevented.

A spring sowing proved a failure.

Buckwheat.—A nominal yield only.

Lupins.—1 acre sown. Failed.

Beans.—18 varieties sown, but all were destroyed by hot winds.

Peas.—6 varieties sown, but all failed to give satisfactory results.

Potatoes.—15 varieties were planted in an area of about 4 acres for experimental purposes. The crop has not yet been harvested, but some of the varieties promise fair yields.

Pumpkins, Squashes, &c.—50 varieties have been sown, and many are making rapid growth.

Tomatoes.—16 varieties are being tested, and results will be published when available.

Onions.—5 varieties are under trial, with fair promise.

Cow Pea.—1897 crop failed; 22 acres now growing.

Cotton.—Failed.

Vineyard—25 acres was planted in the spring, with cuttings of the following varieties, viz.:—Muscat, Hermitage, Malbec, Madeira, and Cabernet. The season having proved most unfavourable for work of this description their survival is doubtful.

Orchard.—During the early part of the year a quantity of fruit was preserved by the process of bottling and drying respectively, and good samples of raisins of several varieties, and of dried apricots were with the first-named fruits exhibited at a number of shows, where they attracted much inquiry and favourable comment.

The work of this season will consist of preparing raisins and currants, and the preserving of all varieties of fruit available by canning, bottling, &c. In this work the orchardist will be assisted by the students.

The cannery is fast approaching completion, and will shortly be in working order.

Other orchard improvements comprise the erection of a plant-shed, trellises for grape vines, &c.

Working Staff.—During the early part of the year I reduced the permanent labouring staff by four men; but the addition of the wine vineyard to the area to be worked necessitated the employment of another man.

A few extra temporary hands have been employed for special work, such as harvest, pruning, &c., but the cost of this extra labour has been light in comparison with the saving effected by the reduction in the permanent staff.

All the work of the farm has been thoroughly carried out with the reduced staff, and in addition about 250 acres of new land has been ploughed, and 80 acres of it placed under crop, the rest being almost ready for sowing in next autumn.

A new cottage for the blacksmith has also been erected and completed by farm labour.

Increased Area.—The whole of the recently added portion of the Common—790 acres—has, under contract, been enclosed by substantial fences, the area of the farm now being 3,217 acres.

Students.—The year opened with fourteen on the roll, the number now registered being eleven, inclusive of three new students. There are several others negotiating for admission.

The progress made by the majority of students has been satisfactory. Some of the lads have not perhaps taken so much interest in their work as would seem desirable, but our conditions have been very trying, and it is only to be expected that a considerable time must elapse before young fellows unused to back-country farming get inured to the discomforts inseparable from a prolonged season of drought.

The system carried out by me is that of assigning students to the respective departments of the farm for a fortnight at each department. Thus they have an opportunity of getting a better insight into the various kinds of work carried on than would be the case if they were more frequently transferred, and consequently their work is of more value to the farm. Lectures or lessons have been given twice a week in the evenings when practicable.

*Rainfall.*

January ... ..	23
February ... ..	193
March ... ..	8
April ... ..	41
May ... ..	116
June ... ..	196
July ... ..	164
August ... ..	151
September ... ..	71
October (late in month)... ..	239
November ... ..	92
December ... ..	139

1433

Agricultural Shows.—Exhibits consisting of general farm produce, dried and preserved fruits, &c., were displayed at the following places, viz.:—Sydney, Maitland, Orange, Bathurst, Corowa, Wagga, Albury, Hay, Narandera, Jerilderie, Forbes, Cowra, Gundagai, and Moama.

Much interest was evinced in these exhibits which were fully explained to all who desired information regarding them.

G. MAURICE McKEOWN.

### Board for Exports.

I HAVE the honor to report that during the current year the operations of the Board have increased in magnitude as much as could be expected in such a drought-stricken season.

Early in the year it was found, as anticipated, that the cold storage accommodation provided would prove inadequate to the increasing trade in hares, rabbits, and poultry, and, on the Board's recommendation, the Government decided to increase the accommodation by the addition of one freezing-room and 4,000 feet cold-storage space, thus giving a total space of about 17,000 cubic feet instead of 7,600, the rent being increased from £500 to £1,200 per annum.

Notwithstanding the extra space available, it was found that during the busiest portion of the season great difficulty was experienced in properly freezing the large quantities of carcasses handled, and it was necessary to engage further space at a total cost of £20.

The following quantities were handled during the current year:—

Fowls ... ..	9,500
Ducks... ..	5,320
Turkeys ... ..	1,366
Geese ... ..	651
Pigeons ... ..	470
*Eggs ... ..	9,658 dozen
Hares ... ..	79,460
Rabbits ... ..	19,848
Kangaroo tails ... ..	2,000
*Hams ... ..	156
*Tongues (ox)... ..	280

Exclusive of those rejected, totalling about 20 per cent. of the above figures.

The items marked \* were stored for local consumption.

It was found that during the busy season the charges made covered all expenses, including store rent, cases, labour, cartage, and sundries, and it is estimated that during the coming season the accommodation will again require extending; while, should a fair share of the butter exported be handled by the Board, the stores would be practically self-supporting throughout the year.

Besides the items handled in cold stores, the Board was instrumental in having exported over 36,000 cases of oranges, in relation to which I regret to report that a financial loss of considerable magnitude was sustained. On receiving the London reports announcing the partial failure of the orange shipments, the Minister for Mines and Agriculture convened a meeting of those concerned, with the result that the blame was attributed to some carelessness on the part of shippers, and the failure of the shipping companies to keep to the range of temperature considered best for carrying citrus fruits. On both these points, the directions issued by the Board were full and explicit, and it is satisfactory to find that no blame was attributed to its management.

Experiments

Experiments were also made in Passion Fruit and Mandarin Oranges, but both proved valueless on account of careless handling in transit and want of knowledge on the part of the salesmen.

From the Easter Exhibition of the Royal Agricultural Society's Show were exported the prize exhibits in Fowls and Ducks, and although arriving late in the London market, the prices realised—3s. and 2s. 6d. each respectively—are eminently satisfactory, showing not only a handsome margin over cost, but quite 50 per cent. over local rates.

The information obtained had been widely disseminated and from present appearances a large quantity of poultry will during the coming season be exported to this most favourable market.

The trade of poultry-rearing has been much stimulated by the circulation of pamphlets on "Poultry-rearing for profit," and monographs of the various types of fowls, &c., from the pen of Mr. George Bradshaw, the Poultry Expert of the Board. This work will continue during the coming year and is expected to largely increase the knowledge and success of poultry breeders.

The sheep exhibited at the Annual Show of the New South Wales Sheepbreeders' Association were exported to London under the auspices of the Board, after careful selection by competent judges, and the returns just to hand are of a highly reassuring character as to what can be done with our mutton under proper conditions, although the butchering and general get-up of the carcasses was commented on rather unfavourably by the experts.

Some small experiments in fruit storage have been conducted, and the Minister for Agriculture has directed that during the coming season exhaustive experiments ashore and afloat should be undertaken, with a view to establishing scientific bases of temperatures, ventilation, packing, &c., and to prove the possibility or otherwise of landing our various fruits safely in Europe.

The success attained in keeping eggs in cool storage unimpaired for twelve months has led to fresh development in the use of the stores, which have been taken advantage of by a number of people, who see a handsome margin of profit in storing when prices are low and marketing in the dearer season. The small charge at which they can be stored, *i.e.*, 1d. per gross per week, and the fact that after three months' storage there is no appreciable change in the egg, would imply that in coming seasons much of the available store space will be utilised for this purpose.

A portion of the cool store has been set aside for the use of the Board of Health for the purpose of storing such samples of perishable products as may from time to time be submitted for analysis.

The Government prizes offered under the auspices of the Board at the annual Royal Agricultural Society's Show have been continued, awards to the amount of £140 being made for exhibits of butter, poultry, wheat, barley, fruit, &c. The competition for these prizes was considerably better than in the preceding season, and the £50 prize offered for butter under export conditions has practically become the blue ribbon of the dairy industry. Wheat and barley were shown in larger quantities, and as all the prizes are continued for next year it is anticipated that increasing interest in these classes will cause a further considerable increase.

During the year the Board has made several important recommendations to the Government, and has reiterated its advice as to the necessity for providing increased facilities for handling and shipping perishable products, grain, &c.

The splendid facilities offered by Darling Island for shipping grain and frozen produce have been strongly emphasised; and a scheme has been submitted providing for the erection of grain elevators and cold stores on a scale commensurate with the anticipated demand for space.

Other recommendations of the Board have from time to time been made on the subjects of more efficient inspection before shipment of all food products, better supervision of shipment and conditions of carrying, and the appointment of resident experts at the centres of distribution, to watch the interests of producers and secure for our produce such careful attention as is now being bestowed on the products of other countries.

Naturally, projects of such an extensive character have been received with caution, but the Board is firmly of opinion that the future success of our export trade depends to a great extent on the carrying out of its recommendations.

The opposition with which the Board has had to contend from its inception still exists to a modified extent, but gradually the producers are becoming alive to the fact that its operations are entirely in their interests, and it is anticipated that in the near future a much larger share of the exports of the Colony will be handled at the export depôt. This particularly applies to butter, of which, up to the present, scarcely any has passed through the stores, owing to the action of the export merchants.

In October, the prospect of the Colony exhibiting largely at the Greater Britain Exhibition in London caused inquiries to be made as to what refrigerated produce the Board could arrange for, and it is gratifying to report that a fully representative supply of the Colony's perishable products could have been kept up during the progress of the Exhibition, at which, however, it was ultimately decided not to exhibit.

Early in the season, the Secretary submitted a scheme for the establishment of standards of quality for wheat, as a basis on which business might be transacted between buyer and seller; and while this was under consideration, the New South Wales Chamber of Commerce put forward a claim to the arranging for such standards, with the result that the committee appointed by that body was supplemented by two nominees of the Department of Agriculture; but, although the season is now well advanced, no definite steps appear to have been taken, which is to be regretted, as the necessity for a common basis of qualities has long been recognised and, in view of the large dimensions to which the export of this cereal must soon attain, no time should be lost in laying a proper foundation at first.

It is undoubted that growers here have to suffer heavy losses annually on account of no standard of quality being available to check values.

Throughout the year, as opportunity offered, the Secretary has visited several country districts at the request of the members of Parliament and agricultural societies, and has lectured on the export question at the following among other places:—Peak Hill, Forbes, Parkes, Condobolin, Molong, Paterson, Dungog, Gresford, Maitland, Singleton, Grafton, Ulmarra, Lismore, Alstonville, Byron Bay, Murwillumbah, &c., &c.

These lectures have created a considerable amount of interest, and daily inquiries from all parts of the Colony point to an awakening interest on the part of producers, whose previous ideas of export were of the haziest description.

As will be seen by the appended list of meetings, the Board has not met so frequently as in former years, the reasons being that the executive part of the work is carried out without a hitch, and most of the recommendations for further extension having been kept under consideration for long periods before being dealt with, the members were not asked to sacrifice their valuable time by attending for merely routine purposes. It is hoped, however, that the opening of the New Year will see some action being taken in the direction of the Board's past recommendations, when any necessary effort on the part of members to further the interests of the producers by their advice and experience may be fully counted on.

During the year there have been twenty-five meetings of the Board, which the members have attended as follows—

G. S. Yull, Esq., Chairman ..	10
Hon A Kethel, Vice-Chairman	21
Thos. Jessep, Esq., M L A	9
J. L. Thompson, Esq ..	4
Geo. Maiden, Esq ..	19
C. F. Lindeman, Esq ..	8
John Wildridge, Esq ..	19
H. W. Lee, Esq. .	2
T. C. Worboys, Esq. .	16
Secretary ..	25

NOTE.—During the latter part of the year the Chairman has been absent in Europe on private business, and Mr. J. L. Thompson has spent most of his time in his professional work as travelling Instructor in Agriculture

Income and Expenditure—	£	s.	d.
Incidental expenses, including cold store rent, office rent, prizes at shows, travelling expenses, members' fees, experiments in shipping, storing, &c, &c. . . . .	1,304	3	6
Wages—Expert and storekeeper . . . . .	317	6	1
	<u>1,621</u>	<u>9</u>	<u>7</u>
Trust Account—			
By income from cold stores .. . . .	1,111	17	5
„ (stock in hand) .. . . .	120	0	0
	<u>1,231</u>	<u>17</u>	<u>5</u>
To expenditure (labourer, cases, packing, implements, &c) ...	674	8	0
Net income . . . . .	557	9	5

*Balance Sheet.*

To expenditure . . . . .	£	s.	d.	By net income	£	s.	d.
„ Secretary's salary . . . . .	1,621	9	7	„ balance	557	9	5
	300	0	0		1,364	0	2
	<u>1,921</u>	<u>9</u>	<u>7</u>		<u>1,921</u>	<u>9</u>	<u>7</u>
To balance down .. . . .	1,364	0	2				

From the foregoing balance sheet it will be seen that the total cost of the operations during the year has been under £1,400, and when this sum is compared with the large amounts expended in other colonies in encouraging the export trade, considering the results attained, it may fairly be claimed that the service has been efficient and inexpensive.

Much still remains to be done, and larger sums must be expended to place us on an even footing with our competitors; but the foundation has now been laid and the rest is but a matter of time.

I have &c.,  
JAS. STEPHENSON,  
Secretary.

1899.  
(THIRD SESSION).

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

VINE DISEASES ACT OF 1893.

(RETURN RESPECTING THE NUMBER OF VINEYARDS DESTROYED UNDER.)

*Printed under No. 11 Report from Printing Committee, 24 November, 1899.*

[Laid upon the Table in answer to Question No. 10, Votes No. 38, 8 November, 1899.]

Question.

- (10.) Vineyards destroyed under the Vine Diseases Act of 1893:—*Mr. Carroll*, for *Mr. Dacey*, asked the Secretary for Mines,—How many vineyards have been destroyed under the Vine Diseases Act of 1893, together with the areas, owners' names, and amount of compensation given in each case?

Answer.

*Mr. Fegan* answered,—A return, giving the information referred to, will be prepared, at the earliest possible date, and laid upon the Table of the House.

TWENTY-TWO (22) vineyards have been destroyed under the Vine Diseases Act of 1893, as follows:—

Owner.	Area.	Situation.	Amount of Compensation.
1894.			
	Acres.		£ s. d.
H. Knox ... ..	2	Cross Roads ... ..	135 0 0
P. Legge ... ..	$\frac{1}{4}$	Cross Roads ... ..	15 0 0
W. H. Smith ... ..	$\frac{1}{2}$	Seven Hills ... ..	32 10 0
M. Redden ... ..	2	Kellyville ... ..	40 0 0
E. Stranger ... ..	$1\frac{1}{4}$	Kellyville ... ..	22 10 0
1895.			
J. R. Gill ... ..	$3\frac{1}{2}$	Liverpool ... ..	77 13 4
G. Gallop ... ..	$\frac{3}{4}$	Kellyville ... ..	3 0 0
Mrs. Stringers ... ..	2	Kellyville ... ..	17 0 0
Mrs. Redden ... ..	$1\frac{1}{4}$	Kellyville ... ..	20 12 6
1896.			
P. Fuch ... ..	$\frac{1}{4}$	Elderslie, Camden ... ..	3 15 0
P. F. Adams ... ..	$\frac{1}{4}$	Liverpool ... ..	Nil.
1897.			
J. Murray ... ..	$\frac{1}{2}$	Liverpool ... ..	£100 0 0
Mrs. Fincham ... ..	$2\frac{1}{2}$	Liverpool ... ..	37 10 0
1898.			
E. Beckingham ..	1	Canley Vale ... ..	85 0 0
L. Sanderson ... ..	3	Glenfield ... ..	15 0 0
J. Hines ... ..	$\frac{1}{4}$	Liverpool ... ..	Claim pending.
D. McGarry ... ..	$7\frac{1}{2}$	Glenfield ... ..	do do.
Mrs. Loftus ... ..	$3\frac{1}{2}$	Glenfield ... ..	£28 2 0
— Davis ... ..	$1\frac{3}{4}$	Glenfield ... ..	300 0 0
1899.			
G. A. Groats ... ..	1	Glenfield ... ..	Claim pending.
S. Johnston ... ..	2	Glenfield ... ..	do do
J. Carey ... ..	$\frac{1}{2}$	Ingleburn ... ..	£12 10 0





1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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# R E P O R T

OF THE

## MINISTER OF PUBLIC INSTRUCTION

FOR THE YEAR

1898.

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Presented to Parliament, pursuant to Act 43 Vic. No. 23, sec. 36.

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*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

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1898.

## REPORT OF THE MINISTER OF PUBLIC INSTRUCTION.

To His Excellency The Honorable SIR FREDERICK MATTHEW DARLEY,  
Knight Commander of the Most Distinguished Order of Saint  
Michael and Saint George, Lieutenant-Governor of the Colony of  
New South Wales and its Dependencies.

May it please your Excellency,—

I have the honor to submit to your Excellency the Report  
of the Department of Public Instruction for the year 1898.

### SCHOOLS.

In 1898 there were 2,602 schools, containing 2,817 departments, as compared with 2,577 schools and 2,790 departments open in 1897. During the year, 89 schools were established, comprising 12 Public, 42 Provisional, 19 Half-time, 1 House-to-house, and 15 Evening Schools. In addition to these, 25 schools were reopened, 33 Provisional and 10 Half-time Schools were raised to the rank of Public Schools, and 21 Half-time and 2 House-to-house Schools to the Provisional rank; while 11 Public and 15 Provisional Schools were reduced to Half-time Schools. Eighty-nine of the schools in operation during the whole or some portion of 1897 do not appear on the list of schools open in 1898, and of those actually in operation in that year 51 were closed before the last quarter. The number of schools open at the close of 1898 was 2,551, containing 2,766 departments.

The following table shows the classification of the schools open in 1898 :—

1. <i>High Schools</i> :—						Schools.	Departments.
Unclassed	...	...	...	...	...	5	5
2. <i>Public Schools and Half-time Schools</i> :—							
In Class	I	...	...	...	...	45	135
"	II	...	...	...	...	39	105
"	III	...	...	...	...	28	60
"	IV	...	...	...	...	62	88
"	V	...	...	...	...	121	122
"	VI	...	...	...	...	233	233
"	VII	...	...	...	...	227	227
"	VIII	...	...	...	...	365	365
"	IX	...	...	...	...	840	840
"	X	...	...	...	...	133	133
Unclassed	...	...	...	...	...	125	125
3. <i>Provisional Schools</i> :—							
Class	I	}	...	...	...	313	313
"	II						
"	III						
4. <i>House-to-house Schools</i> :—							
Unclassed	...	...	...	...	...	37	37
5. <i>Evening Public Schools</i> :—							
Unclassed	...	...	...	...	...	29	29
Total	...	...	...	...	...	2,602	2,817



Of the 16 applications for the establishment of new schools which were under consideration at the close of 1897, 13 were granted, 2 were declined, and 1 remained unsettled. In addition to these, 197 applications were received during 1898, namely, 30 for Public Schools, 106 for Provisional Schools, 40 for Half-time Schools, 5 for House-to-house Schools, and 16 for Evening Schools. Of these, 119 were granted, 56 were declined, and 22 were under consideration at the end of the year. The total number of children to be accommodated in the new schools when established is 2,682.

The number of applications dealt with, and the action taken with regard to them, is shown in the following table:—

*Applications for the establishment of Schools.*

Schools.	Number received.	Number granted.	Number declined.	Number still under consideration.
Public Schools ... ..	30	14	12	4
Provisional Schools ... ..	106	60	34	12
Half-time Schools ... ..	40	31	6	3
House-to-house Schools... ..	5	2	2	1
Evening Public Schools... ..	16	12	2	2
Total... ..	197	119	56	22

Full details respecting these applications will be found in Appendices I, II, III, IV, V.

The number of schools in operation in 1881, the first full year during which the Department was under Ministerial control, as compared with the number open in 1898, is given in the following table:—

Schools.	Number of Schools or Departments in operation.		Increase, 1881-1898.
	1881.	1898.	
High Schools ... ..	.....	5	5
Superior Schools ... ..	58	252	194
Primary Public Schools ... ..	1,042	1,750	708
Provisional Schools ... ..	246	313	67
Half-time Schools ... ..	93	431	338
House-to-house Schools ... ..	.....	37	37
Evening Schools ... ..	57	29	28*
Total ... ..	1,496	2,817	1,321
Seats provided ... ..	98,721	252,791	154,070

\* Decrease.

In addition to the schools established and maintained under the Public Instruction Act, the following State supported or aided schools are still in operation, namely, the Sydney Grammar School, the two Industrial Schools, the School for the Deaf and Dumb and the Blind, and the Carpenterian and Shaftesbury Reformatory Schools.

*School*

*School Premises and Sites.*—The number of school sites acquired during the year was 72. Of these, 49 were Government grants, 17 were resumed under the Public Works Act, (51 Vic. No. 37), 5 were purchased, and one was a free grant to the Department. The cost of the purchased sites amounted to £315, and the sum of £45 11s. 2d. was paid on account of those resumed. In the case of 6 of the latter no claim was made by the original holders for compensation. The balance to be paid on the others, when all claims have been settled, is £1,187 4s. 2d. Full particulars as to the sites will be found in Appendix XX.

*Buildings.*—At the close of 1898, existing school premises afforded room for 252,791 pupils. Of the school-places counted in 1897, 3,853 were lost in 1898 by the closing of schools and by the giving up of old buildings. The net increase was 7,532. Taking the building-work done in the last two years, it may be observed that, in 1898, 33 new schools and residences and 12 weather-sheds were erected under the supervision of the Department's professional officers, as compared with 37 built in 1897; while the additions numbered 33, as compared with 32; the premises repaired, 554, as compared with 300; and the places provided, 6,331, as compared with 4,869 for the same period. The number of small school-buildings, residences, and weather-sheds erected under the Inspectors' supervision was 115, as compared with 98 put up in 1897; 31 school-buildings were enlarged, as against 29 in 1897; the number of places provided was 4,634, as compared with 3,551; and the buildings repaired numbered 1,245 in 1898, as against 1,053 in the previous year.

At the close of 1898 the following additional works were in progress:—49 new buildings and 18 additions, the whole to provide for about 5,041 children. Two new weather-sheds were in course of construction, as well as 16 teachers' residences. Repairs and improvements were being carried out in 215 existing buildings.

Full particulars respecting the building-work completed in the year, and that in progress at its close, are given in the following tables:—

*Works completed.*

	Number.	Places provided.	Total cost, not including cost of sites.	Average cost per building.	Cost per seat.
			£ s. d.	£ s. d.	£ s. d.
<i>Works under Professional Officers:—</i>					
School-buildings .....	20	2,644	18,314 15 9	915 14 9	6 18 6
Additions .....	33	3,687	16,047 18 10	486 6 0	4 7 0
Residences .....	13	.....	6,219 8 0	478 8 3	.....
Additions to residences .....	34	.....	5,763 14 10	169 10 5	.....
Weather-sheds .....	12	.....	1,178 2 5	98 3 6	.....
Repairs, &c.....	554	.....	22,691 4 8	40 19 2	.....
<i>Works under Inspectors' supervision:—</i>					
School-buildings .....	103	3,678	7,343 2 2	71 5 10	1 19 11
Additions.....	31	956	2,277 15 5	73 9 6	2 7 7
Residences .....	8	.....	3,255 10 6	406 18 9	.....
Weather-sheds .....	4	.....	54 10 0	13 12 6	.....
Repairs, &c.....	1,245	.....	17,939 7 2	14 8 2	.....

*Works in progress.*

	Number.	Places provided.	Estimated cost, not including cost of sites.	Average cost per building.	Cost per place.
<i>Works under Professional Officers :—</i>					
School-buildings .....	21	3,065	£ s. d. 18,969 18 0	£ s. d. 903 6 7	£ s. d. 6 3 9
Additions .....	9	540	3,078 13 0	342 1 5	5 14 0
Residences .....	11	.. ..	6,266 6 1	569 13 3	.....
Additions to residences .....	15	.....	2,813 16 1	187 11 8	.....
Weather-sheds .....	2	.....	149 15 0	74 17 6	.....
Repairs, &c. ....	92	.....	6,601 1 10	71 15 0	.....
<i>Works under Inspectors' supervision :—</i>					
School-buildings .....	28	1,128	2,347 7 6	83 16 8	2 1 7
Additions .....	9	308	802 2 0	89 2 5	2 12 1
Residences .....	5	.....	1,399 4 6	279 16 11	.....
Repairs, &c.....	108	.. ..	2,129 15 11	19 14 5	.....

The amount expended on Public School sites, buildings, furniture, repairs, rents, and rates during the last five years is shown below. The total expenditure on these items since 1880 is £2,814,763.

1894	...	...	...	...	£73,791
1895	...	...	...	...	104,397
1896	...	...	...	...	56,752
1897	...	...	...	...	84,909
1898	...	...	...	...	105,054

*School Attendance.*—The returns for the year show an improvement as regards enrolment, the gross enrolment at Primary schools being 258,592 pupils, as compared with 256,996 in 1897, an increase of 1,596. Deducting 12 per cent. on account of multiple enrolments, the number of individual pupils under instruction was 227,561, an increase over the preceding year of 1,404.

The gross aggregate enrolment and the aggregate enrolment of distinct pupils for the last five years appear below :—

Years.	Gross Aggregate Enrolment.	Corrected Aggregate Enrolment of Distinct Pupils.	Increase.	
			Gross Enrolment.	Corrected Enrolment.
1894	234,392	206,265	4,559*	4,012*
1895	245,904	216,396	11,512	10,131
1896	251,821	221,603	5,917	5,207
1897	256,996	226,157	5,175	4,554
1898	258,592	227,561	1,596	1,404

\* Decrease.

In addition to the 227,561 pupils enrolled in schools under the Public Instruction Act, there were 1,491 in attendance at other State-aided Schools, namely :—

The Sydney Grammar School	...	...	...	587
The Industrial Schools	...	...	...	661
The School for the Deaf and Dumb and the Blind	...	...	...	116
The Reformatory Schools	...	...	...	127

Total ... .. 1,491

Estimating

Estimating the mean population of the Colony for 1898 at 1,334,850, the population between 6 and 14 years of age was 251,256. Of this number, 196,756, or 78·3 per cent., attended State Schools, and 54,500, or 21·7 per cent., received instruction in Private Schools or at home, or else remained untaught. From the latest returns of Private Schools' attendance it is estimated that the total enrolment was 57,515. As of this enrolment 43,735 pupils were between the ages of 6 and 14, it will be seen that of the total statutory school population of 251,256, 240,491, or 95·8 per cent., were enrolled at State and Private Schools, while 10,765, or 4·2 per cent., were taught at home, had left school after satisfying the standards of the Act, or remained untaught. In addition to pupils of the statutory school age, 18,582 under 6 years of age, and 27,493 over 14 years, were also enrolled for school attendance—32,295 at State Schools, and 13,780 at Private Schools. Thus, of 353,479 children in the Colony between the ages of 4 and 15 years, 229,051 attended State Schools, and 57,515 attended Private Schools; while the remainder, 66,913, received instruction at home, had completed their education, or were untaught.

The average quarterly enrolment was 203,910, and the average attendance 141,723. In the first half of the year 138,860 pupils, and in the second half 147,245 pupils, attended the ordinary day-schools 70 days or more. The percentage of the quarterly enrolment attending the compulsory number of days was, in the first half-year, 62·7 per cent., and in the second, 69·2 per cent.

The percentages of the net yearly enrolment attending 70 days or more in each half-year, since 1893, are as follow :—

Year.	70 days or more in first half-year.	70 days or more in second half-year.
1894 ... ..	69·1	75·8
1895 ... ..	67·1	72·0
1896 ... ..	67·1	72·4
1897 ... ..	64·7	72·6
1898 ... ..	61·0	64·7

The enrolment and average attendance are shown in the following tables :—

(a) *Quarterly Enrolment and Average Attendance for 1897 and 1898.*

Quarters.	Number enrolled.		Average Attendance.			
			Number.		Percentages.	
	1897.	1898.	1897.	1898.	1897.	1898.
March quarter ..	200,902	203,362	147,839·4	143,256·2	73·5	70·4
June quarter ...	201,902	205,881	147,356·3	143,380·2	72·9	69·6
September quarter ...	203,335	204,350	151,432·3	140,436·5	74·4	68·7
December quarter ...	201,652	202,048	146,896·2	139,820·1	72·8	69·2
Year's average...	201,947	203,910	148,381·0	141,723·2	73·4	69·5

*(b) Enrolment and Average Attendance for the last five years.*

Years.	Year's Enrolment.	Quarterly Enrolment.	Average Attendance.		
			Number.	Percentage of Year's Enrolment.	Percentage of Quarterly Enrolment.
1894 ... ..	206,265	181,678	130,089	63·06	71·60
1895 ... ..	216,396	192,075	139,978	64·68	72·87
1896 ... ..	221,603	197,025	142,192	64·16	72·17
1897 ... ..	226,157	201,947	148,381	65·60	73·47
1898 ... ..	227,561	203,910	141,723	62·27	69·50

It will be observed that while there is an increase of 1,404 in the yearly, and of 1,963 in the average quarterly, enrolment, the mean average attendance has decreased by 6,658, or 4 per cent. This falling off is wholly attributable to the epidemics of measles, influenza, whooping-cough, typhoid, and scarlatina, which were prevalent over the Colony during the greater part of the year, and which in many cases rendered necessary the closing of schools for weeks together.

The main facts relative to school attendance may be summed up thus:—240,491, or 95·8 per cent. of the statutory population, were enrolled for school attendance; 196,756, or 78·3 per cent., at State Schools; and 43,735, or 17·5 per cent., at Private Schools. Of the school population between 4 and 15 years—286,566, or 81·1 per cent., were at school; 229,051, or 64·8 per cent., at State Schools; and 57,515, or 16·3 per cent., at Private Schools. 227,561 children attended schools under the Public Instruction Act; 196,053 being of the statutory school age, and 31,508 either above or below it. The mean quarterly enrolment was 203,910, or 89·6 per cent. of the year's enrolment; and the average attendance was 141,723·2, or 69·5 of the quarterly enrolment. Of the average enrolment, 62·7 per cent. attended school 70 days or more in the first half-year, and 69·2 per cent. in the second half-year. The percentage of the population enrolled quarterly and the corresponding percentage in average attendance in 1898 were respectively 15·3 and 10·6, as compared with 15·4 and 11·3 in 1897.

*Compulsory clauses of the Act.*—69,788 children between the ages of 6 and 14 years failed to complete the minimum attendance of 70 days during the first half of the year; but in 597 cases only was the law set in motion. The parents of 3,860 were cautioned, while in the remaining cases satisfactory explanations were furnished, or the circumstances were not such as to render any action necessary. In a large number of instances, pupils had obtained certificates by examination, and were thus legally exempt.

For the second half-year, the number between the compulsory ages who did not attend 70 days was 62,156. In 973 cases legal action was taken, and cautions were sent to parents in 2,641 cases.

As in previous years, my acknowledgments are due to the police authorities for the active and effective assistance rendered by them in carrying out the provisions of the compulsory clauses of the Act.

SCHOOL

## SCHOOL FEES.

Great forbearance was shown during the year in the matter of the collection of school fees. Debts to the amount of £2,541 1s. 4d. were cancelled, and free education authorised in the case of 30,385 pupils. In 453 cases only was recourse had to legal process for the recovery of arrears of fees. The amount of fees collected and paid into the Consolidated Revenue was—for Primary Schools, £70,630 9s. 10d., and for High Schools, £2,462 15s. 6d., making a total of £73,093 5s. 4d. These figures show a decrease in the amount paid in Primary Schools, as compared with the payments of 1897, of £913 13s. 11d., and as regards High Schools an increase of £322 17s. 6d.

## INSPECTION.

In April last it was deemed necessary to appoint an additional inspector, and Mr. Thomas Walker was selected for the office. Mr. Walker holds, as a teacher, the highest classification by examination, and had rendered highly meritorious service. Since his appointment as inspector, he has been employed principally in the Metropolitan and Mudgee Districts. During the year, Mr. G. H. Hunt was permanently appointed to the Dubbo district to take the place of Mr. J. W. E. Baillie, who after some years service at that centre had been removed to Braidwood. The inspectorial staff now comprises 36 officers—Chief Inspector, Deputy Chief Inspector, 9 District Inspectors, and 25 Inspectors.

The amount of inspection accomplished in each district, and the manner in which the schools were apportioned, are shown in the table appended :—

District.	No. of Inspectors.	No. of Schools.	No. of Schools inspected.	No. of Schools not inspected.	No. of Pupils examined.
Armidale ... ..	4	354	353	1	12,148
Bathurst ... ..	3	255	254	1	9,744
Bowral ... ..	3	258	255	3	10,542
Goulburn ... ..	4	396	391	5	10,772
Grafton ... ..	3	324	324	...	12,290
Maitland ... ..	3	253	248	5	17,041
Metropolitan ... ..	*5	212	212	...	46,080
Sub-metropolitan ... ..	2	162	162	...	11,319
Wagga Wagga ... ..	4	339	336	3	13,619
Wellington ... ..	3	260	260	...	8,902
Totals ... ..	34	2,813	2,795	18	152,457

\* Including Mr. Inspector Walker.

The inspected and uninspected schools were :—

	Public.	Provisional.	Half-time.	House-to-house.	Evening.	Total.
Inspected ... ..	1,997	313	426	36	23	2,795
Uninspected ... ..	3	3	5	1	6	18
Totals ... ..	2,000	316	431	37	29	2,813



*Course of Secular Instruction.*—The table given below shows the results obtained by examination :—

Subjects.	Estimated Proficiency.		
	Total number Examined.	Number Passed.	Percentage up to or above Standard.
Reading—			
Alphabet ... ..	8,837	6,441	72
Monosyllables ... ..	34,087	27,557	80
Easy Narrative ... ..	47,475	40,562	85
Ordinary Prose ... ..	62,058	54,750	88
Totals ... ..	152,457	129,310	84
Writing—			
On Slates... ..	56,585	48,022	84
In Copy-books and on Paper ... ..	95,679	81,623	85
Totals ... ..	152,264	129,645	85
Dictation ... ..	123,596	100,024	80
Arithmetic—			
Simple Rules ... ..	88,741	68,459	77
Compound Rules... ..	38,277	27,234	71
Higher Rules ... ..	23,300	16,626	71
Totals ... ..	150,318	112,319	74
Grammar—			
Elementary ... ..	32,465	24,359	75
Advanced... ..	29,946	21,675	72
Totals ... ..	62,411	46,034	73
Geography—			
Elementary ... ..	30,416	23,134	76
Advanced... ..	32,140	24,584	76
Totals ... ..	62,556	47,718	76
History—			
English ... ..	62,076	44,554	71
Australian ... ..	11,694	8,436	72
Scripture and Moral Lessons... ..	147,728	112,957	76
Object Lessons ... ..	144,099	114,708	79
Drawing ... ..	147,455	121,741	82
Music ... ..	141,410	114,621	81
French ... ..	1,885	1,331	70
Euclid ... ..	7,865	5,892	74
Algebra ... ..	1,999	1,530	76
Mensuration ... ..	5,165	3,564	69
Latin ... ..	1,958	1,430	73
Trigonometry ... ..	46	35	76
Needlework ... ..	53,806	48,602	90
Drill ... ..	146,104	115,975	79
Natural Science ... ..	7,934	6,238	78

These results show that the proportion of passes, as compared with the work of 1897, is 4 per cent. higher in mensuration, 2 per cent. in English History, music, and French, and 1 per cent. in writing, Australian history, object lessons, drawing, and needlework. In dictation, arithmetic, grammar, geography, and natural sciences the percentage is the same for both years, while there is a falling off in reading, Scripture, and moral lessons, Euclid, algebra, Latin, drill, and trigonometry.

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The following table summarises the progress in efficiency made in the different classes of schools during the past five years :—

Class of Schools.	Percentage up to or above the Standard.				
	1894.	1895.	1896.	1897.	1898.
Public ... ..	96	97	97	98	98
Provisional... ..	88	82	86	92	84
Half-time ... ..	87	89	89	91	90
House-to-house ... ..	80	91	95	77	77
Evening Schools ... ..	100	93	93	95	100
All Schools... ..	93	94	95	96	95

### HIGH SCHOOLS.

The total enrolment at these schools was 527, and the average daily attendance 376, as against 516 and 370 respectively for 1897. The attendance at each school is shown below :—

School.	Total enrolment.	Average quarterly enrolment.	Average daily attendance.
Sydney (Boys) ... ..	162	130	119·3
„ (Girls) ... ..	187	147	126·7
Maitland (Boys) ... ..	104	83	77·1
„ (Girls) ... ..	61	48	42·9
Bathurst (Girls) ... ..	13	12	10·3
Totals ... ..	527	420	376·3
Totals for 1897 ... ..	516	399	370·2

407 pupils, or 97 per cent. of the average quarterly enrolment, were present at the annual examination, the percentage of results averaging nearly 80 per cent. At the University Examinations these schools took a good position, as will be seen from the table following :—

School.	No. of Passes, Junior Examination.	No. of Passes, Senior Examination.	No. of Passes, Matriculation Examination.
Sydney (Boys) ... ..	18	5	24
„ (Girls) ... ..	19	4	9
Maitland (Boys) ... ..	14	2	8
„ (Girls) ... ..	6	1	2
Bathurst (Girls) ... ..	...	...	...
Totals ... ..	57	12	43

Of those who qualified for matriculation, 12 did so at the Junior and 5 at the Senior Examinations.

The total expenditure on High Schools was £6,200 9s. 1d., being £197 less than in 1897, and the amount of fees received £2,462 15s. 6d., an increase of £322. The actual cost to the State was £3,737 13s. 7d., or at the rate of £7 1s. 10d. per head of the total enrolment, as against £8 5s. in 1897.

*State Scholarships and Bursaries.*—At the examinations held under the Scholarship and Bursary scheme, 107 candidates were successful. Of these, 25 males and 30 females obtained scholarships for High Schools and Superior Schools; 22 males and 18 females, bursaries for High and Superior Schools; 4 males, bursaries for the Sydney Grammar School; and 4 males and 4 females, University Bursaries.

Of the 55 successful competitors for Scholarships, 16 boys and 16 girls have since attended the Sydney High Schools, 9 boys and 10 girls the Maitland High Schools, 3 girls the Bathurst High School, and 1 girl attends a country Superior School. Of the 44 who succeeded in gaining State School Bursaries, 13 boys and 8 girls attend the Sydney High Schools, 8 boys and 5 girls the Maitland Schools, 4 boys the Sydney Grammar School, 5 girls the Fort-street Model School, and 1 boy the Leichhardt Superior School.

This year only 8 of the University Bursaries available were awarded. Five were obtained by High School pupils, 1 boy and 4 girls; and 3 by male pupils of Fort-street Model School.

The total number of candidates examined for admission to the High Schools was 599; of these 574, or 95·8 per cent., were successful.

#### SUPERIOR SCHOOLS.

Two schools—Neutral Bay and Wingham—were promoted to the rank of Superior Schools, which at the end of the year numbered 101, comprising 252 departments. The number of pupils enrolled and in average attendance for December quarter was 71,775 and 50,233 respectively.

#### EVENING PUBLIC SCHOOLS.

Sixteen applications for the establishment of Evening Schools were received; 12 were granted, 2 were refused, and 2 had not been finally dealt with at the close of the year. The total number of schools in operation was 29, but 3 collapsed before the end of the year. On 31st December there were 26 schools in existence, having an enrolment of 751, with an average attendance of 392·8.

Twenty of these Evening Schools were inspected, and, in all of them, the results proved to be up to or in excess of standard requirements.

#### TECHNICAL EDUCATION IN PUBLIC SCHOOLS.

*Drawing.*—147,455 pupils were examined in this subject, of whom 121,741, or 82 per cent., satisfied the standard. In 210 departments in the Metropolitan and Sub-metropolitan districts visited by the  
the

the Superintendent of Drawing, 42,093 pupils were present at examination. 90 per cent. of these were found to reach the standard, an improvement of nearly 10 per cent. upon the results of 1897. Detailed information upon this subject will be found in Appendix XIII.

*Manual Training.*—Nine workshops were in existence in 1898, which afforded instruction to the pupils of 27 schools. The total enrolment of these classes, including students in training, was 759. Of these 396 presented themselves for examination, and 324 passed.

*Cookery.*—The number of schools in operation in 1898 was 10, with an enrolment of 864 pupils. Of this number 736 presented themselves for examination, of whom 715, or 97 per cent., were successful.

*Needlework.*—53,806 female pupils were examined in needlework, of whom 48,602, or 90 per cent., passed the standard. In the Metropolitan district, 88 schools, representing 14,029 children, were examined by the Directress, who reports that the instruction given continues to be thorough and effective. [See Appendix XV.]

#### PUBLIC SCHOOL SAVINGS BANKS.

Six hundred and forty-nine Banks were in existence at the beginning of the year; 7 new ones were established and 26 closed, leaving 630 in operation on 31st December. The credit balance brought forward from 1897 was £7,404 0s. 1d., which by the end of the year amounted to £8,103 13s. 8d., showing an increase of £699 13s. 7d.

The deposits and withdrawals during the year, amounting to £14,579 15s. 5d. and £13,880 1s. 10d. respectively, also show a large increase on the previous year's transactions, the former of £1,589 18s. 7d., and the latter of £1,623 2s. 5d. The amount withdrawn for deposit to the credit of pupils in the Government Savings Bank was £4,101 17s., as compared with £3,653 2s. 9d. in 1897.

Since the establishment of these Banks in 1887 the deposits have totalled £139,118 14s. 10d., and the withdrawals £131,015 1s. 2d. Of this latter sum, £38,053 12s. 3d. was withdrawn for the purpose of being placed to the credit of children's own accounts in the Government Savings Bank.

#### TEACHERS.

4,759 teachers of all classes were actually employed on 31st December, 1898, being 133 more than at the end of the previous year. 3,040 were classified teachers, 572 unclassified, but certificated for small schools, 41 were training-school students, 1,020 pupil-teachers, 62 work-mistresses, and 24 High School teachers. Of the whole number, 52·3 are males and 47·7 females; and of the teachers in charge of schools, 76·4 per cent. are males and 23·6 females. As regards assistants, the percentages are 30· males and 70· females.

The

The following table gives full information respecting the several classes into which teachers are divided:—

	I A.		I B.		II A.		II B.		III A.		III B.		III C.		Unclassified.		Totals.		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Principal Teachers .....	49	1	72	1	305	6	155	6	696	146	173	82	74	53	246	251	1,770	546	2,316
Mistresses of Departments.	0	32	...	39	...	137	...	3	...	2	...	...	...	...	...	1	...	214	214
Assistants .....	...	...	24	1	137	130	91	128	61	343	6	68	1	18	5	69	325	757	1,082
Students in Training ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	25	41
Totals .....	49	33	96	41	442	273	246	137	757	491	179	150	75	71	251	321	2,111	1,542	3,653

	Class I.		Class II.		Class III.		Class IV.		Probationers.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
Pupil-teachers .....	26	102	60	109	89	127	161	259	30	57	.....	366	654	1,020
Work-mistresses .....	.....										.....	62	62	
High School Teachers...	.....										.....	14	10	24
Total Teachers of all ranks .....												2,491	2,268	4,759

Of the total number of classified teachers, 7·2 per cent. are in Class I, 36·1 per cent. in Class II, and 56·7 per cent. in Class III. Only 15·6 per cent. of our teachers are unclassified, and the majority of these had, before appointment, served four years at least as pupil-teachers.

The teachers whose connection with the Department ceased during the year numbered 174. Of these, 144 resigned, 18 retired under the Public Service Act, 2 were transferred to other Departments of the Service, 3 were dismissed, and 7 died.

During 1898, 1,036 applicants for appointment to the office of pupil-teacher were submitted to competitive examination, of whom 274 were accepted. Of those awaiting employment, 288 were appointed to schools.

*Fort-street Training School.*—The number of students in training was 16; 15 held full scholarships, 1 a half-scholarship.

Instruction was given during the year in professional subjects, in the principles and practice of teaching and class management, and in manual training. Systematic test and criticism lessons were given every week. The examination with a view to the classification of the students was held in December and resulted as follows:—

II A.	II B.	III A.	Total.
5	4	7	16

The results of the examination in manual training were :—

Honors.	First Grade.	Second Grade.	Total.
3	6	6	15

At an examination held under the auspices of the St. John's Ambulance Association, all the students qualified for the "first aid" certificate. The students, moreover, received instruction in drill every week, and, once a month, target practice was carried out at Randwick.

*Hurlstone Training School for Female Students.*—Twenty-five students were in residence, of whom 15 held full scholarships, and 10 half scholarships.

In addition to instruction in the usual professional subjects, each student had four weeks actual teaching and practical training in the Practising School, besides being required to give criticism lessons in various subjects, and to conduct drill, music, and drawing lessons under the respective tutors. All the students attended a course of practical cookery, and examinations were held in drill and cookery, as also a certificate examination in connection with the St. John's Ambulance Association.

The results of the examination for classification, held at the end of the year, are given below :—

II A.	II B.	III A.	Total.
4	12	9	25

*Teachers' Examinations.*—The total number of examinees of all classes during 1898 was 3,083. The percentage of passes of teachers was 58·5 and of pupil-teachers 97·5. The total number of pupil-teachers reported on was 778, as against 608 in 1897. The male and female examinees who obtained the highest number of marks at the first-class pupil-teachers' examination for admission to training were Mr. Thomas Taylor Roberts, of Erskineville Superior Public School, and Miss Minnie Hughes, of the Public School at Parramatta North. Each of them will be presented with the Jones Memorial Medal.

In



In the following table the results of the several examinations are given in detail:—

Persons examined.	Results.		
	Passed.	Failed.	Total.
Teachers and Assistant Teachers ... ..	297	210	507
For Class I ... .. 14 passed			
"    II A ... .. 13 "			
"    II B ... .. 42 "			
"    III A ... .. 152 "			
"    III B ... .. 57 "			
"    III C ... .. 19 "			
Examined in Drawing only, in Music only, or in both ...	55	27	82
Retired from examination ... ..	.....	.....	4
Examinations of Students in Training Schools ... ..	.....	.....	68
(a) Males—Recommended for II A, with honors Nil.			
"    II A ... .. 5			
"    II B ... .. 4			
"    III A ... .. 7			
(b) Females—Recommended for II A ... .. 4			
"    II B ... .. 12			
"    III A ... .. 9			
Examined in Drawing only ... .. 27			
Pupil-teachers ... ..	720	18	738
For Class III ... .. 319 passed			
"    II ... .. 210 "			
"    I ... .. 152 "			
*For Training Schools ... .. 39 "			
Deferred cases not yet dealt with ... ..	.....	.....	4
Examinations in Drawing only ... ..	21	2	23
Retired from examination ... ..	.....	.....	Nil.
Applicants for office of Pupil-teacher ... ..	274	762	†1,036
Examined in Drawing or in Music only ... ..	8	1	9
High School Candidates ... ..	559	40	599

\* In addition to these, 13 female ex-pupil teachers were examined, by special concession, for admission for a twelve months' course of training. All passed the test. † This examination is now competitive.

*Teachers' Mutual Assurance Association.*—During the year 14 teachers joined the Association, and 3 died. In the last ten years 43 deaths have taken place, at the rate of 4·3 per annum. The average amount paid annually by each member has been £1 1s. 4d. For this payment a sum of about £70 is assured, being at the rate of £1 10s. 5d. per £100. There is no legacy duty, nor have nominees of deceased members to wait for probate of will, as payment is made immediately on proof of death.

#### LOCAL SUPERVISION.

Three sub-districts were formed during the year, and a Public School Board appointed in the case of each. The number of persons so appointed was 12. In addition, 67 members were added to Boards already in existence. The total number of Boards in operation was 299. On 56 of these, ladies to the number of 115 held seats. The resignations of 31 members were accepted, and 29 were reported as deceased, or having left the locality.

#### SCIENTIFIC AND TECHNICAL EDUCATION.

A comparative statement of the total enrolment of students at the colleges and branch schools for the years 1897 and 1898 is given below:—

	1897.	1898.
Sydney Technical College ... ..	3,678	4,052
Suburban classes ... ..	726	686
Country classes ... ..	2,342	2,336
Classes connected with Public Schools	912	1,444
	<u>7,658</u>	<u>8,518</u>
		Deducting

Deducting from this enrolment all cases where students were members of more than one class, the number of individuals attending the classes was 6,291, as against 5,848 for last year—an increase of 443. The average weekly attendance was 5,678, giving an increase over 1897 of 1,695.

The total number of classes in operation was distributed as shown below :—

	Under salaried Teachers.	Teachers paid fees only.	Total.
Sydney Technical College ... ..	63	5	68
Suburban classes ... ..	16	12	28
Classes in country towns ... ..	103	10	113
Classes from Public Schools ... ..	22	.....	22
	204	27	231

The students examined at the end of the year numbered 2,956, of whom 2,246, or 76 per cent., were successful; in 1897 there were 2,702 examined, 1,923 of whom, or 71.1 per cent., passed. At the technological examinations of "The City and Guild of London Institute," held in May last, 26 students of the Technical Colleges were examined, of whom 22 passed.

The teaching staff comprises 98 persons, viz., 12 lecturers in charge of departments, 6 resident masters in charge of branch schools, 49 teachers, 13 assistant teachers, and 18 teachers of classes who are remunerated by pupils' fees only. Several changes in the staff took place during the year. Detailed information of an interesting character will be found in the Superintendent's report (Appendix XIX). The new college at Bathurst was completed early in the year, and was officially opened by the Honorable Jacob Garrard on the 29th June. Manual and woodworking classes were inaugurated with fair success. The classes at Broken Hill were reopened after a lapse of some years and promise to be very successful. Already the attendance exceeds the accommodation. A new school at Albury will be opened early in 1899. A resident master has already been appointed, and the necessary arrangements are being pushed forward.

The Technological Museum and branches were visited by 238,792 persons, an increase of 13,808 over the visitors of the previous year. The subjoined table gives the attendance at each.

	1897.	1898.
Technological Museum, Sydney ... ..	100,680	106,179
Branch Museum, Newcastle ... ..	49,068	45,942
"    Goulburn ... ..	24,586	22,497
"    Bathurst ... ..	22,278	32,597
"    West Maitland ... ..	24,054	23,263
"    Albury ... ..	4,318	8,314
	224,984	238,792

The total expenditure on technical education during 1898, including £3,873 8s. 11d. spent on the Technological Museums, amounted to £29,527 14s. 4d. Of this sum £23,495 15s. 7d. was a Parliamentary grant, £2,327 19s. represented payments by the Treasury from the Loan Vote for the erection of buildings, &c., and £35 2s. 11d. London payments by the Treasury; while the balance, £3,618 16s. 10d., shows the amount of students' fees paid to the teachers.

#### PUBLIC SCHOOL CADET FORCE.

For the last quarter of 1898 the total enrolment of the Cadet Force was 3,280. The amount expended for cadet purposes was £3,706 3s. 10d., as against £3,782 8s. 11d. in 1897.

Details of the year's work appear in Appendix XVIII.

#### FINANCE.

The sum available for expenditure under the Public Instruction Act was £748,866 12s. 9d., made up as follows:—

	£	s.	d.
Balance from 1897 ... ..	9,115	16	6
Do of Petty Cash in hand ... ..	1	19	2
Amount received from Treasury on account of Vote for 1897-8 ... ..	303,912	0	0
Amount received from Treasury on account of Vote for 1898-9 ... ..	339,000	0	0
Amount received from Loan Vote—(new buildings) Do from Public School Buildings Account ... ..	4,000	0	0
Amount of Minister's salary ... ..	1,336	17	1
	<u>£748,866</u>	<u>12</u>	<u>9</u>

The total outlay was £729,922 0s. 3d., namely, £105,054 6s. 2d. on school premises, £578,533 4s. 3d. on maintenance of schools, and £46,334 9s. 10d. on administration, &c., leaving a balance at the end of the year of £18,944 12s. 6d.

#### *General Statement of Expenditure for 1898.*

##### I. On School Premises:—

	£	s.	d.
For sites, new buildings, additions, repairs, &c., including High Schools £528 12s. 6d. ... ..	105,054	6	2

##### II. On Maintenance of Schools, &c.:—

	£	s.	d.
1. Teachers' salaries and allowances in Primary Schools ... ..	538,237	8	7
Other maintenance expenses in such schools ...	31,559	7	7
2. High School salaries and maintenance expenses	5,671	16	7
State Scholarships and Bursaries ... ..	3,064	11	6
3. Administration, including Training Schools and enforcement of school attendance ... ..	46,334	9	10
	<u>624,867</u>	<u>14</u>	<u>1</u>
	<u>£729,922</u>	<u>0</u>	<u>3</u>

The amount of school fees collected and paid into the Consolidated Revenue was £73,093 5s. 4d., namely, £70,630 9s. 10d. from Primary Schools, and £2,462 15s. 6d. from High Schools. Deducting this sum from the total expenditure, there will remain £656,828 14s. 11d. as the net school expenditure derived from State funds.

The

The total expenditure during the last five years is shown in the following table :—

	1894. Expenditure.	Per- centage of total expen- diture.	1895. Expenditure.	Per- centage of total expen- diture.	1896. Expenditure.	Per- centage of total expen- diture.	1897. Expenditure.	Per- centage of total expen- diture.	1898. Expenditure.	Per- centage of total expen- diture.
I. SCHOOL PREMISES AND ARCHITECT'S EXPENSES :—										
For sites, buildings, additions, &c. ....	£ s. d. 73,791 13 1	11.16	£ s. d. 104,397 5 1	14.88	£ s. d. 56,752 7 6	8.71	£ s. d. 84,909 9 4	12.26	£ s. d. 105,054 6 2	14.40
II. MAINTENANCE OF SCHOOLS, not including administration :—										
1. Primary Schools—Salaries and allow- ances .....	505,794 4 10	76.51	516,399 2 4	73.58	514,857 5 10	79.05	522,068 12 3	75.40	538,237 8 7	73.74
2. Primary Schools—Other maintenance expenses .....	23,852 19 8	3.61	25,366 5 1	3.62	25,144 7 9	3.86	29,041 15 10	4.20	31,559 7 7	4.32
3. High Schools—Salaries and allowances .....	6,378 11 8	.96	6,097 2 10	.87	5,833 0 0	.90	5,402 4 8	.78	5,539 19 2	.76
4. " " Other maintenance ex- penses, including Scholarships .....	2,419 0 2	.37	3,479 6 3	.49	3,477 10 9	.53	3,878 10 9	.56	3,196 8 11	.44
III. ADMINISTRATION EXPENSES :—										
1. General management .....	17,036 4 11*	2.58	16,294 7 1*	2.32	17,279 2 5*	2.65	19,899 9 3*	2.87	19,752 19 8	2.70
2. Chief Inspector's Branch, including Training Schools .....	30,606 6 7	4.63	28,384 12 3	4.04	27,377 19 3	4.20	27,195 8 6	3.93	26,581 10 2	3.64
3. Examiner's Branch .....	1,175 14 6	.18	1,408 12 7	.20	585 6 10	.10	.....†	.....	.....	.....
Totals .....	661,054 15 5	100.00	701,326 13 6	100.00	651,307 0 4	100.00	692,395 10 7	100.00	729,922 0 3	100.00

\* Including Minister's salary.

† Now included under General Management.

The subjoined table exhibits the number of schools, the number of pupils, and the State expenditure for each of the last five years :—

Year.	Number of Schools.	Number of Pupils.	The State Expenditure.				
			On School Premises.	On Maintenance of Schools, including Administration, &c.	Total.	Less School Fees.	Net State Expenditure.
1894.....	2,508	206,265	£ s. d. 73,791 13 1	£ s. d. 587,263 2 4	£ s. d. 661,054 15 5	£ s. d. 70,693 8 7	£ s. d. 590,361 6 10
1895.....	2,563	216,396	104,397 5 1	597,429 8 5	701,826 13 6	73,319 12 1	628,507 1 5
1896.....	2,574	221,603	56,752 7 6	594,554 12 10	651,307 0 4	74,865 12 5	576,441 7 11
1897.....	2,577	226,157	84,909 9 4	607,438 1 3	692,395 10 7	73,684 1 9	618,711 8 10
1898.....	2,602	227,561	105,054 6 2	624,867 14 1	729,922 0 3	73,093 5 4	656,828 14 11

Hereunder the expenditure is shown more in detail :—

Hheads of Expenditure.	1894.	1895.	1896.	1897.	1898.
I. SCHOOL PREMISES :					
1. Sites .....	£ s. d. 8,584 5 7	£ s. d. 3,195 6 0	£ s. d. 2,256 18 8	£ s. d. 1,402 10 0	£ s. d. 919 13 3
2. Buildings, &c. ....	19,431 19 2	27,586 10 4	15,583 9 1	45,509 11 8	31,043 6 8
3. Additions, repairs, &c. ....	29,490 10 9	56,973 14 4	28,516 18 11	30,522 1 1	65,246 7 9
4. Weather-sheds .....	514 16 0	631 8 0	44 11 2	617 12 1	1,377 7 11
5. Architect's expenses .....	5,550 4 2	5,933 19 5	3,336 12 9	.....*	.....*
6. Rent .....	8,757 12 8	8,583 11 5	5,255 19 5	1,574 5 0	1,162 2 9
7. Water and Sewerage rates.....	1,462 4 9	1,492 15 7	1,757 17 6	5,283 9 6	5,305 7 10
	73,791 13 1	104,397 5 1	56,752 7 6	84,909 9 4	105,054 6 2
II. MAINTENANCE OF SCHOOLS :					
1. Teachers' salaries and allowances.....	512,172 16 6	522,496 5 2	520,690 5 10	527,470 16 11	543,777 7 9
2. Teachers' travelling expenses.....	2,217 15 8	2,761 17 3	2,457 19 6	3,156 19 0	2,982 12 3
3. Teachers' forage allowances .....	2,382 3 7	2,633 15 2	2,666 3 10	2,513 17 4	1,779 0 4
4. School fuel allowances .....	977 0 10	1,025 13 0	1,074 10 10	1,200 13 4	1,470 17 7
5. School cleaning allowances .....	9,260 16 7	9,576 16 2	9,688 10 2	10,025 1 4	7,147 6 11
6. School materials .....	7,370 0 7	8,220 19 2	8,120 8 4	10,647 11 5	16,678 10 8
7. Miscellaneous expenses, including advertising, bur- saries, cookery, &c. ....	4,064 2 7	4,626 10 7	4,614 5 10	5,376 4 2	4,697 8 9
	538,444 16 4	551,341 16 6	549,312 4 4	560,391 3 6	578,533 4 3
III. ADMINISTRATION AND TRAINING SCHOOLS :					
1. General management .....	17,036 4 11	16,294 7 1	17,279 2 5	19,899 9 3†	19,752 19 8†
2. Chief-Inspector's Branch :					
(a) Inspection .....	24,009 1 5	23,954 16 2	23,202 13 10	22,791 0 4	22,784 8 11
(b) Fort-street Training School .....	3,829 13 2	2,145 1 5	2,015 3 9	2,170 0 3	1,712 17 6
(c) Hurlstone Training School .....	2,767 12 0	2,254 14 8	2,160 1 8	2,234 7 11	2,084 3 9
3. Examiner's Branch .....	1,175 14 6	1,408 12 7	585 6 10	.....*	.....*
	48,818 6 0	46,087 11 11	45,242 8 6	47,094 17 9	46,334 9 10
Total expenditure .....	£ 661,054 15 5	701,326 13 6	651,307 0 4	692,395 10 7	729,922 0 3

\* Now included under General Management.

† Includes Minister's salary.

The average cost to the State of a child's education, calculated (a) upon the net school expenditure, and (b) upon the expenditure exclusive of the cost of school premises, is shown in the succeeding tables:—

(a) *Net School Expenditure.*

	1894.	1895.	1896.	1897.	1898.
Cost per child upon the—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Gross enrolment of pupils .....	2 10 5	2 11 1½	2 5 9¼	2 8 1½	2 10 9½
Year's enrolment of distinct pupils .....	2 17 2½	2 18 1	2 12 0½	2 14 8½	2 17 8½
Mean quarterly enrolment .....	3 4 11¾	3 5 5¼	2 18 6	3 1 3¼	3 4 5
Average attendance.....	4 10 9	4 9 9½	4 1 0¾	4 3 4½	4 12 8¼

(b) *Expenditure, exclusive of cost of school premises.*

	1894.	1895.	1896.	1897.	1898.
Cost per child, calculated upon the—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Gross enrolment of pupils .....	2 4 0¾	2 2 7½	2 1 3¼	2 1 6½	2 2 8
Year's enrolment of distinct children ...	2 10 1	2 8 5½	2 6 10¾	2 7 2¼	2 8 5½
Mean quarterly enrolment .....	2 16 10¼	2 14 6¾	2 12 9	2 12 10¼	2 14 1½
Average attendance.....	3 19 5	3 14 10½	3 13 1	3 11 11¼	3 17 10¼

Information is furnished in the following summaries respecting educational establishments connected with this Department, but not carried on under the provisions of the Public Instruction Act:—

THE SYDNEY UNIVERSITY.

465 students, including 64 women, attended lectures during 1898. The total number qualified for Matriculation was 228, of whom 75 passed the ordinary Matriculation Examination, 83 the Junior Public Examination, 15 the Law Matriculation Examination, 47 the Senior Public Examination, and 8 the Entrance Examination for Law, Medicine, and Science. The number actually admitted to Matriculation was 106.

At the Senior Public Examinations, 110 candidates presented themselves, and 96 passed. At the Junior Examination, 698 were successful out of 1,079.

The degrees conferred during the year were 103, viz.:—M.A., 4; B.A., 44; LL.B., 7; M.B., 22; Ch.M., 17; B.Sc., 4; and B.E., 5.

The University Staff consisted of 14 Professors and 34 Lecturers and Demonstrators, of whom 7 Professors and 3 Lecturers are paid out of the Challis Fund; and 6 Teachers from the P. N. Russell Fund.

The year's expenditure was £32,869 0s. 9d., of which sum £11,200 was granted by the Government. £4,771 17s. 9d. was derived from private foundations for the payment of scholarships, bursaries, prizes, &c., for the Fisher Library, and for maintenance of the P. N. Russell School of Engineering. The total income for the year was £32,562 11s. 2d.

## THE SYDNEY GRAMMAR SCHOOL.

The total enrolment of pupils for 1898 was 587, of whom 222 were under and 365 over the statutory age of 14 years. 164 new pupils were admitted, 99 being under and 65 above 14 years of age. The mean quarterly enrolment was 466, and the average attendance 431.

The income and expenditure for the year were as follows :—

			<i>Income.</i>	£	s.	d.
From State grants	...	...	...	1,500	0	0
„ School fees	...	...	...	7,853	17	8
„ Special prizes, &c.	...	...	...	133	15	0
„ Balance in hand, 1897	...	...	...	4	8	0
				<hr/>		
				£9,492	0	8
			<i>Expenditure.</i>			
By expenditure	...	...	...	9,126	17	2
„ balance in hand, 1898	...	...	...	365	3	6
				<hr/>		
				£9,492	0	8

The cost per pupil in average attendance was £21 3s. 6½d., being 19s. 2½d. less than in 1897. The expense to the State was £3 9s. 7¼d. per head, as against £3 14s. 9¼d. in the previous year.

## THE OBSERVATORY.

*Astronomical Work.*—Regular work with the transit circle was carried on during the year. 1,866 observations were made, together with the necessary computations. With the equatorial telescope, 997 observations were made and computations completed. 247 photographs of stars were taken, of which 152 were long exposures for the chart of the heavens, and 95 were catalogue plates.

*Meteorology.*—Weather charts and forecasts were issued twice daily—at 1 p.m. and at 9 p.m. These are based on telegrams from New Zealand, New Caledonia, and all the Australian Colonies. Over 600 are received daily, discussed, and combined into the charts. Monthly returns of rain and weather were received from 1,610 stations in New South Wales, which were combined into the annual rain report.

The daily time-ball service at Sydney and Newcastle was satisfactorily maintained.

During the year, the Government Astronomer issued many publications, including the Rain Report for 1897, and pamphlets on double stars, icebergs, water-spouts, periodic waves, and the Aurora Australis. Altogether, 23,122 documents were transmitted to correspondents and to other Observatories.

The Observatory was open to the public every Monday afternoon, a privilege of which 1,207 visitors took advantage.

The



The staff numbered 13 persons, in addition to the Government Astronomer. The expenditure for 1898 was:—

	£	s.	d.
For salaries ... ..	3,405	0	0
„ maintenance ... ..	695	5	6
	<hr/>		
	£4,100	5	6

#### THE PUBLIC LIBRARY.

The total number of volumes in the Library at the end of 1898 was 124,401. During the year new books to the number of 7,174 were added, and 17,253 books sent out on loan to country libraries. 176,879 persons visited the reading rooms as against 174,887 in the previous year; 162,170 the newspaper room as compared with 154,669 in 1897; and 85,436 visits were paid to the Lending Branch, an increase of 4,005 over the number in 1897. The total number of visits, therefore, paid to the institution during the year was 424,485.

Thirty-seven persons were employed on the staff of the institution. The expenditure for the year was:—

	£	s.	d.
On buildings, repairs, &c. (under Government Architect) ...	101	0	0
On books, periodicals, newspapers, binding ... ..	1,554	0	0
On salaries ... ..	5,077	0	0
On maintenance ... ..	502	0	0
	<hr/>		
	£7,234	0	0

#### THE AUSTRALIAN MUSEUM.

The number of visitors to the Museum was—On week-days, 88,332; on Sundays, 28,629; total, 116,961. Twenty-six persons were employed on the staff of the institution. The Trustees report that the year's expenditure was as given below:—

	£	s.	d.
On salaries and allowances... ..	4,492	10	5
On specimens (purchase, collection, and carriage) ... ..	189	5	7
On books and binding ... ..	284	4	3
On catalogues ... ..	385	11	9
On cases and bottles ... ..	472	10	11
Expedition to coral reef—Publication of results continued ...	12	7	2
“Thetis” trawling expedition—Expenses of Museum representative ... ..	17	11	7
Purchase of “Dobroyde collection”	500	0	0
Miscellaneous ... ..	290	18	0
	<hr/>		
	£6,644	19	8

## NATIONAL ART GALLERY.

During the year 247,339 visits to the Gallery were registered. The attendance on Sundays averaged 1,805; on week-days, 497. Fifteen additional students were admitted, making the total number 281. Five persons were permanently employed, with four extra assistants on Sundays and holidays.

The following is a statement of the year's expenditure:—

	£	s.	d.
For works of art purchased ...	3,411	0	0
For maintenance (frames, freight, fittings, repairs, insurances, &c.)	602	0	0
For salaries and wages ...	1,399	0	0
	<hr/>		
	£5,412	0	0

NEW SOUTH WALES INSTITUTION FOR THE DEAF AND DUMB  
AND THE BLIND.

The number of inmates during the year was 116 as compared with 118 for 1897. Of these 79 were under and 37 were over 14 years of age. The new admissions were 8, of whom 7 were under and 1 over 14 years. Two inmates were discharged—1 under 14 years, and 1 over that age.

The income of the institution was £13,751 7s. 9d., including legacies to the amount of £9,882 13s. 7d., of which £9,740 19s. 6d. was placed to the credit of the Perpetual Subscribers' Funds. The following statement shows the income was:—

	£	s.	d.
From State grants ...			
From other sources ...	13,751	7	9

Not received until after close of year.

The expenditure for the year was:—

	£	s.	d.
For maintenance ...	1,903	9	4
For salaries and wages ...	2,190	4	4
	<hr/>		
	£4,093	13	8

The number of teachers employed was 13, and the average cost per pupil £36 12s. 8d., as against £36 16s. 6d. in 1897.

## INDUSTRIAL SCHOOL FOR GIRLS, PARRAMATTA.

The enrolment for the year was 186, of whom 57 were under and 129 above the age of 14 years. There were 60 new admissions—24 under and 36 over 14 years old. Seventy-six inmates were discharged during the year, as follows:—

To Boarding-out Officer ...	15
As apprentices ...	40
On attaining age of 18 years ...	10
By order of Governor-in-Council ...	11

The

The number remaining in the institution on 31st December was 110. Compared with 1897, there was a decrease of 3 in the enrolment, and an increase of 6 in the new admissions.

The expenditure for the year was :—

	£	s.	d.
For maintenance ... ..	1,708	1	9
For salaries ... ..	980	2	6
	<hr/>		
	£2,688	4	3

Calculated on the enrolment, the cost per inmate was £14 9s., as compared with £14 2s. 1d. for the previous year.

The Superintendent reports :—

“The work of the institution for the year has progressed satisfactorily. Special attention has been directed to the systematic teaching and training of the inmates in every branch of domestic duty likely to prove useful to them in everyday life.

“As in the preceding year the work of the industrial classes has been of a practical character, but with a wider range. The classes in the institution include—

“*The Laundry Class.*—All the girls over the age of 12 years are members of this class in turn, and attend two hours or more daily, according to age and physical strength, and are trained in the work of washing, folding, mangling, and ironing. During the year upwards of 196,000 pieces of clothing were dealt with, including 31,000 articles from Hurlstone College. The estimated value of the work thus done is £1,200.

“*The Sewing Class.*—This class undertakes the making of all dresses, skirts, underclothing, aprons, cloaks, and jackets worn by the inmates, and its members are also well-instructed in mending, patching, darning, and knitting. All girls are members in turn. The value of the work done during the year for use in the institution exceeded £120.

“*The Cookery Class.*—Every inmate is in turn trained in cookery, and the majority of the girls take great interest in their work, and some of them become excellent cooks.

\* \* \* \* \*

“*The School Class.*—Good work has been done in all sections of this division. The youngest of the inmates attend daily, and, as a great number of the elder ones are, upon admission to the institution, lacking in school knowledge, they too attend this class for at least one hour daily.

“The health of the inmates during the year has been very good. There have been no deaths, nor has there been any serious illness.”

NAUTICAL

## NAUTICAL SCHOOL-SHIP "SOBRAON."

In this institution, 475 boys were enrolled, 304 of these being under and 171 over 14 years of age. The new admissions numbered 158, of whom 104 were below and 54 above the age stated. The number discharged was 173, made up as follows:—

For apprenticeship ... ..	114
On attaining 18 years of age ... ..	9
Transferred to Boarding-out Officer ... ..	15
Discharged to mercantile marine service ... ..	4
By order of the Governor-in-Council ... ..	26
Illegally committed ... ..	1
Transferred to Permanent Military Force ... ..	3
Death ... ..	1
	173

305 boys remained on the "Sobraon" at the end of the year. As compared with 1897, a decrease of 73 is shown in the enrolment, of 56 in the discharges, and of 57 in the number of new admissions.

The total expenditure was £8,033 15s. viz. :—

	£	s.	d.
For maintenance ... ..	5,461	12	5
For salaries ... ..	2,572	2	7
	£8,033 15 0		
Deducting parents' contributions to the Treasury ... ..	387	9	0
	£7,646 6 0		

Calculated on the net expenditure, the cost to the State per head of the enrolment was £16 2s., as compared with £13 10s. 6d. for 1897.

## CARPENTERIAN REFORMATORY.

At this institution the enrolment for the year was 106, 34 of the inmates being under and 72 over 14 years of age. The new admissions numbered 24, while 20 were discharged :

By order of Governor-in-Council ... ..	9
By expiry of time ... ..	10
By death ... ..	1

Of the 24 admissions, 9 were under and 15 above the age of 14. Eighty-six boys remained in the institution at the expiration of the year.

Except

Except for the death of one boy from influenza, the health of the inmates has been very good, and their conduct is well reported of. The boys show steady progress in school, and in the various workshops. Industrial work was carried out to the value of £2,349.

The net expenditure in connection with the reformatory was £2,068 3s. 6d. Calculated on the year's enrolment, the cost to the State per head was £19 10s. 2d.

#### SHAFTESBURY REFORMATORY.

At the commencement of 1897, there were 18 girls enrolled at this institution. During the year, 5 were admitted, and 4 discharged through the expiry of the term of their sentences. On 31st December, the number of inmates was 19, of whom 6 were under and 13 over the age of 14 years.

The conduct of the girls was very good throughout the year, and there was no sickness of any moment. Every girl attends school regularly, besides helping in the work of the institution. The whole of the needlework and dressmaking required is done by the inmates.

J. A. HOGUE,  
Minister of Public Instruction.

Department of Public Instruction,  
Sydney, 28th April, 1899.

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APPENDIX I.

APPLICATIONS for the establishment of Public Schools received during the year 1898.

Name of Place.	Post Town.	Distance of nearest School.	Number of Children residing in the locality.							Number of Children promised to attend.							Number of Parents or Guardians undertaking to send Children.						Minister's Decision.		
			Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	C.E.	R.C.	Pres.	Wes.		Ors.	Total.
Bangalo	Cambewarra	3	19	8	27	8	1	14	4	...	19	8	27	8	1	14	4	...	3	1	3	1	...	8	Under consideration.
Bloomfield	Orange	3	17	14	31	12	...	3	16	...	17	14	31	12	...	3	16	...	6	...	1	5	...	12	Granted, 7th November.
Boolaroo	Cockle Creek	1	17	20	37	12	5	2	4	...	17	20	37	12	5	2	4	...	12	2	1	1	2	18	Under consideration.
Bamberra	Nowra	2½	18	6	24	11	4	2	...	7	18	6	24	11	4	2	...	7	4	1	1	...	2	8	Declined, 17th October.
Chain of Ponds	Inverell	16	13	15	28	10	12	2	...	4	13	15	28	10	12	2	...	4	3	3	1	...	1	8	Provisional School granted, 23rd July.
Comborah	Comborah	...	10	13	23	20	3	...	...	...	10	13	23	20	3	...	...	...	8	1	...	...	...	9	Declined. Provisional School granted, 19th August.
Currawarna	Wagga Wagga	2½	12	14	26	20	...	...	6	...	12	14	26	20	...	...	6	...	7	...	...	2	...	9	Under consideration.
Eli Elwah Run	Hay	...	12	12	24	13	4	7	...	...	12	12	24	13	4	7	...	...	4	2	2	...	...	8	Under consideration.
Ellerston	Score	11	10	8	18	18	...	...	...	...	10	8	18	18	...	...	...	...	3	...	...	...	...	3	Declined. Provisional School granted, 8th November.
Fairfield (One Tree Hill)	Nimitybelle	7½	9	12	21	12	...	...	9	...	9	12	21	12	...	...	9	...	3	...	...	3	...	6	Declined. Provisional School granted, 8th November.
Gongolgon	Gongolgon	200 yds.	8	6	14	9	5	...	...	...	8	6	14	9	5	...	...	...	3	1	...	...	...	4	Declined. Provisional School granted, 17th June.
Gore Hill	Greenwich	...	19	33	52	41	11	...	...	...	19	33	52	41	11	...	...	...	14	6	...	...	...	20	Declined, 14th March.
Kensington	Kensington	...	48	38	86	...	...	...	...	...	48	38	86	...	...	...	...	...	...	...	...	...	...	41	Granted, 8th February.
Knockrow	Tintenbar	miles.	14	12	26	5	3	...	14	4	14	12	26	5	3	...	14	4	2	1	...	3	1	7	Declined, 24th September.
Mangain (Central Ganmain)	Coolamon	14	19	8	27	10	12	2	3	...	19	8	27	10	12	2	3	...	4	4	1	1	...	10	Granted, 12th August.
Merothery	Birrawa	6	7	10	17	12	...	...	5	...	7	10	17	12	...	...	5	...	3	...	...	1	...	4	Under consideration.
Mildura	Canterbury	2	101	100	201	63	17	93	14	8	101	100	201	69	17	93	14	8	27	6	28	5	3	69	Declined.
Molroy	Bingara	10	7	11	18	18	...	...	...	...	7	11	18	18	...	...	...	...	18	...	...	...	...	18	Declined. Provisional School granted, 23rd July.
Mount Pleasant	Balgownie	2½	30	31	61	40	11	...	2	8	30	31	61	40	11	...	2	8	13	4	...	1	4	22	Declined, 7th July.
Oban Vale	Singleton	4	15	20	35	18	14	2	1	...	15	20	35	18	14	2	1	...	7	3	1	1	...	12	Declined, 30th June.
Parkes, East	Parkes	2	24	25	49	20	16	2	...	11	24	25	49	20	16	2	...	11	8	6	2	...	5	21	Declined, 24th September.
Parkestown	Canterbury	2	47	45	92	53	27	...	7	5	47	45	92	53	27	...	7	5	15	9	...	4	3	31	Declined, 16th June.
Peak, The	Wrightville	3½	20	13	33	26	7	...	...	...	20	13	33	26	7	...	...	...	8	4	...	...	...	12	Declined, 1st September.
Piper's Flat (Irondale)	Piper's Flat	1	9	21	30	13	6	7	4	...	9	21	30	13	6	7	4	...	5	2	1	3	...	11	Declined. Provisional School granted, 5th December.
Pott's Hill	Bankstown	...	54	47	101	63	19	2	14	3	54	47	101	63	19	2	14	3	25	6	4	3	2	39	Granted, 4th March.
Prince of Wales Mine	Gundagai	...	21	28	49	23	14	10	...	2	21	28	49	23	14	10	...	2	11	8	2	...	1	22	Declined, 22nd June.
Rose Valley	Kelvin	12	12	13	25	18	7	...	...	...	12	13	25	18	7	...	...	...	3	2	...	...	...	5	Declined. Half-time School offered, 4th April.
Rossmore	Rossmore	...	18	12	30	26	...	1	...	3	18	12	30	26	...	1	...	3	9	...	1	...	2	12	Declined, 28th November.
Wammera Valley (Reopening)	Narandera	17 or 18	13	4	17	5	4	5	3	...	13	4	17	5	4	5	3	...	2	1	2	2	...	7	Declined, 16th December.
Wowingragong	Forbes	5½	14	9	23	8	15	...	...	...	14	9	23	8	15	...	...	...	3	4	...	...	...	7	Granted, 19th July.

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APPENDIX II.

APPLICATIONS for the establishment of Provisional Schools, received during the year 1898.

Name of Place.	Post Town.	Distance of nearest School miles.	Number of Children residing in the locality.							Number of Children promised to attend.							Number of Parents or Guardians undertaking to send Children.						Minister's Decision.			
			Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	C.E.	R.C.	Pres.	Wes.		Ors.	Total	
Archer's Flat	Cathcart	4	9	5	14	5	9	...	...	9	5	14	5	9	...	...	2	2	...	...	...	4	7	Declined, 14th September.		
Ariah Park	Broken Dam	4	9	8	17	12	3	...	...	2	9	8	17	12	3	...	...	2	5	1	...	1	7	Granted, 1st August.		
Auburn Vale	Inverell	4½	14	10	24	9	7	...	...	8	14	10	24	9	7	...	...	8	2	2	...	2	6	Granted, 17th December.		
Back Creek	Back Creek	...	19	11	30	25	5	...	...	19	11	30	25	5	...	...	9	2	...	...	...	11	6	Declined, 24th September.		
Back Creek	Warne	10 to 12	10	5	15	12	3	...	...	10	5	15	12	3	...	...	5	1	...	...	...	6	9	Declined, 27th September.		
Ballalaba	Captain's Flat	2½	12	13	25	3	16	6	...	12	13	25	3	16	6	...	...	2	4	2	...	8	8	Declined, 24th February.		
Beargamil	Parkes	11	8	14	22	10	10	2	...	8	14	22	10	10	2	...	...	4	3	...	1	8	8	Granted, 22nd June.		
Bimbimie Mines	Mogo	4	14	9	23	17	6	...	...	14	9	23	17	6	...	...	6	3	...	...	...	9	9	Granted, 30th June.		
Boggy Creek	Tumberumba	10	15	7	22	17	...	5	...	15	7	22	17	...	5	...	5	...	2	...	...	7	7	Declined, 14th December.		
Bongongo	Tumut	22	6	9	15	...	3	12	...	6	9	15	...	3	12	...	...	...	1	3	...	4	4	Declined, 26th September.		
Booral (West Bank)	Booral	3½	14	11	25	12	1	5	2	5	14	11	25	12	1	5	2	5	4	1	1	1	8	8	Declined, 5th September.	
Booorooban	Booorooban	30	11	14	25	21	4	...	...	11	14	25	21	4	...	...	...	2	5	...	...	7	7	Declined, 14th March.		
Booorooban (renewal)	Booorooban	...	11	10	21	16	5	...	...	11	10	21	16	5	...	...	5	2	...	...	...	7	7	Granted, 26th July.		
Bribarce (Pleasant Creek)	Thuddungra	6	11	8	19	11	1	7	...	11	8	19	11	1	7	...	...	4	1	2	...	7	7	Granted, 14th March.		
Brungle	Brungle	...	11	12	23	7	2	14	...	11	12	23	7	2	14	...	...	3	1	3	...	7	7	Granted, 11th May.		
Budjong Gap	Budjong	...	13	4	17	...	...	1	16	...	13	4	17	...	...	1	16	...	...	1	3	...	4	4	Declined. Half-time school offered, to be worked with Illaroo, 7th July.	
Bullgreen	Warren	30	9	9	18	8	4	6	...	9	9	18	8	4	6	...	...	4	1	2	...	7	7	Under consideration.		
Cathundril	Trangie	12	5	7	12	8	...	4	...	5	7	12	8	...	4	...	2	...	1	...	...	3	3	Declined, 10th September.		
Combaning South	Temora	10	20	12	32	13	13	1	5	...	20	12	32	13	13	1	5	...	5	4	1	1	11	11	Granted, 6th December.	
Congo	Bergalia	2½	8	11	19	...	9	3	7	...	8	11	19	...	9	3	7	...	...	3	1	2	6	6	Declined, 20th October.	
Coccooboonah	Gunnedah	7	14	11	25	25	...	...	...	14	11	25	25	...	...	...	...	8	...	...	...	8	8	Granted, 9th May.		
Coorangoora (renewal)	Bingara	...	14	13	27	15	5	4	3	...	14	13	27	15	5	4	3	...	4	1	1	1	7	7	Declined. Aid offered to half-time school, to be worked with Upper Bingara, 7th July.	
Corridgery	Budgeribong	4	14	11	25	11	8	...	...	6	14	11	25	11	8	...	...	6	4	2	...	3	9	9	Granted, 4th August.	
Crabbe's Creek	Crabbe's Creek	...	10	12	22	22	...	...	...	10	12	22	22	...	...	...	...	8	...	...	...	8	8	Granted, 30th June.		
Curraooyal	Currawatanna	¼	18	17	35	19	11	2	...	3	18	17	35	19	11	2	...	3	5	5	1	1	12	12	Declined, 23rd June.	
Daisy Park (Gunning)	Bedgerrabong	12	11	11	22	14	2	3	...	3	11	11	22	14	2	3	...	3	5	2	1	...	9	9	Granted, 16th November.	
Dandaloo	Dandaloo	...	9	12	21	...	9	12	...	9	12	21	...	9	12	...	...	...	3	3	...	...	6	6	Half-time school granted, to be worked with Springvale, 30th June.	
Dartbrook	Scone	6	9	6	15	4	11	...	...	9	6	15	4	11	...	...	...	1	4	...	...	5	5	Granted, 14th December.		
Devlin's Siding	Devlin's Siding	...	16	8	24	9	5	...	6	4	16	8	24	9	5	...	6	4	2	...	1	1	6	6	Declined, 13th October.	
Duck Creek	Temora	11	8	5	13	8	...	...	...	5	8	5	13	8	...	...	...	8	3	...	...	3	6	6	Granted, 1st August.	
Eulo (Macdonald River)	Glen Morrison	...	11	12	23	12	6	5	...	11	12	23	12	6	5	...	...	3	2	1	...	6	6	Declined, 2nd June.		
Eusdale Creek	Tarana	6	8	8	16	7	6	...	3	8	8	16	7	6	...	3	...	3	3	...	1	7	7	Declined, 9th August.		
Flixton (Nubba Siding)	Wallendbeen	4	13	9	22	22	...	...	...	13	9	22	22	...	...	...	...	5	...	...	...	5	5	5	5	Granted, 7th July.

APPENDIX II—continued.

Name of Place.	Post Town.	Distance of nearest School. miles.	Number of Children residing in the locality.							Number of Children promised to attend.						Number of Parents or Guardians undertaking to send Children.						Minister's Decision.				
			Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	C.E.	R.C.	Pres.		Wes.	Ors.	Total	
Forest Lodge, Dubbo Road.....	Gilgandra .....	5½	11	6	17	17	...	...	...	...	11	6	17	17	...	...	...	...	5	...	...	...	...	5	Granted, 14th March.	
Four-mile Creek .....	Hillgrove .....	5	5	14	19	14	4	1	...	...	5	14	19	14	4	1	...	...	5	2	1	...	...	8	Granted, 30th June.	
Glen Iffer .....	Glen Iffer .....	8½	6	11	17	6	4	5	2	...	6	11	17	6	4	5	2	...	2	1	1	1	...	5	Granted, 1st September.	
Goangra .....	Come-by-Chance .....	10	10	7	17	10	2	...	1	4	10	7	17	10	2	...	1	4	3	1	...	1	1	6	Declined. Aid offered to Half-time School, to be worked with Kercargo, 25th May.	
Goonengerry .....	Federal Post Office .....	...	8	12	20	9	3	2	2	4	8	12	20	9	3	2	2	4	3	1	1	1	1	7	Granted, 13th May.	
Gospel Oak.....	Canowindra .....	4	14	12	26	15	11	...	...	...	14	12	26	15	11	...	...	7	3	...	...	...	10	Declined, 26th April.		
Guest Swamp (Mulwala Parish)	Mulwala .....	6	8	11	19	10	1	8	...	...	8	11	19	10	1	8	...	...	3	1	3	...	7	Under consideration.		
Gumly Gumly .....	Wagga Wagga .....	6	11	11	22	14	8	...	...	...	11	11	22	14	8	...	...	4	4	...	...	...	8	Declined, 14th March.		
Helvetia .....	Gulgong .....	4	22	18	40	16	24	...	...	...	22	18	40	16	24	...	...	6	6	...	...	...	12	Granted, 23rd March.		
Hill Side.....	Warialda .....	15	14	6	20	14	...	...	...	...	14	6	20	14	...	...	...	6	6	...	...	...	6	Granted, 27th April.		
Hugundra .....	Berridale .....	5	12	8	20	20	...	...	...	...	12	8	20	20	...	...	...	4	...	...	...	...	4	Under consideration.		
Hyandra .....	Dubbo .....	15	8	8	23	10	4	3	6	...	15	8	23	10	4	3	6	...	4	1	1	1	7	Granted, 29th March.		
Jiggi .....	Lismore .....	13	11	13	24	14	3	1	6	...	11	13	24	14	3	1	6	...	3	1	1	1	6	Granted, 30th June.		
Jenolan Caves .....	Jenolan Caves .....	...	15	8	23	12	...	1	3	7	15	8	23	12	...	1	3	7	6	...	1	2	1	9	Declined, 9th August.	
Kentgrove .....	Crookwell .....	2½	15	6	21	...	4	...	...	17	15	6	21	...	4	...	...	17	...	2	...	...	6	8	Reopening granted, 1st September.	
Khancoban (reopening) .....	Khancoban.....	32	10	8	18	10	3	3	2	...	10	8	18	10	3	3	2	...	4	1	1	1	7	7	Granted, 7th November.	
Lammermuir .....	Frogmoor .....	6	10	11	21	6	...	5	10	...	10	11	21	6	...	5	10	...	2	...	1	2	...	5	Declined. Aid offered to Half-time School, 5th May.	
Lankey's Creek .....	Germananton.....	...	8	8	16	10	4	2	...	...	8	8	16	10	4	2	...	...	4	1	1	...	...	6	Declined, 15th April.	
Lily Grove .....	Black Mountain .....	4½	11	7	18	18	...	...	...	...	11	7	18	18	...	...	...	5	...	...	...	...	5	5	Granted, 12th August.	
Littleham .....	Berridale .....	8	11	6	17	16	1	...	...	...	11	6	17	16	1	...	...	6	1	...	...	...	7	7	Declined, 20th May.	
Maitland Bar .....	Avisford .....	3	14	8	22	18	...	4	...	...	14	8	22	18	...	4	...	8	...	1	...	...	9	9	Under consideration.	
Malla Grove Reserve .....	Norton .....	3	13	12	25	5	6	3	11	...	13	12	25	5	6	3	11	...	2	2	1	4	...	9	Declined, 7th December.	
Marshwood (Dalwood) .....	Branxton .....	5	10	12	22	15	4	...	3	...	10	12	22	15	4	...	3	...	5	2	...	1	...	8	8	Public School granted, 19th April.
Mayleigh .....	Narrabri.....	77	10	8	18	15	3	...	...	...	10	8	18	15	3	...	...	4	1	...	...	...	5	5	Declined, 9th May.	
Meadows, The .....	Hazelgrove.....	4	7	7	14	5	9	...	...	...	7	7	14	5	9	...	...	2	3	...	...	...	5	5	Declined, 14th March.	
Meadows, The (renewal) .....	do .....	...	8	10	18	...	14	...	4	...	8	10	18	...	14	...	4	...	...	6	...	1	...	7	7	Declined. Aid offered to a Half-time School, 10th October.
Merriganowrey .....	Cowra .....	14	11	10	21	9	12	...	...	...	11	10	21	9	12	...	...	3	3	...	...	...	6	6	Granted, 25th November.	
Methul .....	Coolamon .....	17	14	10	24	9	...	7	8	...	14	10	24	9	...	7	8	...	5	...	3	2	10	10	Granted conditionally, 23rd Nov.	
Micketeemulga .....	Wellington.....	6	12	15	27	8	19	...	...	...	12	15	27	8	19	...	...	2	4	...	...	...	6	6	Granted, 1st September.	
Minda Point .....	Pooncarie .....	7	6	7	13	...	10	3	...	...	6	7	13	...	10	3	...	...	3	1	...	...	4	4	Under consideration.	
Moor Creek .....	Bendemeer.....	6	4	10	14	11	...	3	...	...	4	10	14	11	...	3	...	4	...	1	...	...	5	5	Declined, 25th November.	
Mountain View .....	South Gundurimba .....	2	14	10	24	2	14	4	4	...	14	10	24	2	14	4	4	...	1	4	1	1	7	7	Declined, 5th December.	
Morongla Creek .....	Lower Cowra .....	5	10	10	20	10	5	5	...	...	10	10	20	10	5	5	...	...	4	1	2	...	7	7	Under consideration.	
Mundawaddra .....	Yerong Creek.....	5	9	8	17	...	6	...	10	...	9	8	17	...	6	...	10	...	...	1	...	3	4	4	Declined, 2nd August.	
Nangunia, South .....	Berrigan .....	9½	10	15	25	7	18	...	...	...	10	15	25	7	18	...	...	2	4	...	...	...	6	6	Granted, 9th December.	
Nemingha, Upper .....	Tamworth .....	9	8	6	14	4	1	9	...	...	8	6	14	4	1	9	...	...	3	1	4	...	8	8	Declined, 22nd August.	

APPENDIX II—continued.

Name of Place	Post Town.	Distance of nearest School miles.	Number of Children residing in the locality.							Number of Children promised to attend							Number of Parents or Guardians undertaking to send Children.						Minister's Decision		
			Boys	Girls	Total	C.E	R.C.	Pres	Wes	Ois.	Boys	Girls	Total	C.E	R.C.	Pres	Wes	Ois.	C.E.	R.C.	Pres	Wes		Ois.	Total
New Wharf	Booral	6	9	10	19	8	11	...	...	...	9	10	19	8	11	...	...	4	4	...	...	...	8	Declined. Aid offered to a Half-time School, to be worked with GUYAN, 14th April	
Oakey Creek	New Italy	2	10	10	20	11	9	...	...	...	10	10	20	11	9	...	...	3	3	...	...	...	6	Declined, 14th November.	
Pach's Selection	Henty	6	13	8	21	8	5	...	...	8	13	8	21	8	5	...	8	4	2	...	...	3	9	Declined, 25th November	
Pejur	Pejur	1/2	8	10	18	6	6	...	3	3	8	10	18	6	6	...	3	3	5	5	...	3	1	14	Reopening, Granted, 1st September.
Pera Bore	Bourke	13	12	10	22	10	4	8	...	...	12	10	22	10	4	8	...	...	4	2	...	...	...	8	Granted, 19th April.
Piambong	Cullenbone	3	10	5	15	6	9	...	...	...	10	5	15	6	9	...	...	2	3	...	...	...	5	Granted, 31st March.	
Pretty Gully	Pretty Gully, via Drake	1	10	7	17	8	...	9	...	...	10	7	17	8	...	9	...	5	2	...	...	...	7	Granted, 29th September.	
Quinburra	Craigie	6	12	11	23	16	4	3	...	...	12	11	23	16	4	3	...	6	1	...	1	...	8	Granted, 14th June.	
Rimbanda	Kentucky	10	11	11	22	10	5	7	...	...	11	11	22	10	5	7	...	3	2	1	...	...	6	Declined, 17th September.	
Roachdale	Ralsana	2	9	18	27	11	13	3	...	...	9	18	27	11	13	3	...	4	4	1	...	...	9	Granted, 14th April.	
Rocky Creek	Emmaville	23	8	7	15	11	4	...	...	...	8	7	15	11	4	...	...	2	1	...	...	...	3	Granted, 6th June.	
Round Hill	Culcairn	9	14	15	29	10	...	6	6	7	14	15	29	10	...	6	6	7	4	...	2	2	2	10	Declined, 24th August.
Shades, The	Molong	4 1/4	6	13	19	6	7	...	3	3	6	13	19	6	7	...	3	3	2	2	...	2	1	7	Under consideration.
Speewah	Swan Hill, Victoria	11	12	10	22	4	...	18	...	...	12	10	22	4	...	18	...	1	...	...	4	...	5	Under consideration.	
Spring Farm	Walcha	8	6	8	14	11	...	3	...	...	6	8	14	11	...	3	...	4	...	1	...	...	5	Declined, 14th November	
Spring Vale	Dandaloo	10	9	8	17	10	...	7	...	...	9	8	17	10	...	7	...	2	...	...	2	...	4	Half-time School granted, to be worked with Dandaloo, 30th June	
Station Hill	Binda	8	9	8	17	9	8	...	...	...	9	8	17	9	8	...	...	3	2	...	...	...	5	Granted, 9th December.	
Stockrington	Buchanan, via East Maitland.	4 1/2	8	10	18	8	4	3	3	...	8	10	18	8	4	3	3	...	3	1	1	1	...	6	Granted, 5th October.
Streamville (reopening)	Mount McDonald	7	9	13	22	8	14	...	...	...	9	13	22	8	14	...	...	3	4	...	...	...	7	Declined, 2nd March	
Summer Hill Creek	Orange	4 1/2	10	11	21	5	5	8	3	...	10	11	21	5	5	8	3	...	2	1	3	1	...	7	Under consideration.
Swan Bay	Karuah, via Limeburner's Creek.	...	17	9	26	26	...	...	...	...	17	9	26	26	...	...	...	8	...	...	...	...	...	8	Granted, 9th December.
Tally Morgan (Broadwater)	Maclean	6	8	7	15	5	10	...	...	...	8	7	15	5	10	...	...	2	3	...	...	...	5	Granted, 11th November.	
Thalgarrah	Armidale	6	7	13	20	2	...	...	...	...	7	13	20	2	...	...	...	5	...	...	...	...	...	5	Granted, 2nd March.
Tularno	Memudie	30	8	11	19	10	3	3	...	3	8	11	19	10	3	3	...	3	1	1	...	1	...	6	Under consideration.
Tombong	Delegate	...	13	7	20	11	5	4	...	...	13	7	20	11	5	4	...	...	4	2	...	...	...	6	Granted, 16th August.
Tooloon	Coonauble	5	18	4	22	9	13	...	...	...	18	4	22	9	13	...	...	5	4	...	...	...	9	Granted, 16th May.	
Turalla Common	Bugendore	2	9	15	24	3	21	...	...	...	9	15	24	3	21	...	...	1	7	...	...	...	8	Declined, 19th April.	
Uralgarra	Uralgarra	...	12	10	22	14	8	...	...	...	12	10	22	14	8	...	...	6	2	...	...	...	8	Granted, 22nd December.	
Valla (Nambucca)	Deep Creek	1/2	10	6	16	13	1	...	2	...	10	6	16	13	1	...	2	3	1	...	1	...	5	Granted, 4th April.	
Wagonga	Wagonga	...	13	10	23	18	5	...	...	...	13	10	23	18	5	...	...	5	3	...	...	...	8	Granted, 1st August.	
Waverley	Gundy	7	7	8	15	15	...	...	...	...	7	8	15	15	...	...	...	5	...	...	...	...	...	5	Granted, 9th August
Wee Jasper	Wee Jasper	...	6	8	14	...	5	1	...	8	6	8	14	...	5	1	...	8	...	2	1	...	2	5	Granted, 17th October.
Wilga	Grong Grong	10	15	7	22	5	8	...	9	...	15	7	22	5	8	...	9	2	2	...	2	...	6	Granted, 10th June.	
Woolamah	Scone	5	5	9	14	14	...	...	...	...	5	9	14	14	...	...	...	5	...	...	...	...	...	5	Declined, 15th November.
Woorwoolgan	Casino	3	6	4	10	4	...	...	2	4	6	4	10	4	...	...	2	4	...	...	...	1	1	4	Declined 17th December.
Yarrangobilly	Tumut	20	5	12	17	8	...	9	...	...	5	12	17	8	...	9	...	2	...	3	...	...	5	Granted, 25th April.	

APPENDIX III.

APPLICATIONS for the establishment of Half-time Schools, received during the year 1898.

Name of Place.	Post Town.	Distance of nearest School. miles.	Number of Children residing in the locality.					Number of Children promised to attend.					Number of Parents or Guardians undertaking to send Children.					Minister's Decision.							
			Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Ors.	Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.		Ors.	C.E.	R.C.	Pres.	Wes.	Ors.	Total
Black Creek	Queanbeyan	...	8	5	13	7	2	...	4	...	8	5	13	7	2	...	4	...	2	1	...	1	...	4	} Granted, 23rd July.
Thornhurst	Bungendore	...	5	8	13	7	6	...	...	5	8	13	7	6	...	...	...	3	2	...	...	...	5		
Blairhill	Glen Innes	...	7	5	12	8	...	1	3	...	7	5	12	8	...	1	3	...	3	...	1	1	...	5	} Under consideration.
Mount Slowe		...	2	8	10	6	...	4	3	...	2	8	10	6	...	4	1	...	3	...	2	...	5		
Bowman	Barrington	...	10	8	18	18	...	...	...	10	8	18	18	...	...	...	...	7	...	...	...	...	7	} Granted. To be worked with Barrington Aboriginal, 7th April.	
Bowman's Creek	Goorangoola	...	4	7	11	4	7	...	...	4	7	11	4	7	...	...	...	2	2	...	...	...	4		
Bowman's Creek, Lower		...	7	6	13	13	...	...	...	...	7	6	13	13	...	...	...	3	...	...	...	...	3	} Granted, 17th September.	
Buckley's Creek Reserve	Sofala	...	7	1	8	5	3	...	...	7	1	8	5	3	...	...	...	2	1	...	...	...	3		} Under consideration.
Sally's Flat		4½	7	1	8	5	3	...	...	7	1	8	5	3	...	...	...	2	1	...	...	...	3		
Bullrawar	Cuttabri	...	11	8	19	11	5	3	...	11	8	19	11	5	3	...	...	4	2	1	...	...	7	} Declined, 25th October. House-to-house School offered.	
Cuttabri		...	11	8	19	11	5	3	...	11	8	19	11	5	3	...	...	4	2	1	...	...	7		
Cardungle	Trundle	16	3	6	9	...	9	...	...	3	6	9	...	9	...	...	...	...	2	...	...	...	2	} Granted, 30th June.	
Rosewood		...	8	5	13	...	4	5	4	...	8	5	13	...	4	5	4	...	...	1	1	1	...		3
Clare	Balranald	...	11	5	16	10	6	...	...	11	5	16	10	6	...	...	...	2	1	...	...	...	3	} Declined, 20th September.	
Clare, Government Tank		...	11	5	16	10	6	...	...	11	5	16	10	6	...	...	...	2	1	...	...	...	3		
Clonalton	Frogmore	...	7	9	16	...	16	...	...	7	9	16	...	16	...	...	...	...	6	...	...	...	6	} Declined, 31st October.	
Graham		...	2	12	14	3	11	...	...	2	12	14	3	11	...	...	...	...	1	3	...	...	...		4
Coomoona	Morce	...	7	3	10	6	4	...	...	7	3	10	6	4	...	...	...	2	1	...	...	...	3	} Declined, 10th June. Aid offered to House-to-house Schools.	
Gurley		...	6	5	11	6	3	2	...	...	6	5	11	6	3	2	...	...	2	1	1	...	...		4
Crookwell River	Binda	...	7	4	11	10	1	...	...	7	4	11	10	1	...	...	...	3	1	...	...	...	4	} Granted, 26th August.	
Five-mile Tree		...	9	7	16	11	5	...	...	9	7	16	11	5	...	...	...	4	2	...	...	...	6		
Eulomogo	Murrumbidgee	...	14	7	21	13	5	...	...	14	7	21	13	5	...	...	...	4	1	...	...	2	7	} Granted, 14th April.	
Plain Creek		...	14	7	21	13	5	...	...	14	7	21	13	5	...	...	...	4	1	...	...	2	7		
Fern Glen	Stockyard Creek	...	6	6	12	...	6	6	...	6	6	12	...	6	6	...	...	...	2	2	...	...	4	} Granted, 14th July.	
Gorum Borum		...	6	6	12	...	6	6	...	6	6	12	...	6	6	...	...	...	2	2	...	...	4		
Greewich Park	Greenwich Park	...	7	6	13	6	3	1	3	...	7	6	13	6	3	1	3	...	2	2	1	1	...	6	} Provisional School granted, 9th December.
Hamlet, The	Gunnedah	...	18	12	25	20	5	...	...	13	12	25	20	5	...	...	...	9	2	...	...	...	11	} Granted. To be worked with Rose Valley (Kelvin), 4th April.	
Kelvin		...	18	12	25	20	5	...	...	13	12	25	20	5	...	...	...	9	2	...	...	...	11		
Heslington	Moree	...	14	10	24	14	4	4	2	...	14	10	24	14	4	4	2	...	...	1	1	1	4	} Declined, 14th April.	
Terry Hic Hic		...	14	10	24	14	4	4	2	...	14	10	24	14	4	4	2	...	...	1	1	1	4		
Kerrabee	Kerrabee	...	5	5	10	10	...	...	...	5	5	10	10	...	...	...	...	4	...	...	...	...	4	} Declined, 1st December.	
Widdin		...	7	3	10	10	...	...	...	7	3	10	10	...	...	...	...	4	...	...	...	...	4		
Kiah	Eden	6	6	9	15	4	11	...	...	6	9	15	4	11	...	...	...	1	4	...	...	...	5	} Granted, 14th March.	
Nullica		...	7	5	12	4	8	...	...	7	5	12	4	8	...	...	...	1	2	...	...	...	3		
Sandy Creek	Piney Range	...	20	12	32	25	7	...	...	20	12	32	25	7	...	...	...	7	3	...	...	...	10	} Granted. To be worked with Warangla, 4th May.	
Sarbiton	Menindie	35	9	17	26	6	20	...	...	9	17	26	6	20	...	...	...	2	6	...	...	...	8		
Weinteriga		27	9	17	26	6	20	...	...	9	17	26	6	20	...	...	...	2	6	...	...	...	8	} Granted, 14th September.	
Taylor's Arm, Lower	Lower Taylor's Arm	...	6	9	15	1	10	4	...	6	9	15	1	10	4	...	...	1	...	3	2	...	6		} Granted, 22nd December.
Taylor's Arm, Central		...	8	10	18	5	8	5	...	...	8	10	18	5	8	5	...	...	2	2	3	...	...	7	
Umeralla River	Cooma	...	5	6	11	4	7	...	...	5	6	11	4	7	...	...	...	1	2	...	...	...	3	} Granted, 19th November.	
Uradox	Braidwood	...	11	7	18	9	5	4	...	11	7	18	9	5	4	...	...	4	1	1	...	...	6		} Granted. To be worked with Marlow, 19th May.

## APPENDIX IV.

APPLICATIONS for the appointment of House-to-house Teachers, received during the year 1898.

Teaching Stations.	Post Town.	Numbers promised to attend.			Minister's Decision.
		Boys.	Girls.	Total.	
Barranjoey.....	Barranjoey .....	5	7	12	Under consideration.
Berrigal Creek .....	Narrabri .....	4	4	8	Declined, 19th August.
Binnaguy.....	Moree .....	14	13	27	Under consideration.
Rotherwood.....	Cassilis .....	13	7	20	Granted, 17th June.
The Gilgies .....	Condobolin .....	13	7	20	Granted, 27th May.

## APPENDIX V.

APPLICATIONS for the establishment of Evening Public Schools, received during the year 1898.

Name of School.	Post Town.	Period for which attendance is guaranteed.	Number of persons who will attend.			Minister's Decision.
			Males.	Females.	Total.	
Arcadia .....	Arcadia .....	6 months...	16	.....	16	Granted, 6th October.
Bexley... ..	Bexley .....	3 ,, ...	14	.....	14	Granted, 23rd March.
Bourke .....	Bourke .....	6 ,, ...	20	.....	20	Granted, 10th May.
Burnt Yards .....	Mandurama .....	6 ,, ...	16	.....	16	Granted, 23rd March.
Burwood .....	Burwood .....	12 ,, ...	23	.....	23	Granted, 23rd March.
Catherine Hill Bay .....	Catherine Hill Bay .....	6 ,, ...	15	.....	15	Granted, 17th June.
Cundletown .....	Cundletown .....	12 ,, ...	17	.....	17	Declined, 2nd March.
Goulburn .....	Goulburn .....	3 ,, ...	13	.....	13	Granted, 10th May.
Jesmond .....	Lambton .....	6 ,, ...	20	.....	20	Granted, 4th April.
Miller's Forest .....	Miller's Forest.....	6 ,, ...	20	.....	20	Granted, 4th April.
Mogilla .....	Mogilla .....	3 ,, ...	21	.....	21	Granted, 1st August.
Mullion Creek .....	Mullion Creek .....	6 ,, ...	17	.....	17	Granted, 19th July.
Newtown .....	Newtown .....	12 ,, ...	12	.....	12	Declined, 2nd March.
Redfern .....	Redfern.....	6 ,, . ...	17	.....	17	Granted, — June.
Taree .....	Taree .....	9 ,, ...	30	.....	30	Granted, 2nd May.
Wilberforce .....	Wilberforce .....	6 ,, ...	14	.....	14	Granted, 14th September.

APPENDIX VI.

GENERAL ABSTRACT of School Attendance for each Quarter of the year 1898.

	Number of Children on the Rolls.								Average Daily Attendance.			Amount of School Fees paid.	Amount of School Fees in arrear.	Free Pupils.			Number of State Children.	
	Boys.	Girls.	Total.	C.E.	R.C.	Pres.	Wes.	Others.	Total.	Boys.	Girls.			Total.	Boys.	Girls.		Total.
<b>MARCH QUARTER.</b>																		
High Schools .....	198	208	406	192	29	76	40	69	406	231·0	141·8	372·8	£ s. d. 567 0 0	£ s. d. .....	.....	.....	.....	.....
Public Schools .....	99,663	90,132	189,795	98,157	26,207	20,508	24,015	20,908	189,795	70,813·3	62,569·5	133,382·8	14,847 15 0	2,233 16 5	13,797	12,084	26,781	2,208
Provisional Schools ...	2,945	2,876	5,821	3,033	1,671	581	411	125	5,821	2,068·5	2,061·6	4,130·1	422 9 3	33 19 9	389	378	767	54
Half-time Schools .....	3,215	2,787	6,002	3,213	1,842	497	313	137	6,002	2,369·5	2,049·3	4,418·8	250 15 3½	28 3 9	295	256	551	92
House-to-house Schools	478	406	884	420	233	119	46	16	884	378·1	327·8	705·9	35 8 11	2 4 0	35	35	70	2
Evening Schools.....	454	.....	454	216	92	55	51	40	454	245·8	.....	245·8	88 13 3	15 1 0	26	.....	26	.....
Total .....	106,953	96,409	203,362	105,231	30,124	21,836	24,876	21,295	203,362	76,106·2	67,150·0	143,256·2	16,212 1 8½	2,313 4 11	14,542	13,653	28,195	2,356
<b>JUNE QUARTER.</b>																		
High Schools .....	204	204	408	207	28	73	36	64	408	188·8	175·9	364·7	602 14 0	.....	.....	.....	.....	.....
Public Schools .....	100,579	90,846	191,425	99,133	26,479	20,689	24,207	20,917	191,425	70,773·4	62,078·1	132,851·5	18,444 3 8	2,293 14 10	14,645	13,515	28,160	2,201
Provisional Schools ...	3,056	2,985	6,041	3,172	1,759	563	406	141	6,041	2,198·0	2,183·2	4,381·2	560 1 3	29 16 9	403	369	772	63
Half-time Schools .....	3,360	2,911	6,271	3,339	1,932	514	336	150	6,271	2,475·2	2,145·2	4,620·4	330 8 0	23 11 9	295	251	546	95
House-to-house Schools	470	416	886	413	239	123	43	18	886	371·6	331·7	703·3	40 5 7½	2 12 6	35	32	67	2
Evening Schools.....	844	6	850	425	143	113	76	88	850	457·4	1·7	459·1	177 14 3	16 18 0	30	.....	30	.....
Total .....	108,513	97,368	205,881	106,639	30,635	22,075	25,104	21,378	205,881	76,464·4	66,915·8	143,380·2	20,155 6 9½	2,366 13 10	15,403	14,167	29,575	2,361
<b>SEPTEMBER QUARTER.</b>																		
High Schools .....	223	210	433	223	32	77	39	62	433	201·2	175·5	376·7	642 1 6	.....	.....	.....	.....	.....
Public Schools .....	99,812	90,265	190,077	98,260	26,230	20,802	23,820	20,965	190,077	69,026·9	60,818·6	129,845·5	16,238 16 11	2,489 12 8	14,059	13,141	27,200	2,105
Provisional Schools ...	3,000	2,998	5,998	3,204	1,657	558	443	136	5,998	2,238·0	2,241·8	4,479·8	506 2 3	33 11 6	416	414	830	59
Half-time Schools .....	3,260	2,890	6,150	3,311	1,881	502	326	130	6,150	2,466·5	2,158·1	4,624·6	295 15 10½	29 1 9½	277	257	534	96
House-to-house Schools	432	377	809	383	263	106	40	17	809	351·8	303·6	655·4	35 0 4	2 5 7½	36	32	68	3
Evening Schools.....	875	8	883	402	183	117	74	107	883	450·2	4·3	454·5	206 18 0	31 7 6	55	.....	55	.....
Total .....	107,602	96,748	204,350	105,783	30,243	22,162	24,742	21,417	204,350	74,734·6	65,701·9	140,436·5	17,924 14 10½	2,585 19 1	14,843	13,844	28,687	2,263
<b>DECEMBER QUARTER.</b>																		
High Schools .....	227	206	433	225	33	75	41	59	433	209·7	181·7	391·4	651 0 0	.....	.....	.....	.....	.....
Public Schools .....	98,630	89,237	187,917	97,153	26,039	20,440	23,816	20,469	187,917	69,130·1	60,396·2	129,526·3	18,458 12 5	2,171 9 2	14,443	13,544	27,987	2,115
Provisional Schools ...	3,086	3,006	6,092	3,239	1,733	591	397	132	6,092	2,187·8	2,201·8	4,389·6	575 19 9	23 3 6	447	420	867	49
Half-time Schools .....	3,232	2,861	6,093	3,307	1,838	490	335	123	6,093	2,368·3	2,143·2	4,511·5	323 6 6½	22 13 9½	281	245	526	87
House-to-house Schools	405	357	762	377	237	93	38	17	762	317·3	291·2	608·5	35 12 8	1 9 9	37	33	70	3
Evening Schools.....	743	8	751	378	135	92	62	84	751	339·9	2·9	392·8	180 19 6	22 10 0	69	.....	69	.....
Total .....	106,373	95,675	202,048	104,679	30,015	21,781	24,689	20,584	202,048	74,603·1	65,217·0	139,820·1	20,225 10 10½	2,241 6 2½	15,277	14,242	29,519	2,254



## APPENDIX VII.

ATTENDANCE of Children at Public Schools for the Quarter ending 31st December, 1898, or for the last Quarter of that year during which the Schools were in operation.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.											
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.							
								£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.							
Aberdeen	Aberdeen	59	57	116	38.9	40.3	79.2	248	10	4	8	0	2	14	9	8	272	0	2
Aberglasslyn	West Maitland	17	13	30	13.3	9.8	23.1	113	0	0	1	11	6	23	4	7	137	16	1
Acacia Creek	Acacia Creek	21	22	43	14.1	17.1	31.2	160	10	0	6	4	5	10	17	8	177	12	1
Acacia Dam	Broken Hill	14	6	20	10.3	4.5	14.8	132	18	0	4	0	7	3	12	4	159	12	2
Adaminaby	Adaminaby	53	49	102	35.8	32.8	68.6	285	0	0	9	9	3	68	6	4	362	15	7
Adamstown	Adamstown	284	305	589	182.7	199.5	382.2	1,388	12	10	38	5	9	359	2	1	1,786	0	8
Adelong	Adelong	115	97	212	85.2	71.0	156.2	393	8	4	14	1	2	182	7	10	592	2	4
Adelong Crossing	Adelong Crossing	21	22	43	12.0	12.0	24.0	124	15	0	1	1	5	8	2	4	136	5	9
Albion Park	Albion Park	54	34	88	38.1	19.4	57.5	285	0	0	3	1	7	37	1	7	325	3	2
Albion-street	Paddington	400	391	791	284.6	263.3	547.9	1,646	7	3	28	9	11	99	3	2	1,774	0	4
Albury	Albury	296	267	563	233.5	197.5	431.0	1,311	0	0	102	9	0	841	13	3	2,257	10	3
Aldavilla	Warneton	18	12	30	12.7	9.6	22.3	102	8	4	5	4	6	10	4	5	112	11	0
Alectown	Alectown	26	22	48	15.6	10.8	26.4	185	11	8	3	17	3	27	14	3	217	3	2
Alexandria	Alexandria	147	161	308	108.1	106.2	214.3	560	0	0	14	0	5	68	13	5	642	13	10
Alfredtown	Alfredtown	22	14	36	15.9	7.6	23.5	125	0	0	4	15	11	35	4	10	173	18	3
Allandale	Allandale	26	19	45	18.6	11.6	30.2	124	10	0	3	12	2	2	3	10	130	6	0
Alma	South Broken Hill	248	270	518	186.5	191.6	378.1	930	4	7	19	14	11	45	5	6	1,019	16	3
Alstonville	Alstonville	67	51	118	53.8	41.3	95.1	303	10	0	5	17	3	64	4	2	362	13	5
Alumny Creek	Grafton	16	17	33	11.0	12.8	23.8	148	0	0	3	7	0	64	14	1	216	1	1
Amaroo	Amaroo	15	11	26	11.0	7.6	18.6	125	0	0	2	13	3	5	10	11	133	4	2
Amosfield	Wilson's Downfall	15	19	34	12.5	17.3	29.8	148	0	0	4	8	1	6	7	1	161	5	2
Angledale	Bega	20	6	26	14.7	3.8	18.5	125	0	0	2	10	10	167	12	0	295	2	10
Angledool	New Angledool	20	14	34	16.4	10.9	27.3	158	0	0	4	15	2	12	18	4	175	13	6
Angowrie	Yamba	22	20	42	19.2	15.8	35.0	136	0	0	4	18	7	79	19	10	220	18	5
Anua Bay	Anna Bay	12	17	29	6.8	10.1	16.9	137	15	0	3	7	1	20	12	1	161	14	2
Annan Grove	Annan Grove	13	4	17	10.8	3.0	13.8	125	0	0	3	17	7	2	11	7	131	9	2
Annandale	Annandale	646	550	1,196	468.9	377.3	846.2	2,320	8	1	41	1	1	143	15	9	2,506	11	3
Anson	Lucknow	9	15	24	6.5	9.9	16.4	88	0	0	2	14	1	0	15	0	91	9	1
Appin	Appin	18	30	48	12.6	22.2	34.8	148	0	0	4	0	6	125	16	10	277	17	4
Apsley	Wellington	14	15	29	8.0	10.3	18.3	82	8	4	1	0	6	27	12	10	111	1	8
Arakoon	Arakoon	28	23	51	23.2	16.6	39.8	160	10	0	3	15	6	153	17	5	318	2	11
Araluen	Araluen	18	19	37	15.9	14.0	29.9	171	0	0	4	15	5	9	12	1	185	7	6
Araluen, West	Araluen	35	20	55	26.1	14.2	40.3	153	15	0	4	1	8	196	1	6	358	13	8
Aramagong	Grenfell	12	7	19	8.3	4.8	13.1	113	0	0	4	2	7	3	2	1	120	4	8
Arcadia	Arcadia	22	28	50	17.4	23.8	41.2	148	0	0	4	15	6	4	1	1	165	1	2
Ardglen	Ardglen	21	20	41	16.6	14.5	31.1	148	0	0	4	10	0	76	7	1	228	17	1
Arding	Uralla	23	21	44	16.5	13.0	29.5	148	0	0	6	12	5	25	3	4	179	15	9
Argenton	Cockle Creek	34	25	59	23.1	17.4	40.5	160	10	0	5	1	1	31	3	5	198	10	10
Argent's Hill	Bowraville	21	22	43	15.0	16.9	31.9	171	0	0	4	13	11	13	7	1	193	1	0
Arna	Bargo	14	15	29	10.7	10.7	21.4	100	10	0	5	18	9	73	16	1	180	4	10
Armatree	Gilgandra	15	11	26	13.7	9.5	23.2	91	1	8	3	15	3	3	7	3	100	11	8
Armidale	Armidale	343	258	601	225.1	172.3	397.4	1,318	13	10	49	4	5	2,153	2	11	3,526	18	11
Armidale, West	Armidale	59	32	91	41.7	22.8	64.5	220	5	0	6	3	11	27	7	5	261	6	10
Arncliffe	Arncliffe	235	229	464	157.3	142.2	299.5	693	19	7	27	19	7	590	7	3	1,317	5	11
Ashby	Maclean	7	10	17	5.0	7.5	12.5	103	1	8	3	2	3	1	1	0	110	4	11
Ashfield	Ashfield	442	411	853	302.4	274.8	577.2	2,006	1	4	47	19	0	256	17	3	2,310	17	7
Ashford	Ashford	21	23	44	16.5	16.3	32.8	135	8	4	6	0	9	6	2	6	147	11	7
Ash Island	Hexham	38	38	76	29.2	29.3	58.5	235	5	9	5	11	8	8	6	4	249	3	9
Ashlea	Wingham	12	11	23	9.3	7.7	17.0	103	0	0	2	12	1	93	15	10	199	7	11
Attunga	Attunga	31	30	61	15.7	15.7	31.4	136	10	0	4	1	8	44	15	3	185	6	11
Attunga Springs	Attunga Springs	18	11	29	7.5	3.7	11.2	129	3	4	3	8	5	18	15	10	166	7	7
Auburn	Auburn	234	207	441	164.4	144.1	308.5	773	8	4	16	7	8	625	16	4	1,415	12	4
Auburn, North	Auburn	181	165	346	135.3	118.7	254.0	606	6	8	11	8	5	616	9	7	1,234	14	5
Austinmer	Austinmer	7	6	13	5.0	4.4	9.4	118	0	0	0	13	11	3	17	1	122	11	0
Austral	via Liverpool	26	14	40	11.5	4.1	15.6	136	0	0	4	0	10	6	10	1	146	10	11
Australian Farm	Leet's Vale	8	9	17	4.6	7.1	11.7	113	0	0	3	15	11	3	2	1	119	18	0
Australia-street	Newtown	121	110	231	85.8	69.1	154.9	412	19	2	6	10	3	33	2	9	452	12	2
Avenel	Cargo	13	14	27	8.1	8.0	16.1	160	10	0	4	12	7	51	9	4	216	11	11
Avisford	Avisford	3	13	16	1.4	10.4	11.8	86	13	4	3	5	5	6	0	0	95	18	9
Avoca Vale	Campbelltown	5	12	17	3.6	8.1	11.7	127	0	1	3	2	2	2	12	1	132	14	4
Avondale	Dapto	19	19	38	12.1	11.8	23.9	143	1	8	4	0	5	12	11	4	161	5	11
Awaba	Awaba	12	8	20	9.5	5.8	15.3	113	0	0	3	3	5	10	6	7	125	19	10
Baan Baa	Baan Baa	17	11	28	10.8	6.7	17.5	113	0	0	2	13	3	10	6	7	129	10	3
Back Creek	Marlow	16	8	24	12.2	6.5	18.7	113	0	0	3	18	2	3	12	1	120	10	3
Badgery's Creek	Liverpool	24	16	40	17.6	11.3	28.9	136	0	0	4	16	7	2	12	1	143	8	8
Baerami	Denman	16	12	28	12.3	7.9	20.2	100	10	0	3	13	11	65	5	0	169	8	11
Bagdad	Tomora	18	9	27	13.0	4.7	17.7	135	8	4	1	15	10	25	12	1	162	16	3
Bago, Upper	Batlow	10	12	22	7.8	8.9	16.7	88	0	0	0	8	3	1	5	10	89	14	1
Baker's Swamp	Dripstone	16	12	28	6.9	7.1	14.0	104	16	8	3	9	2	1	5	9	109	11	7
Bald Nob	Glen Innes	8	12	20	5.4	8.6	14.0	88	0	0	1	10	9	0	10	0	90	0	0
Balgowlah	Manly	36	22	58	25.7	15.2	40.9	152	15	0	5	4	3	4	4	9	162	4	0
Balgownie	Balgownie	92	75	167	67.7	55.2	122.9	372	1	1	6	7	8	11	10	11	389	19	8
Ballarah	Cobbora	14	15	29	8.6	9.6	18.2	124	8	4	3	12	6	121	0	8	249	1	6
Ballina	Ballina	137	112	249	109.9	80.1	189.0	577	1	8	16	19	6	168	9	10	762	11	0
Balmain	Balmain	534	494	1,028	375.6	343.5	719.1	2,152	4	5	65	12	1	160	5	5	2,378	1	11
Balmoral	Balmoral	15	17	32	13.7	13.0	26.7	136	0	0	3	5	8	4	2	1	146	5	9
Balranald	Balranald	52	51	103	39.5	35.5	75.0	332	0	0	5	4	10	7	6	11	344	11	9

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
							£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Bandon Grove...	Bandon Grove .....	36	17	53	25 3	13 1	38 4	148 0 0	3 8 9	...	5 17 1	157 5 10
Bangalore .....	Goulburn .....	16	14	30	13 3	13 0	26 3	113 0 0	3 14 1	...	14 0 5	130 14 6
Bango .....	Yass Junction .....	8	11	19	5 6	8 4	14 0	88 0 0	4 7 3	...	5 12 6	97 19 9
Banks' Meadow	Lower Botany .....	99	81	180	64 4	50 3	114 7	498 5 0	9 16 4	6 14 9	21 15 0	536 11 1
Bankstown .....	Bankstown .....	66	57	123	44 6	37 9	82 5	241 0 0	7 9 10	...	31 6 4	279 16 2
Bankstown, South	East Hills .....	49	33	82	24 9	19 0	43 9	275 11 8	8 1 2	3 6 0	215 15 4	502 14 2
Baradine .....	Baradine .....	23	27	50	15 8	20 6	36 4	151 4 4	4 5 7	9 8 0	3 12 1	168 10 0
Barber's Creek .....	Barber's Creek .....	28	15	43	15 0	9 4	24 4	88 0 0	3 0 11	...	1 0 0	92 0 11
Bargo, West .....	Picton .....	20	12	32	16 7	10 1	26 8	136 0 0	3 14 10	...	2 12 1	142 6 11
Barmedman .....	Barmedman .....	49	56	105	26 4	34 3	60 7	219 0 0	8 18 10	...	19 4 2	247 3 0
Barnsley .....	West Maitland .....	32	24	56	18 9	11 9	30 8	171 0 0	4 12 3	...	9 1 9	184 14 0
Barooga .....	Cobram, Victoria .....	17	11	28	9 5	7 4	16 9	64 7 7	5 5 8	...	20 3 6	89 16 9
Barraba .....	Barraba .....	59	66	125	44 8	49 5	94 3	286 0 4	8 1 5	2 0 0	78 16 11	374 18 8
Barrengarry .....	Barrengarry .....	26	37	63	20 1	27 9	48 0	171 0 0	4 3 2	...	3 12 1	178 15 3
Barrieton .....	Fernmount .....	12	9	21	9 8	7 7	17 5	100 10 0	4 16 9	4 5 0	90 0 0	199 11 9
Barrington .....	Barrington .....	19	25	44	11 8	17 1	28 9	143 0 0	4 13 4	...	3 2 1	155 15 5
Barrington .....	Barrington .....	23	17	40	18 8	13 4	32 2	194 3 0	5 19 5	...	4 5 10	204 8 3
Barry .....	Via Blayney .....	16	24	40	9 5	15 9	25 4	113 0 0	4 5 9	...	3 7 1	120 12 10
Bateman's Bay .....	Bateman's Bay .....	25	40	65	14 3	23 5	37 8	171 0 0	3 16 6	...	2 4 4	177 0 10
Bathurst .....	Bathurst .....	517	480	997	347 7	294 3	642 0	2,006 3 3	41 16 0	5 19 3	204 16 11	2,258 15 5
Batlow .....	Batlow .....	33	30	63	20 8	19 1	39 9	171 0 0	1 10 6	...	11 10 7	184 1 1
Baulkham Hills .....	Baulkham Hills .....	29	31	60	18 4	17 9	36 3	165 5 0	4 11 0	...	13 15 7	183 11 7
Baw Baw .....	Goulburn .....	20	10	30	13 9	6 9	20 8	125 0 0	3 12 6	...	22 0 10	150 13 4
Bawley Point .....	Termeil .....	9	9	18	7 1	7 8	14 9	83 0 0	3 13 3	...	31 6 4	122 19 7
Bayly .....	Mudgee .....	17	14	31	11 4	11 7	23 1	113 0 0	3 17 1	...	2 5 10	119 2 11
Beacon Mines .....	Upper Bucca Bucca .....	29	24	53	21 3	19 0	40 3	157 5 0	1 7 2	...	21 5 10	179 18 0
Beardy .....	Glen Innes .....	10	10	20	7 6	7 4	15 0	113 0 0	1 8 9	...	1 15 10	116 4 7
Beaufort .....	Glen Innes .....	18	15	33	13 0	9 9	22 9	160 10 0	3 9 3	...	350 17 4	514 16 7
Beaumont .....	Cambewarra .....	7	10	17	5 0	7 8	12 8	91 0 0	3 7 5	...	8 10 10	97 18 0
Bective .....	Tamworth .....	14	28	42	10 5	14 6	25 1	88 0 0	5 1 2	...	2 15 10	95 17 0
Bectric .....	Coolamon .....	19	14	33	11 8	9 1	20 9	110 18 4	5 9 0	3 16 9	15 8 11	135 13 0
Bedelhoc .....	Hall .....	11	7	18	7 1	5 2	12 3	72 0 0	3 8 6	1 4 9	1 18 0	78 11 3
Beechwood .....	Beechwood .....	35	48	83	25 4	33 9	59 3	222 18 1	7 0 4	...	72 6 11	302 5 4
Beecroft .....	Beecroft .....	35	33	68	26 5	24 4	50 9	303 13 4	6 13 5	...	455 8 1	765 14 10
Bega .....	Bega .....	177	156	333	120 0	104 3	224 3	781 10 0	21 15 3	...	43 10 11	846 16 2
Beggan Beggan .....	Murrumburrah .....	15	2	17	9 0	0 8	9 8	135 8 4	2 2 0	...	10 5 1	147 15 5
Belarbigill .....	Belarbigill .....	30	31	61	18 5	17 8	36 3	139 18 4	4 11 10	...	2 15 10	147 6 0
Belar Creek .....	Warkton .....	19	20	39	10 5	9 4	20 4	107 10 5	2 0 1	...	3 5 10	112 16 4
Belford .....	Belford .....	25	19	45	16 9	14 6	31 5	136 0 0	3 6 3	...	2 15 10	142 2 1
Belgravia .....	Belgravia .....	10	14	24	5 8	9 7	15 5	63 4 3	1 14 8	2 16 3	3 1 0	70 16 2
Bellawongarah .....	Berry .....	15	17	32	9 9	11 2	21 1	125 0 0	1 17 2	...	7 9 4	134 6 6
Bellingen .....	Bellingen .....	42	39	81	35 3	30 2	65 7	229 0 0	5 7 9	...	103 16 11	338 4 8
Bellinger Heads .....	Bellinger Heads .....	49	38	87	34 8	26 1	60 9	218 8 1	6 4 1	...	65 16 11	290 9 1
Bell's Creek .....	Bell's Creek .....	14	16	30	11 7	9 8	21 5	125 0 0	4 1 3	...	2 5 10	131 7 1
Bell's Lagoons .....	Germanton .....	18	15	33	9 7	7 7	17 4	88 0 0	1 12 7	1 6 0	12 15 10	103 14 5
Belltrees .....	Scone .....	16	16	32	11 1	12 2	23 3	125 0 0	5 3 5	...	2 5 10	132 9 3
Belmont .....	Belmont .....	21	9	30	14 9	7 1	22 0	148 0 0	3 7 5	...	20 8 4	171 15 9
Belmore .....	Canterbury .....	27	27	54	19 2	18 8	38 0	171 0 0	4 19 3	...	32 11 4	208 10 7
Belmore River .....	Gladstone .....	11	13	24	8 2	8 5	16 7	125 0 0	3 11 11	...	1 15 10	130 7 9
Bemboka .....	Bemboka .....	41	37	78	31 6	27 4	59 0	229 0 0	6 8 6	...	8 16 11	244 5 5
Benanderah .....	Bateman's Bay .....	11	4	15	8 4	2 4	10 8	113 0 0	3 7 1	...	2 5 10	118 12 11
Benbengene .....	Dalton .....	13	12	25	8 6	7 5	16 1	88 0 0	4 8 1	...	0 5 0	92 13 1
Ben Buckley .....	Twelve Mile .....	19	9	28	9 7	4 8	14 5	66 8 4	2 0 11	3 15 0	6 5 0	78 9 3
Bendecla .....	Kangaroo Valley .....	18	11	29	13 3	6 9	20 2	97 5 0	3 6 8	...	0 10 0	101 1 8
Bendemeer .....	Bendemeer .....	27	32	59	18 5	19 9	38 4	171 0 0	4 16 2	...	13 6 10	189 3 0
Bendennine .....	Bowning .....	24	29	53	17 3	21 3	38 6	171 0 0	7 2 0	...	49 1 4	227 3 4
Bendick Murrell .....	Bendick Murrell .....	15	16	31	8 7	10 8	19 1	113 0 0	3 17 7	...	21 6 4	138 3 11
Bendolba .....	Bendolba .....	30	24	54	21 9	19 0	40 9	159 10 0	5 2 5	...	35 13 0	200 6 3
Bendora .....	Braidwood .....	11	10	21	5 9	6 4	12 3	135 8 4	8 2 3	...	2 5 1	145 15 8
Beneree .....	Forest Reefs .....	19	17	36	12 9	11 0	23 9	148 0 0	3 17 6	...	2 0 10	153 18 4
Bem .....	Dubbo .....	21	9	30	13 6	5 5	19 1	113 0 0	3 3 6	...	2 5 10	118 9 4
Benmore .....	Murrumburrah .....	24	14	38	13 5	9 9	23 4	113 0 0	3 14 10	...	1 15 10	118 10 8
Beresford .....	Cathcart .....	24	15	39	17 9	11 8	29 7	153 10 0	6 2 3	...	43 18 5	203 10 3
Bergana .....	Bengalia .....	12	16	28	7 2	6 7	13 9	148 0 0	3 19 5	...	157 5 4	309 4 9
Bermagui .....	Bermagui .....	25	36	61	20 0	26 2	46 2	185 11 8	4 10 1	...	7 2 10	197 4 7
Berowra .....	Hornsby Junction .....	19	7	26	14 0	5 5	19 5	113 0 0	5 18 5	...	113 0 8	231 19 1
Berridale .....	Berridale .....	25	17	42	20 6	13 5	34 1	185 11 8	2 2 6	...	46 17 10	234 12 0
Berrigan .....	Berrigan .....	56	40	96	31 3	24 2	55 5	275 3 6	7 11 9	...	446 8 8	729 3 11
Berrima .....	Berrima .....	51	50	101	36 9	32 6	69 5	282 1 8	5 10 11	4 7 9	25 9 11	317 10 3
Berry .....	Berry .....	74	78	152	54 0	53 6	107 6	336 10 0	6 14 10	...	145 19 0	489 3 10
Beryl .....	Gulgong .....	25	22	47	12 4	12 7	25 1	133 15 0	4 2 3	...	2 15 10	140 3 1
Bethungra .....	Bethungra .....	31	29	60	20 7	19 4	40 1	171 0 0	4 15 0	...	4 17 10	180 12 10
Bex Hill .....	Bex Hill .....	36	51	87	23 3	32 8	56 1	235 0 0	7 19 11	...	149 16 0	392 15 11
Bexley .....	Bexley .....	149	159	308	104 2	104 1	208 3	520 0 0	15 16 6	0 8 0	250 2 9	786 7 3
Bibbenluke .....	Bibbenluke .....	37	23	60	27 5	19 3	46 8	185 11 8	3 8 6	...	20 0 10	209 1 0
Big Hill .....	Marulan .....	10	15	25	6 2	9 0	15 2	88 0 0	2 10 9	...	3 5 10	93 16 7
Big Leather .....	Bullarah .....	12	15	27	10 1	10 2	20 3	113 0 0	1 12 0	7 9 6	27 15 9	149 17 3
Big Mimosa .....	Temora .....	16	9	25	8 0	5 0	13 0	89 0 0	3 7 1	...	2 15 10	95 2 11
Billmarrri .....	Cowra .....	11	11	22	5 0	7 9	12 9	73 17 10	3 14 11	3 9 9	...	81 2 6
Biloela .....	Biloela .....	10	12	22	9 2	10 3	19 5	88 0 0	2 13 1	...	1 5 10	91 18 11
Bimbi .....	Young .....	31	22	53	19 1	14 6	33 7	147 10 0	6 12 0	...	1 15 10	155 17 10
Binalong .....	Binalong .....	30	17	47	21 4	12 2	33 6	265 0 0	4 17 9	...	6 11 11	276 9 8
Binda .....	Binda .....	11	15	26	6 9	9 9	16 8	113 0 0	3 11 3	...	13 5 9	129 17 0

APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
							£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Bindogundra .....	Parkes .....	13	14	27	8 2	10 8	19 0	106 10 0	3 17 3	1 10 0	3 0 10	114 17 10
Bingara .....	Bingara .....	79	90	169	43 1	50 3	93 4	323 0 0	8 6 2	.....	16 7 1	347 13 3
Binnaway .....	Binnaway .....	25	22	47	15 6	17 0	32 6	135 8 4	3 18 5	.....	8 5 10	147 12 7
Birchgrove .....	Balmam .....	490	436	926	360 7	296 3	657 0	1,976 10 0	57 11 10	4 1 6	207 5 10	2,245 9 2
Bishop's Bridge ..	Bishop's Bridge ..	28	19	47	21 6	15 5	37 1	171 0 0	7 3 9	.....	15 15 10	193 19 7
Blackfriars .....	Sydney .....	644	521	1,165	461 7	357 3	819 0	2,418 14 0	52 6 3	.....	303 10 5	2,774 19 8
Blackgolar .....	Cox's River .....	7	18	25	4 4	11 5	15 9	88 0 0	3 15 2	.....	.....	91 15 2
Blackheath .....	Blackheath .....	51	53	106	31 9	32 4	64 3	336 8 4	8 9 3	2 4 0	28 11 0	385 12 7
Black Hill .....	Minmi .....	19	13	32	13 6	8 4	22 0	135 8 4	1 16 9	.....	48 4 9	185 9 10
Blackman's Flat ..	Wallerawang .....	15	16	31	11 4	11 9	23 3	83 0 0	.....	3 16 9	26 11 5	118 8 2
Blackman's Point ..	Port Macquarie ..	13	14	27	9 9	11 2	21 1	97 5 0	3 10 7	2 16 0	0 10 0	104 1 7
Black Mountain ..	Black Mountain ..	36	33	69	25 9	23 2	49 1	217 0 0	8 3 10	12 12 2	7 6 6	245 7 6
Black Range .....	Albury .....	64	45	109	45 4	32 5	77 9	219 0 0	6 17 6	.....	11 6 11	237 4 5
Black Springs .....	Mudgee .....	18	11	29	10 0	6 2	16 2	135 8 4	2 11 5	.....	10 12 6	148 12 3
Black Swamp .....	Tenterfield .....	15	9	24	11 5	7 9	19 4	135 8 4	4 6 0	.....	6 17 10	146 12 2
Blacktown .....	Blacktown .....	36	34	70	25 5	24 7	50 2	241 17 9	7 7 7	2 8 0	15 1 11	266 15 3
Blackwall .....	Blackwall .....	25	19	44	18 6	11 6	30 2	124 10 0	4 10 3	.....	4 12 8	133 12 11
Blakehurst .....	Blakehurst .....	25	33	58	16 8	23 8	40 6	171 0 0	2 11 1	.....	35 8 0	208 19 1
Blandford .....	Blandford .....	24	13	37	19 0	7 5	26 5	160 10 0	3 19 6	.....	46 5 10	210 15 4
Blayney .....	Blayney .....	131	120	251	79 0	68 4	147 2	566 15 4	11 11 5	16 2 6	25 19 1	620 8 4
Bloom Hill .....	O'Connell .....	22	14	36	15 1	9 5	24 3	125 0 0	3 11 6	.....	2 0 10	130 12 4
Blowering .....	Tumut .....	13	12	25	8 6	9 3	17 9	125 0 0	3 1 7	.....	6 0 10	134 2 5
Bluff River .....	Sandy Flat .....	20	15	35	15 1	9 7	24 8	160 10 0	3 16 3	.....	22 19 11	187 6 2
Bobadah .....	Bobadah .....	25	18	43	15 7	7 6	23 3	171 0 0	2 9 6	4 7 2	34 3 3	211 19 11
Bo Bo Creek .....	Timonee .....	7	14	21	3 4	9 7	13 1	115 16 5	3 11 11	.....	6 6 7	125 14 11
Bodalla .....	Bodalla .....	33	30	63	24 2	22 3	46 5	171 0 0	4 0 11	.....	7 5 10	182 6 9
Bagan Gate .....	Bagan Gate .....	16	17	33	9 6	13 4	23 0	98 1 2	1 16 3	0 10 1	172 15 2	273 2 8
Boggabilla .....	Boggabilla .....	29	24	53	25 3	16 6	39 9	208 11 8	4 13 0	.....	74 0 1	287 4 9
Boggabilla .....	Boggabilla .....	87	95	182	52 5	58 2	110 7	338 6 8	8 9 3	2 13 6	16 3 3	365 12 8
Boggumbil .....	Lismore .....	16	11	27	11 4	7 8	19 2	136 0 0	4 7 2	.....	6 19 7	147 6 9
Bogolong .....	Grenfell .....	11	18	29	7 2	13 0	20 2	120 3 4	4 2 0	2 10 9	11 19 9	138 15 10
Bolah Gap .....	Quirindi .....	20	15	35	14 9	11 6	26 5	113 0 0	3 16 6	.....	25 11 2	143 7 8
Bolaro .....	Adaminaby .....	21	22	43	13 8	13 1	26 9	47 1 8	11 10 3	2 16 9	100 1 11	161 10 7
Bolwarra .....	West Maitland ..	48	38	86	29 3	23 2	52 5	297 10 0	12 0 3	14 9 1	210 16 8	534 16 0
Bomaderry .....	Nowra .....	34	39	73	18 7	21 1	39 8	247 13 4	4 16 11	.....	21 17 0	273 7 3
Bombala .....	Bombala .....	115	94	209	90 0	80 7	170 7	339 8 0	11 7 1	.....	144 0 8	544 15 9
Bombo .....	Bombo .....	24	34	58	17 7	24 5	42 2	185 11 8	4 11 4	.....	46 17 5	237 0 5
Bombowlee .....	Tumut .....	26	23	49	22 9	18 7	41 5	136 0 0	7 2 10	.....	37 10 0	180 12 10
Bondi .....	Bondi .....	151	124	275	92 7	71 2	163 9	532 2 11	21 12 7	1 13 4	51 11 4	607 0 2
Boney's Rocks .....	Toogong .....	13	7	20	8 1	5 7	13 8	77 13 4	4 7 6	6 7 9	3 15 0	92 3 7
Bonville .....	Coff's Harbour ..	15	12	27	12 1	9 2	21 3	113 0 0	3 3 5	.....	16 10 10	132 14 3
Boerne, Lower .....	Lismore .....	13	12	25	7 6	7 4	15 0	76 10 0	3 14 1	2 13 0	1 5 10	64 2 11
Boogaldie .....	Coonabarabran ..	10	12	22	7 4	6 3	13 7	89 0 0	1 1 9	.....	2 5 9	91 7 6
Boohgal .....	Boohgal .....	34	29	63	26 3	19 9	46 2	235 0 0	5 8 9	.....	15 1 8	255 10 5
Boolong .....	Boolong .....	18	20	38	11 7	14 3	26 0	113 0 0	3 5 5	.....	3 15 10	120 1 3
Boonoo Boonoo ..	Boonoo Boonoo ..	7	12	19	6 4	10 1	16 5	72 14 7	2 10 11	7 14 6	16 5 10	89 5 10
Booral .....	Booral .....	36	21	57	25 5	14 0	39 5	153 15 0	8 5 10	.....	11 2 0	173 2 10
Booolong .....	Armidale .....	11	10	21	8 1	8 2	16 3	88 0 0	4 0 2	.....	1 0 0	93 0 2
Borambil .....	Cassillis .....	21	18	39	15 1	14 1	29 2	136 0 0	3 18 0	.....	2 5 6	142 3 6
Boree* .....	Jamee Junction ..	6	11	17	3 8	7 2	11 0	28 0 0	.....	3 4 9	.....	31 4 9
Boronore .....	Boronore .....	11	17	28	5 0	6 6	11 6	148 0 0	3 13 2	.....	12 0 10	163 14 0
Boro, Lower .....	Mayfield .....	10	12	22	6 5	7 9	14 4	88 0 0	3 14 5	.....	1 0 0	92 4 5
Botany .....	Botany .....	155	176	331	108 4	118 5	226 9	571 15 0	20 8 2	.....	16 4 10	608 8 0
Botobolar .....	Lower Botobolar ..	16	18	34	9 7	11 2	20 9	143 0 0	4 2 0	.....	7 15 10	159 17 10
Bourke .....	Bourke .....	206	167	373	145 8	117 8	263 6	666 14 11	13 15 1	7 6 9	72 7 0	760 3 9
Bourke Meat Works	Bourke .....	17	11	28	12 6	7 6	20 2	88 6 8	3 16 10	.....	8 10 0	100 13 6
Bourke, North .....	North Bourke .....	30	30	60	22 5	22 2	44 7	211 13 4	4 8 8	.....	26 17 0	242 19 0
Bournda, North ..	Bega .....	12	11	23	9 5	8 9	18 4	113 0 0	4 3 6	.....	26 5 10	143 9 4
Bowan .....	Bowan Park .....	27	23	50	15 1	16 3	31 4	171 0 0	4 17 8	.....	2 5 10	178 3 6
Bowenfels .....	South Bowenfels ..	17	26	43	9 3	13 6	22 9	125 0 0	3 6 9	.....	17 0 6	145 7 3
Bowling Alley Pt ..	Bowling Alley Point	40	54	94	31 2	40 1	71 3	235 0 0	7 4 4	.....	9 3 10	301 8 2
Bowan .....	Bowan .....	29	26	55	22 4	17 6	40 0	171 0 0	5 13 7	.....	21 5 10	197 19 5
Bowring .....	Bowring .....	26	15	41	18 0	10 7	28 7	148 0 0	4 3 10	.....	13 11 10	165 15 8
Bowral .....	Bowral .....	248	224	472	191 6	168 0	359 6	1,030 5 2	35 13 2	1 12 0	671 4 8	1,738 15 0
Bowraville .....	Bowraville .....	32	34	66	25 3	26 5	51 8	271 5 0	4 3 9	.....	17 3 3	292 12 0
Boyd .....	Boyd .....	24	18	42	18 9	10 9	29 8	148 15 0	5 3 8	1 0 0	13 11 1	168 9 9
Bradshaw's Flat ..	Sofala .....	11	11	22	9 2	8 5	17 7	113 0 0	4 5 7	.....	2 5 7	119 11 2
Braidwood .....	Braidwood .....	104	85	189	73 7	58 5	132 2	381 11 11	11 3 2	.....	129 11 9	522 6 10
Branga .....	Walcha .....	12	12	24	9 3	8 4	17 7	113 0 0	4 9 8	.....	3 5 10	120 15 6
Branxton .....	Branxton .....	37	24	61	27 0	18 4	45 4	218 16 1	7 7 0	.....	15 2 0	241 5 1
Brawlin .....	Brawlin .....	16	9	25	8 6	6 2	14 8	74 0 0	3 3 6	.....	0 10 0	77 13 6
Breadalbane .....	Breadalbane .....	14	11	25	9 3	6 6	15 9	113 0 0	1 18 10	.....	22 7 10	137 6 8
Breakfast Creek ..	Rylstone .....	8	15	23	6 1	10 6	16 7	113 0 0	3 14 2	.....	13 4 4	129 13 6
Bredbo .....	Bredbo .....	20	13	33	11 8	8 6	20 4	135 8 4	3 18 9	.....	37 1 10	176 8 11
Breeza .....	Breeza .....	23	19	42	17 5	14 2	31 7	171 0 0	3 19 10	.....	23 6 10	198 6 8
Brewarrina .....	Brewarrina .....	40	39	79	28 9	23 6	57 5	290 2 6	6 13 5	6 3 0	6 16 11	309 15 10
Brewongle .....	Brewongle .....	11	10	21	8 3	7 1	15 4	103 0 0	3 15 11	.....	2 0 10	108 16 9
Bringolly .....	Bringolly .....	33	23	56	15 1	11 8	26 9	171 0 0	3 18 6	.....	125 2 10	300 1 4
Broadwater .....	Broadwater .....	79	73	152	57 7	49 6	107 3	337 3 10	7 6 10	19 13 0	112 13 5	476 17 1
Brobenbah .....	Yanko R'ly Sta ..	27	9	36	18 7	6 3	25 0	88 0 0	3 3 11	.....	9 15 10	100 19 9
Brocklehurst .....	Brocklehurst .....	27	30	57	19 8	21 4	40 9	171 0 0	1 16 2	.....	57 15 10	230 12 0
Brocklesby .....	Brocklesby .....	11	14	25	7 3	6 0	13 3	33 18 10	5 1 0	.....	76 5 6	115 5 4
Brodie's Plains ..	Inverell .....	20	17	37	15 7	13 1	28 8	171 0 0	4 7 7	.....	1 18 4	177 5 11

\*Closed, 30th April.

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.													
		Boys	Girls	Total	Boys	Girls	Total	Salaries.	Books, Cloths, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.									
								£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.									
Broke	Broke	20	19	39	15	7	30	0	0	0	5	0	2	8	15	10	161	16	0		
Broken Hill	Broken Hill	509	455	964	342	0	645	9	1,755	16	0	38	1	2	11	17	3	1,984	1	11	
Broken Hill, North	North Broken Hill	427	422	849	306	8	572	2	1,675	11	1	42	16	3	.....	.....	87	0	6		
Brolgan	Tichborne	25	25	50	20	2	40	2	171	0	0	4	3	1	.....	.....	3	16	10		
Bronfe	Tarago	12	8	20	10	3	16	6	72	0	0	3	4	5	6	18	1	5	8	0	
Brookfield	Brookfield	17	14	31	10	7	21	0	113	0	0	4	8	6	.....	.....	2	9	4		
Brooklands	Hall	15	12	27	9	7	16	5	106	15	0	3	10	7	.....	.....	1	8	0		
Brooklets	Newrybar	27	19	46	21	4	35	7	171	0	0	3	12	8	.....	.....	89	1	10		
Brooklyn	Brooklyn	29	24	53	23	6	41	1	171	0	0	5	7	1	.....	.....	5	19	4		
Brookstead	Armidale	14	7	21	8	7	13	8	113	0	0	2	15	0	.....	.....	2	5	10		
Brook Vale	Manly	17	17	34	10	1	20	0	88	0	0	4	11	0	.....	.....	17	1	7		
Broughton Vale	Broughton Vale	22	12	34	16	5	25	0	148	0	0	3	10	9	.....	.....	6	5	10		
Broughton Village	Broughton Village	13	6	19	8	9	13	0	84	0	0	3	5	9	.....	.....	19	6	3		
Broula	Cowra	9	6	15	4	9	7	3	44	0	0	.....	.....	1	17	6	0	10	0		
Brownlea	Rockley	14	16	20	10	5	15	0	72	0	0	3	3	1	.....	.....	9	17	6		
Brown's Creek	Brown's Creek	33	33	66	23	6	48	1	273	13	2	5	18	8	1	18	1	7	1	8	
Bruedale	Wagga Wagga	20	20	40	12	0	23	7	148	0	0	3	15	8	.....	.....	5	4	4		
Brungle, Upper	Brungle	10	15	25	4	8	12	0	83	0	0	2	19	2	.....	.....	2	0	10		
Brunkerville	Mount Vincent	29	29	58	19	7	40	5	171	0	0	6	8	0	.....	.....	5	3	4		
Brushwood	Coolamon	17	14	31	14	9	24	5	135	8	4	3	11	6	.....	.....	8	8	7		
Brushy Hill	Aberdeen	12	13	25	8	1	9	0	77	6	8	3	18	0	.....	.....	0	10	0		
Bryan's Gap	Bryan's Gap	29	22	51	22	0	19	4	148	0	0	4	5	1	.....	.....	1	18	4		
Bucca Creek	Via Grafton	14	12	26	11	5	20	8	136	10	1	3	7	11	1	2	6	1	5	10	
Buchanan	Buchanan	17	17	34	15	4	28	8	136	0	0	4	14	11	.....	.....	19	13	10		
Buckendoon	Buckendoon	16	21	37	11	2	25	9	148	0	0	3	16	2	.....	.....	36	19	4		
Buckhobble	Molong	13	15	28	10	3	21	4	113	0	0	0	15	5	.....	.....	5	0	10		
Budjong Gap	Cambewarra	14	7	21	11	5	16	9	14	13	4	.....	.....	.....	.....	.....	.....	14	13	4	
Budjong Vale†	West Cambewarra	5	1	6	3	0	3	4	44	0	0	.....	.....	.....	.....	.....	1	5	0		
Bukkulla	Bukkulla	15	16	31	9	8	21	0	100	10	0	3	18	9	.....	.....	0	10	0		
Bulbudgere	Wuuluman	11	12	23	5	6	13	8	103	0	0	0	15	9	.....	.....	1	5	6		
Bulga	Bulga	20	11	31	13	3	20	6	125	0	0	3	4	9	6	15	1	1	6	10	
Bulgandra	Bulgandra	21	17	38	13	1	22	1	123	8	4	3	0	11	.....	.....	14	10	10		
Bullahdelah	Bullahdelah	59	45	104	37	6	68	1	286	16	8	7	16	6	0	9	6	47	11	9	
Bullh	Bullh	69	67	136	45	3	80	6	372	15	6	5	14	7	3	6	10	110	16	5	
Bullokreek	Young	18	12	30	11	8	20	3	134	6	8	5	11	1	.....	.....	26	18	10		
Bull Ridge	Freeman's Reach	15	16	31	11	7	23	2	64	18	4	3	9	8	.....	.....	.....	.....	68	8	0
Bumbury	Bumbury	22	23	45	15	6	32	1	148	0	0	3	19	7	.....	.....	2	5	4		
Bundanoon	Bundanoon	47	39	86	36	7	68	4	301	13	4	8	4	3	6	14	7	20	16	5	
Bundarago	South Grafton	16	12	28	12	9	23	3	105	13	4	3	3	10	0	15	0	95	0	0	
Bundarra	Bundarra	52	47	99	35	7	68	8	285	0	0	4	17	11	.....	.....	1,091	16	11		
Bunganbil	Narrandera	27	19	46	20	0	33	1	124	10	0	3	16	2	.....	.....	18	14	7		
Bungawalbyn	Bungawalbyn	29	19	48	22	7	37	0	168	0	0	4	7	0	.....	.....	24	15	10		
Bungendore	Bungendore	44	36	80	26	5	48	1	267	0	0	7	7	10	6	8	10	68	15	10	
Bunglegumbe	Dubbo	21	10	31	11	9	18	1	113	0	0	3	0	2	.....	.....	2	5	10		
Bungonia	Bungonia	11	14	25	6	2	16	3	125	0	0	4	4	1	.....	.....	10	13	4		
Bungowannah	Bungowannah	18	14	32	8	3	15	3	123	0	0	4	2	6	.....	.....	2	13	4		
Bungulla	Tenterfield	19	26	45	11	6	30	3	160	10	0	4	9	9	.....	.....	6	2	6		
Bungwahl	Bungwahl	23	32	55	14	9	25	4	167	3	4	6	4	7	10	11	2	25	3	4	
Bunnmyong	Dubbo	17	14	31	9	8	18	3	145	0	0	2	12	3	.....	.....	35	5	10		
Bunnabunoo	Vacy	19	15	34	13	4	24	4	125	0	0	4	12	10	.....	.....	54	18	10		
Burkeville	Garland	17	23	40	10	7	23	6	125	0	0	4	3	5	.....	.....	2	0	10		
Burke Ward, B.H.	Broken Hill	299	258	557	224	8	411	0	886	15	8	26	6	6	11	18	9	405	14	4	
Burnt Yards	Mandurama	18	22	40	12	9	31	8	155	13	4	5	6	10	.....	.....	18	8	10		
Burrage	Burrage	49	55	104	31	4	61	8	232	11	1	7	13	5	29	17	6	161	10	8	
Burragan	South Grafton	15	22	37	11	4	28	6	126	18	8	1	0	2	.....	.....	4	13	10		
Burragate	Burragate	13	14	27	9	0	20	2	119	13	8	4	4	7	.....	.....	11	3	4		
Burragorang	Burragorang	13	18	31	7	7	14	5	89	0	0	3	4	9	.....	.....	12	10	10		
Burraneer Bay	Sutherland	23	19	42	16	5	29	0	153	10	0	6	2	6	12	15	9	16	14	1	
Burrangong	Young	23	18	41	16	8	25	9	160	10	0	1	14	9	.....	.....	9	4	6		
Burrangong Hts	Young	36	19	55	23	8	36	4	171	0	0	5	12	7	.....	.....	9	15	4		
Burrawang	Burrawang	41	42	83	21	1	41	0	244	0	0	5	10	4	.....	.....	198	2	6		
Burrier	Nowra	15	14	29	8	7	15	6	125	0	0	1	17	11	2	6	0	1	15	10	
Burrill	Milton	16	21	37	11	9	27	1	148	0	0	5	4	7	.....	.....	322	15	1		
Burringbar	Burringbar	20	29	49	14	9	35	1	118	15	0	4	2	7	.....	.....	8	0	10		
Burrowa	Burrowa	48	36	84	32	1	59	5	235	0	0	6	2	1	.....	.....	26	11	11		
Burrumbuttock	Broklesby	11	11	22	7	1	8	0	125	0	0	2	17	7	.....	.....	2	13	10		
Burrundulla	Mudgee	21	27	48	13	9	31	7	149	0	0	3	18	0	.....	.....	30	16	4		
Burwood	Burwood	584	488	1,072	390	8	713	9	2,391	1	8	40	17	0	2	10	5	112	12	6	
Buxton	Buxton	16	12	28	11	1	19	9	113	0	0	4	2	1	.....	.....	4	19	0		
Byrock	Byrock	33	36	69	24	0	40	0	195	0	0	5	18	5	1	18	3	72	6	11	
Byng	Byng	19	18	37	10	0	19	0	147	0	0	3	19	0	.....	.....	2	8	10		
Byron Bay	Byron Bay	26	21	47	12	8	23	6	136	0	0	4	4	9	.....	.....	3	5	10		
Byron Creek	Bangalow	39	31	70	23	1	42	9	214	7	1	4	14	4	.....	.....	5	16	11		
Bywong	Bywong	18	12	30	11	0	19	2	113	0	0	5	4	3	.....	.....	2	10	7		
Cabramatta	Cabramatta	38	33	71	30	9	55	6	197	11	8	4	19	3	0	14	8	14	18	5	
Caddgat	Adamnaby	6	10	16	5	3	9	5	82	13	4	3	11	3	.....	.....	1	0	0		
Cadia	Cadia	12	17	29	5	1	7	0	125	0	0	4	0	11	.....	.....	4	15	10		
Caergerle	Allynbrook	27	33	60	18	6	43	9	171	0	0	5	5	6	.....	.....	32	10	1		
Calare	Cowra	15	14	29	8	0	14	0	125	0	0	2	15	11	.....	.....	2	15	10		
Calliope	Ulmarra	24	23	47	21	6	40	0	160	10	0	6	10	1	.....	.....	12	5	4		
Cambewarra	Cambewarra	59	45	104	40	4	72	5	285	0	0	5	17	7	.....	.....	16	18	5		
Cambewarra, West	Cambewarra	18	16	34	12	3	22	9	113	0	0	3	5	10	.....	.....	3	18	4		
Camberwell	Camberwell	18	17	35	13	1	24	2	161	8	4	5	11	3	.....	.....	16	18	10		

\* Closed 15th July.

† Closed 30th June.

APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls			Average Weekly Attendance			Expenditure from Public Funds.											
		Boys.	Girls.	Total	Boys.	Girls.	Total	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.							
							£	s	d	£	s	d	£	s	d	£	s	d	
Camboon .....	Rylstone .....	8	11	19	5 4	7 7	13 1	78	13	4	2	10	10	1	0	0	82	4	2
Camden .....	Camden .....	134	99	233	93 8	72 1	165 9	387	16	9	6	0	9	29	2	10	423	0	4
Camdenville .....	Newtown .....	461	461	922	318 8	328 7	647 6	2,108	1	8	65	6	2	0	11	6	2,430	3	0
Campbelltown .....	Campbelltown .....	80	89	169	54 2	60 6	114 8	377	3	4	10	14	10	26	3	1	414	1	3
Camperdown .....	Camperdown .....	351	348	699	245 9	236 0	481 9	1,462	2	7	47	14	9	49	2	10	1,559	0	2
Canadian Lead .....	Canadian Lead .....	21	14	35	14 2	9 4	23 6	161	8	4	4	6	11	7	10	10	173	6	1
Canberra .....	Queanbeyan .....	13	16	29	7 8	12 7	20 5	123	8	4	3	14	2	11	12	6	138	15	0
Candelo .....	Candelo .....	38	49	87	19 7	16 9	36 6	239	9	11	6	7	3	266	5	5	512	2	7
Cangai .....	UpperCopmanhurst .....	14	8	22	12 7	7 5	20 2	103	16	8	3	7	5	.....	.....	.....	107	4	1
Canley Vale .....	Canley Vale .....	64	47	111	38 2	28 5	66 7	291	1	8	10	15	11	224	17	8	532	1	1
Canoblas .....	Canoblas .....	14	14	28	8 3	9 2	17 5	125	0	0	3	16	8	42	1	4	170	18	0
Canowindra .....	Canowindra .....	85	81	166	54 8	53 4	108 2	334	10	8	11	17	2	130	7	0	477	16	6
Canterbury .....	Canterbury .....	247	191	438	167 7	130 4	298 1	878	15	0	18	5	5	129	3	8	1,029	14	2
Canyan Leigh .....	Canyan Leigh .....	14	15	29	10 1	13 0	23 1	109	5	8	2	10	2	19	5	10	131	1	8
Captee .....	Captee .....	23	15	38	13 6	8 7	22 3	158	10	0	4	0	9	17	5	10	179	16	7
Captain's Flat .....	Captain's Flat .....	150	125	275	102 7	79 4	182 1	439	0	0	10	3	7	248	15	5	698	11	7
Carcoar .....	Carcoar .....	47	44	91	26 7	25 1	51 8	267	0	0	6	16	11	24	3	11	298	0	10
Cardiff .....	Cardiff .....	39	41	80	27 7	22 3	50 0	209	11	8	8	16	7	51	3	5	269	11	8
Cargo .....	Cargo .....	19	31	50	13 2	20 3	33 5	228	6	8	7	3	4	104	16	5	340	6	5
Carlingford .....	Carlingford .....	103	103	206	71 2	69 4	140 6	403	0	0	7	1	6	16	6	0	428	4	3
Carrathool .....	Carrathool .....	42	39	81	25 1	19 3	44 4	219	0	0	5	0	5	107	11	11	331	12	4
Carrington .....	Carrington .....	188	172	360	115 9	99 0	214 9	554	3	4	10	11	5	35	16	5	602	9	5
Carroll .....	Carroll .....	31	39	70	23 4	28 6	52 0	171	0	0	6	18	3	6	16	11	184	15	2
Carroll Gap .....	Carroll .....	8	15	23	6 6	12 4	19 0	8	0	0	3	10	4	1	15	10	93	6	2
Carr's Creek .....	Grafton .....	32	44	76	24 9	30 1	55 0	242	10	6	8	18	9	65	16	11	317	13	8
Casino .....	Casino .....	78	92	170	54 5	66 3	120 8	354	0	0	10	11	6	326	16	7	691	8	1
Casino, South .....	Casino .....	25	20	45	21 2	19 9	39 1	171	0	0	3	11	4	84	12	4	259	3	8
Cassilis .....	Cassilis .....	26	23	49	20 7	17 3	38 0	173	18	4	1	6	2	122	3	4	297	7	10
Castle Doyle .....	Armidale .....	11	7	18	9 0	6 9	15 9	53	12	8	3	16	6	0	5	6	57	14	8
Castle Hill .....	Castle Hill .....	66	41	107	51 4	31 1	82 5	275	0	0	7	11	11	10	16	11	297	5	10
Castle Mountain .....	Quirindi .....	18	19	37	13 5	7 5	21 0	92	4	0	3	6	2	1	1	0	98	10	3
Castlereagh .....	Castlereagh .....	17	20	37	11 9	14 9	26 8	148	0	0	4	13	2	1	15	10	154	9	0
Castlereagh-street .....	Sydney .....	158	123	281	110 1	83 7	193 8	689	10	0	17	16	8	81	8	6	788	15	2
Castlereagh, Upper .....	Penrith .....	28	25	53	21 9	18 6	40 5	165	5	0	9	5	0	61	6	10	235	16	10
Cathcart .....	Cathcart .....	29	27	56	17 8	15 8	33 6	171	0	0	6	3	3	201	0	10	378	4	1
Catherine Hill Bay .....	Catherine Hill Bay .....	73	67	140	41 2	36 6	77 8	332	5	7	3	9	11	9	3	11	344	19	5
Cattai Creek .....	Cooperook .....	9	16	25	7 7	12 8	20 5	113	0	0	3	12	6	9	15	10	126	8	4
Cave Point .....	Tweed Heads .....	13	9	22	9 4	4 5	13 9	112	4	8	3	19	6	1	19	10	122	15	9
Cawdor .....	Camden .....	29	13	42	18 4	7 0	25 4	142	1	8	3	9	8	1	5	10	147	2	8
Cecil Park .....	Liverpool .....	25	22	47	13 5	9 6	23 1	171	0	0	4	16	0	1	5	10	177	1	10
Cedar Party Creek .....	Cedar Party Creek .....	34	33	67	24 5	24 7	49 2	171	0	0	2	6	0	112	17	4	286	3	4
Cessnock .....	Cessnock .....	19	24	43	15 4	17 3	33 1	148	0	0	6	12	0	54	7	8	208	19	8
Chain of Ponds .....	Gunning .....	14	6	20	10 3	4 4	14 7	88	0	0	3	9	1	3	3	6	94	12	7
Chambagne .....	South Grafton .....	11	11	22	8 4	7 7	16 1	113	0	0	3	18	11	12	15	10	129	14	9
Charlestown .....	Charlestown .....	120	103	223	90 7	71 4	162 1	384	19	0	9	13	4	230	10	10	625	3	2
Charleville .....	Cadia .....	12	14	26	7 6	10 5	18 1	88	0	0	3	7	11	17	15	0	109	2	11
Chatsbury .....	Chatsbury .....	14	14	28	8 7	7 7	16 4	125	0	0	2	13	10	3	5	10	130	19	8
Chatswood .....	Chatswood .....	249	178	427	173 3	120 9	294 2	597	3	2	21	1	4	1,182	16	4	1,801	9	1
Chatsworth Island .....	Chatsworth Island .....	42	58	100	30 5	42 4	72 9	277	0	0	10	1	8	49	13	2	345	17	1
Chivot .....	Lawrence .....	10	11	21	7 5	7 8	15 3	113	0	0	3	14	11	1	5	10	118	0	9
Chichester .....	Underbank .....	14	18	32	9 0	12 4	21 4	125	0	0	3	16	9	7	15	10	136	12	7
Clairville .....	Glen Innes .....	14	10	24	11 2	8 1	19 3	123	8	4	4	6	0	10	17	6	138	11	10
Clarence Town .....	Clarence Town .....	65	55	120	55 8	40 8	96 6	262	16	0	7	13	1	21	15	3	292	19	4
Clarendon .....	Euroungilly .....	18	10	28	10 6	5 7	16 3	94	5	0	3	11	6	3	17	6	101	14	0
Clareval .....	Stroud .....	11	12	23	8 3	7 8	16 1	78	13	4	2	9	5	2	10	0	84	18	4
Clarkson's Crossing .....	Nabiac .....	29	31	60	20 9	20 4	41 3	171	0	0	5	1	2	137	19	4	314	0	6
Clear Hills .....	Daysdale .....	12	14	26	7 3	9 7	17 0	78	0	0	3	1	7	1	7	6	83	1	7
Cleveland street .....	Sydney .....	1099	882	1,981	823 0	605 1	1,428 1	4,291	5	4	125	17	10	110	11	2	4,543	2	4
Clifton .....	Clifton .....	53	61	114	41 2	41 1	82 3	264	3	4	6	3	7	55	10	0	326	10	10
Clunes .....	Clunes .....	26	29	55	19 2	20 3	39 5	171	0	0	3	8	7	.....	.....	.....	174	8	7
Clybucca .....	Clybucca .....	23	15	38	17 1	11 4	28 5	148	0	0	5	9	1	20	5	10	173	14	11
Cobar .....	Cobar .....	211	185	396	114 9	97 0	211 9	545	17	8	11	19	5	113	12	5	671	9	6
Cobargo .....	Cobargo .....	68	62	130	43 4	41 0	84 4	349	6	8	6	15	0	305	1	6	661	3	2
Cobbitty .....	Cobbitty .....	18	23	41	14 9	16 7	31 6	148	0	0	3	14	0	38	15	10	190	9	10
Cobborah .....	Cobborah .....	21	19	40	17 2	14 3	31 5	126	15	0	3	14	4	25	18	3	156	7	7
Cockburn River .....	Moonbi Railway Stn .....	20	31	51	13 3	19 3	32 6	171	0	0	5	16	4	54	5	10	231	2	2
Cockle Creek .....	Davis Town .....	10	13	23	8 8	10 3	19 1	88	0	0	5	7	0	137	1	4	230	8	4
Codrington .....	Codrington .....	20	5	25	14 4	3 1	17 5	88	0	0	3	6	6	1	5	10	92	12	4
Codrington, North .....	Wyrallah .....	19	8	27	15 1	6 8	21 9	113	0	0	2	18	0	9	15	10	125	13	10
Coffey Hill .....	Orange .....																		

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.								
		Boys	Girls	Total.	Boys	Girls	Total	Salaries	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.				
							£	s.	d.	£	s.	d.	£	s.	d.	
Concord	Concord	73	65	138	50.3	40.9	91.2	274	0	0	7	4	0	28	3	8
Condobolin	Condobolin	86	54	140	60.1	35.6	95.7	270	10	0	12	1	3	32	0	9
Condong	Murwillumbah	14	13	27	9.5	6.1	15.6	136	0	0	5	3	4	5	1	1
Connorton	Wagga Wagga	15	8	23	9.0	5.6	14.6	100	10	0	3	19	8	2	6	6
Coerwull	Bowenfels	46	28	74	33.3	20.7	54.0	240	4	6	4	10	10	15	0	0
Coogee	Coogee	98	47	145	70.1	29.1	99.1	365	0	0	10	4	3	103	1	1
Cookardina	Cookardina	8	14	22	6.0	9.0	15.0	86	13	10	2	16	10	10	16	2
Cook's Hill	West Newcastle	485	423	908	354.6	283.7	638.3	1,790	9	2	38	8	6	125	6	11
Coolabah	Coolabah	28	18	46	15.5	9.4	24.9	136	0	0	6	13	1	1	19	3
Coolac	Coolac	32	23	55	20.3	17.8	38.1	171	0	0	5	1	8	232	1	0
Coolah	Coolah	23	27	50	16.3	20.4	36.7	174	16	8	6	2	11	175	16	0
Coolah Bridge	Leadville	5	10	15	3.1	6.6	9.7	135	8	4	2	4	11	11	15	10
Coolamon	Coolamon	37	42	79	26.6	26.7	53.3	289	10	0	7	5	3	31	8	11
Coolangatta	Coolangatta	21	18	39	11.9	8.6	20.5	125	0	0	3	5	6	23	15	10
Coolongolook	Coolongolook	31	25	56	23.2	17.9	41.1	159	10	0	4	3	6	1	15	10
Cooma	Cooma	152	106	258	104.7	67.5	172.2	455	2	8	14	10	10	79	18	5
Coomber	Rylstone	10	11	21	8.0	8.1	16.1	93	15	0	2	7	8	49	5	10
Coonabarabran	Coonabarabran	52	38	90	35.9	25.4	61.3	286	19	3	7	17	11	6	18	6
Coonamble	Coonamble	125	109	234	85.6	72.1	157.7	434	1	3	10	18	1	160	12	7
Cooperbrook	Cooperbrook	39	35	74	20.5	25.9	54.4	233	6	8	5	8	3	6	16	11
Cooper's Creek	Cordale	31	35	66	21.8	26.7	48.5	120	16	8	5	0	7	54	17	9
Cooper's Glen	Bega	11	3	14	8.0	2.3	10.3	83	6	8	3	6	10	1	15	10
Coorabell	Coorabell	17	7	24	14.0	6.1	20.1	113	0	0	2	16	6	14	15	10
Cooranbong	Cooranbong	14	11	25	10.4	6.6	17.0	126	8	4	3	9	11	1	19	10
Cootamundra	Cootamundra	197	213	410	128.0	134.0	262.0	823	6	8	21	12	3	59	10	11
Cooyal	Stony Creek	10	15	25	6.5	12.7	19.2	125	0	0	3	11	9	4	1	4
Copeland, North	Copeland, North	24	17	41	17.2	10.4	27.6	171	0	0	5	3	8	36	9	4
Copmanhurst	Copmanhurst	16	16	32	8.6	7.6	16.2	148	0	0	3	5	2	1	18	7
Coradergie	Merrigal	8	19	27	4.2	11.7	15.9	80	13	4	5	11	6	10	14	0
Coraki	Coraki	43	34	77	29.2	25.4	54.6	219	0	0	1	12	6	14	9	4
Coramba	Coramba	19	25	44	14.8	17.6	32.4	124	10	0	10	13	11	160	15	4
Corang River	Nerrang	17	21	38	13.1	15.2	28.3	88	0	0	4	15	5	117	3	3
Cordeaux River	Kembla	11	12	23	8.2	9.9	18.1	84	0	0	3	10	10	17	6	6
Corindi	Corindi	5	16	21	4.8	13.7	18.5	86	13	4	2	12	3	8	8	4
Cormick's Creek	Maclean	11	7	18	10.0	6.2	16.2	100	10	0	2	12	2	8	7	6
Corowa	Corowa	123	96	219	76.9	51.7	128.6	353	4	3	11	1	3	12	6	5
Corowa, South	South Corowa	26	24	50	18.9	16.6	35.5	24	13	4	9	11	2	549	11	7
Corrimal	Corrimal	77	53	130	59.4	40.1	99.5	295	8	4	6	14	3	6	16	11
Corunna	Corunna	10	23	33	6.5	10.7	17.2	113	0	0	3	6	4	19	10	10
Cottawalla	Crookwell	25	16	41	18.0	9.9	27.9	148	0	0	5	2	3	20	10	1
Courabyra	Courabyra	21	17	38	12.4	8.3	20.7	148	0	0	5	3	6	13	4	10
Cow Flat	Cow Flat	14	8	22	9.6	5.9	15.5	125	0	0	3	9	4	2	14	7
Cowlong	Lismore	22	28	50	12.4	16.4	28.8	148	0	0	3	11	4	3	19	10
Cowper	Cowper	29	17	46	24.5	12.3	36.8	171	0	0	4	19	8	20	13	4
Cowra	Cowra	143	167	310	75.7	90.8	166.5	620	10	0	13	10	4	28	9	6
Cowra Creek	Bredbo	16	12	28	12.7	10.2	22.9	88	0	0	4	10	8	27	12	10
Cox's Gap	Wybong	20	12	32	14.9	9.3	24.2	135	8	4	4	1	10	5	12	6
Craigie	Craigie	11	11	22	8.8	10.1	18.9	125	0	0	2	10	4	3	8	4
Cranebrook	Cranebrook	30	31	61	21.0	20.8	41.8	208	5	0	6	6	7	16	5	5
Croki	Jones' Island	35	35	70	25.8	20.8	46.6	324	18	0	4	14	2	10	13	11
Croobyar	Milton	35	23	58	27.7	18.0	45.7	171	0	0	5	1	0	12	5	10
Crookwell	Crookwell	123	133	256	82.9	86.9	169.8	571	8	0	8	3	8	358	10	7
Croome	Croome	19	20	39	10.4	10.1	20.4	148	0	0	4	6	6	110	10	4
Crow Mountain	Upper Manilla	9	6	15	7.4	4.7	12.1	113	0	0	4	2	3	135	4	11
Crown-street	Sydney	774	765	1,539	580.4	537.0	1,117.4	3,414	0	0	79	9	0	895	6	5
Croydon	Croydon	337	284	621	224.1	174.6	398.7	1,507	15	3	43	17	10	171	9	3
Croydon Park	Croydon	221	197	418	142.7	126.3	269.0	827	4	3	24	6	8	100	2	10
Crudine	Crudine	11	17	28	5.7	11.3	17.0	125	0	0	3	5	7	2	5	10
Cucumbark	Cucumbark	17	15	32	11.5	11.6	23.1	113	0	0	1	5	4	37	16	2
Cudal	Cudal	45	59	104	29.6	40.2	69.8	217	19	4	4	17	1	144	11	11
Cuddell Siding	Cuddell	8	12	20	6.3	7.6	13.9	22	0	0	...	...	...	2	0	0
Cudgebegong	Cudgebegong	12	16	28	8.3	8.9	17.2	113	0	0	3	1	7	2	5	10
Cudgegong	Cudgegong	18	17	35	12.9	11.9	24.8	148	0	0	1	18	7	2	5	10
Cudgen	Cudgen	21	20	41	14.7	16.0	30.7	171	0	0	4	13	11	1	5	10
Culcairn	Culcairn	40	19	59	25.4	11.3	36.7	171	0	0	3	18	5	47	14	11
Cullarin	Breadalbane	7	18	25	4.9	11.4	16.3	113	0	0	3	17	6	2	0	10
Cullen	Piper's Flat	44	46	90	31.9	33.1	65.0	235	13	4	6	4	11	20	16	11
Cullen Bullen	Cullen Bullen	25	16	41	20.7	12.9	33.6	148	0	0	3	6	11	68	7	10
Cullenbone	Cullenbone	15	19	34	7.0	11.2	18.2	148	0	0	1	16	9	2	5	0
Cullinga	Cullinga	16	13	29	10.8	9.3	20.1	88	0	0	4	0	0	67	12	0
Cumbalum	Ballina	22	17	39	16.4	12.6	29.0	123	8	4	3	18	9	8	5	2
Cummeragunja	Moama	37	33	70	32.0	28.2	60.2	206	11	10	9	15	1	8	2	11
Cumnock	Cumnock	34	49	83	21.7	34.4	56.1	226	10	0	4	4	8	18	10	0
Cundletown	Cundletown	38	40	78	30.0	31.6	61.6	250	0	0	6	6	7	237	6	0
Cunningar	Cunningham	9	20	29	5.7	12.7	18.4	119	10	0	1	3	4	2	15	10
Cunningham Creek	Murrumburrah	20	22	42	8.9	9.2	18.1	136	0	0	4	1	3	19	18	7
Curban	Gilgandra	14	9	23	11.3	6.2	17.5	75	6	8	2	11	8	1	0	0
Curra Creek	Tilba Tilba	14	12	26	9.7	7.8	17.5	135	8	4	2	17	8	12	10	0
Curlewis	Curlewis	20	33	53	9.6	19.9	29.5	183	11	2	4	8	5	52	2	5
Currabubula	Currabubula	37	32	69	28.1	21.9	50.0	253	7	1	5	9	5	36	9	1
Curra Creek	Wellington	14	10	24	7.5	5.2	12.7	94	3	4	1	0	9	27	10	0
Curran's Creek	Crookwell	11	16	27	5.0	7.6	12.6	88	0	0	4	14	7	0		



## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.											
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.							
							£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Currawarna .....	Coolamon .....	18	22	40	10 6	12 8	23 4	113	0	0	5	18	5						
Currency Creek ..	Freeman's Reach ..	21	19	40	16 1	14 4	30 5	75	6	8	9	12	7	0	17	6	74	4	11
Cuthero .....	Wentworth .....	18	10	28	12 1	7 6	19 7	129	0	0	3	17	3				2	5	10
Dalgetty .....	Buckley's Crossing.	12	14	26	9 1	6 7	15 8	135	8	4	3	13	5				12	15	11
Dalmorton .....	Dalmorton .....	18	20	38	16 2	15 4	31 6	160	10	0	1	6	6				10	15	10
Dalton .....	Dalton .....	44	36	80	26 7	20 1	46 8	285	0	0	5	3	9				14	5	5
Dalwood .....	Rous .....	16	14	30	11 2	9 5	20 7	115	0	0	1	10	10	1	5	6	21	5	10
Dangar's Lagoon..	Uralla .....	10	8	18	9 1	6 5	15 6	76	0	0	3	7	2	1	6	0	1	0	0
Dapper .....	Gulgong .....	10	11	21	7 1	6 4	13 5	76	12	4	2	5	9	4	10	0			
Dapto .....	Dapto .....	101	102	203	68 2	69 5	137 7	381	15	0	8	17	6	0	17	4	102	12	0
Dapto, West .....	Brownsville .....	24	14	38	17 6	10 6	28 2	148	0	0	4	14	1				3	19	10
Darawank .....	Fairford .....	12	16	28	9 2	11 8	21 0	123	8	4	3	3	3				14	5	10
Darby's Branch ..	Tingha .....	15	8	23	10 9	7 2	18 1	113	0	0	4	14	9				3	15	10
Darby's Falls ..	Mount McDonald..	11	5	16	7 1	2 3	9 4	74	13	4	3	10	11				0	19	0
Dark Corner .....	Sunny Corner .....	15	22	37	11 6	16 8	28 4	106	5	0	4	10	7				0	10	0
Darlinghurst .....	Sydney .....	372	357	729	272 3	234 7	507 0	1,809	1	5	34	7	9				58	10	5
Darling-road .....	Rozelle .....	686	630	1,316	497 5	431 7	929 2	2,607	1	3	81	13	9	2	0	6	274	4	8
Darlington .....	Darlington .....	457	447	904	333 9	312 3	645 6	1,938	15	6	61	6	5				48	18	8
Darlington Point..	Darlington Point..	17	16	33	11 9	11 3	23 2	113	0	0	2	12	5				2	17	10
Daroobalgie* .....	Daroobalgie .....	7	8	15	5 0	5 7	10 7	47	6	8	0	12	9				1	15	10
Daviesville .....	Dodangora .....	98	77	175	64 2	52 4	116 6	294	0	0	8	13	6	18	10	0	99	17	4
Davis Creek .....	Davis Creek .....	6	16	22	5 2	9 4	14 6	111	6	8	2	10	8				8	5	10
Daysdale .....	Daysdale .....	12	11	23	3 7	4 7	8 4	82	13	4	4	14	11				11	0	0
Deep Lead .....	Parkes .....	16	15	31	11 0	9 1	20 1	148	3	4	4	2	2				12	1	7
Deepwater .....	Deepwater .....	65	54	119	55 4	45 8	101 2	354	2	6	5	14	9	0	3	1	9	8	11
Delegate .....	Delegate .....	37	30	67	23 5	18 3	41 8	171	0	0	4	15	4				3	5	10
Demondrille .....	Demondrille .....	16	14	30	9 0	8 8	17 8	125	0	0	3	3	2				39	15	10
Demondrille Junct	Murrumburrah .....	24	21	45	18 9	15 8	34 2	171	0	0	4	3	1				24	15	10
Deniliquin .....	Deniliquin .....	192	154	346	145 9	111 5	257 4	648	5	10	17	12	4	43	14	8	299	2	0
Deniliquin North..	Deniliquin .....	22	18	40	12 6	10 4	23 0	144	15	0	3	13	8				20	0	10
Denman .....	Denman .....	52	32	84	34 7	22 8	57 5	239	10	0	10	17	7				6	6	11
Derra Derra .....	Bingara .....	13	14	27	10 1	11 9	22 0	113	0	0	3	9	10				1	5	10
Derran .....	Ganmain .....	22	15	37	16 6	12 2	28 8	143	10	0	6	5	8				17	10	10
Derringullen .....	Yass .....	19	16	35	11 0	9 1	20 1	91	0	0	1	5	1				2	0	10
Dingo Creek .....	Wherrol Flat .....	11	12	23	6 4	9 4	15 8	118	0	0	2	1	9				30	3	10
Doctor's Creek ..	Bingara .....	14	16	30	9 5	8 9	18 4	113	0	0	6	1	0				1	15	10
Donald .....	Armidale .....	15	11	26	11 6	10 2	21 8	125	0	0	4	7	5				2	5	10
Dondingalong ..	Dondingalong .....	21	12	33	13 3	9 6	22 9	92	3	4	3	1	2				0	5	0
Dondymun .....	South Grafton .....	22	16	38	14 7	11 4	26 1	136	0	0	1	6	6				1	5	0
Dorroughby Grass	Dunoon .....	16	17	33	11 0	11 7	22 7	75	9	7	3	0	10	2	15	10			
Double Bay .....	Double Bay .....	145	133	278	104 9	94 9	199 8	579	16	8	17	4	7	0	17	6	19	19	3
Downside .....	Wagga Wagga .....	18	11	29	13 8	9 9	23 7	125	0	0	4	15	3				2	8	4
Drake .....	Drake .....	88	82	170	59 6	53 4	113 0	374	16	8	5	16	5				59	19	9
Drofwal .....	Coolalie .....	14	8	22	10 9	5 8	16 7	135	8	4	4	1	5				8	10	10
Drummoyne .....	Drummoyne .....	251	211	462	176 3	148 8	325 1	708	15	0	42	1	9	0	6	8	248	14	11
Druwalla .....	Jamberoo .....	13	13	26	7 4	7 9	15 3	113	0	0	4	14	10				2	0	10
Dubbo .....	Dubbo .....	362	314	676	237 5	189 5	427 0	1,630	2	8	33	12	11	4	18	0	386	17	3
Dudley .....	Dudley .....	69	69	138	46 4	47 1	93 5	281	0	2	7	7	7				6	9	11
Dulwich Hill .....	Dulwich Hill .....	321	202	523	221 0	125 8	345 8	1,024	15	3	23	18	10	0	0	4	106	1	4
Dumaresq .....	Dumaresq .....	29	24	53	24 1	18 8	42 9	171	0	0	6	14	6				69	16	4
Dumaresq Island ..	Nirrim .....	26	25	51	19 4	21 0	40 4	171	0	0	6	0	9				86	12	7
Dunbible .....	Dunbible Creek .....	14	9	23	11 8	7 8	19 6	84	15	0	3	4	1				7	5	10
Duncan's Creek ..	Woolomin .....	22	16	38	16 8	12 7	29 5	113	0	0	4	4	5				1	15	10
Dundas .....	Dundas .....	40	51	91	32 7	37 8	70 5	270	2	3	8	19	1				16	4	11
Dundee .....	Dundee .....	20	13	33	14 4	9 6	24 0	125	0	0	3	13	5				3	2	1
Dungaree .....	Lue .....	22	21	43	16 0	15 6	31 6	148	0	0	3	5	3				12	15	10
Dungay Creek .....	Marwillumbah .....	28	26	54	19 5	19 0	38 5	159	0	0	4	1	3				1	5	10
Dungog .....	Dungog .....	130	106	236	104 0	75 3	179 3	400	19	6	19	4	11				48	10	0
Dungowan, Lower..	Dungowan .....	21	17	38	15 7	13 7	29 4	171	0	0	4	11	11				2	3	10
Dunkeld .....	Dunkeld .....	15	16	31	10 2	8 4	18 6	148	0	0	0	11	3				3	7	1
Dunolly .....	Singleton .....	31	29	60	20 7	20 7	41 4	171	0	0	8	12	1				77	16	10
Dunoon .....	Dunoon .....	25	27	52	17 5	17 0	34 5	169	0	0	5	13	5				279	19	11
Dunvegan .....	Coff's Harbour .....	18	13	31	14 4	10 7	25 1	113	0	0	2	7	8				121	15	4
Dural .....	Dural .....	42	47	89	31 8	31 0	62 8	235	0	0	9	7	0				298	3	11
Duranbah .....	Cudgen .....	11	12	23	8 2	9 8	18 0	135	8	4	1	5	3				7	15	10
Duri .....	Duri .....	29	21	50	17 6	14 1	31 7	165	0	0	5	1	0				272	19	8
Duval View .....	Armidale .....	14	9	23	10 5	7 3	17 8	91	0	0	3	8	3				2	5	10
Eagleton .....	Eskdale .....	12	11	23	8 2	7 1	15 3	125	0	0	4	4	3				1	15	10
Eastgrove .....	Goulburn .....	70	67	137	50 2	46 9	97 1	242	12	8	5	8	11				14	18	5
Eastwood .....	Eastwood .....	61	61	122	39 8	41 0	80 8	201	13	4	8	0	6				45	1	6
Eatonsville .....	Eatonsville .....	15	25	40	8 3	15 0	23 3	148	0	0	2	17	6				1	15	10
Ebenezer .....	Ebenezer .....	25	39	64	17 1	21 1	38 2	185	11	8	6	19	9				27	4	4
Eccleston .....	Eccleston .....	6	14	20	4 9	11 1	16 0	113	0	0	3	2	0				1	15	10
Eden .....	Eden .....	24	23	47	15 1	11 8	26 9	171	0	0	3	18	0				2	5	10
Eden Valley .....	Inverell .....	19	13	32	13 8	9 3	23 1	113	0	0	4	10	0				1	15	10
Edge Hill .....	Henty .....	18	23	41	12 0	16 8	28 8	128	7	4	2	15	3				117	15	2
Edith .....	Via Oberon .....	12	12	24	7 5	8 7	16 2	113	0	0	3	0	3				4	12	1
Edwardstown .....	South Gundagai .....	25	28	53	13 4	15 6	29 0	171	0	0	6	9	3				10	5	16
Eglinton .....	Congewai .....	16	14	30	10 4	9 4	19 8	113	0	0	3	11	6				3	15	10
Eglintown .....	Bathurst .....	32	29	61	22 1	17 1	39 2	171	0	0	6	5	4				2	4	0
Eldershe .....	Eldershe .....	26	12	38	19 4	8 2	27 6	148	0	0	4	15	8				10	15	10
Elmdale .....	Deniliquin .....	10	14	24	8 1	12 2	20 3	106	15	0	2	14	8	3	10	0	1	8	0
Ellalong .....	Ellalong .....	21	20	41	14 5	14 2	28 7	148	0	0	5	17	11				1	15	10

\* Closed 30th June.

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.												
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.								
													£	s.	d.	£	s.	d.	£	s.
Elmwood .....	Moss Vale .....	12	13	25	8.4	9.0	17.4	113	0	0	3	10	4	.....	2	10	10	119	1	2
Elsmore .....	Inverell .....	40	37	77	28.8	24.5	53.3	171	0	0	6	3	1	.....	3	17	4	181	0	5
Emmaville .....	Emmaville .....	64	85	149	50.7	64.3	115.0	392	10	6	10	4	5	.....	129	19	6	532	14	5
Emu .....	Emu .....	52	61	113	34.9	38.7	73.6	264	1	11	5	16	3	.....	6	6	11	276	5	1
Enmore .....	Newtown .....	373	387	760	277.1	272.1	549.2	1,629	18	4	47	3	10	.....	112	17	7	1,789	19	9
Erina .....	Via Gosford .....	20	13	33	9.2	5.9	15.1	113	0	0	3	12	11	.....	1	15	10	118	8	9
Eringonia .....	Eringonia .....	14	16	30	9.9	9.9	19.8	74	0	0	3	9	5	3 1 9	6	1	0	86	12	2
Ermington .....	Ermington .....	39	48	87	27.1	34.4	61.5	261	0	0	4	0	11	.....	32	2	11	297	3	10
Erskine Park .....	St. Mary's .....	13	20	33	7.9	10.3	18.2	125	0	0	1	11	3	.....	33	15	10	160	7	1
Erskineville .....	Erskineville .....	732	680	1,412	539.6	468.9	1,008.5	2,669	6	4	92	10	4	.....	345	6	9	3,107	3	5
Eschol .....	Dubbo .....	15	10	25	7.3	5.3	12.6	113	0	0	3	2	10	.....	2	5	10	118	8	8
Euabalong .....	Euabalong .....	16	13	29	11.6	10.0	21.6	113	0	0	3	5	8	.....	2	0	10	118	6	6
Eugowra .....	Eugowra .....	29	23	52	13.1	10.8	23.9	171	0	0	4	15	11	12 10 0	108	6	8	296	12	7
Eulah Creek .....	Narrabri .....	28	18	46	17.0	13.1	30.1	136	10	0	4	9	2	.....	12	15	10	153	15	0
Eulomogo .....	Dubbo .....	16	9	25	12.8	6.6	19.4	70	14	11	4	15	6	.....	2	18	4	78	8	9
Eurobodalla .....	Eurobodalla .....	17	12	29	11.5	9.0	20.5	103	11	8	3	18	10	.....	63	14	10	171	5	4
Euroka .....	West Kempsey .....	30	19	49	25.1	16.4	41.5	204	10	0	4	11	6	.....	7	9	6	216	11	0
Eurunderee .....	Mudgee .....	14	21	35	8.0	12.5	20.5	148	0	0	3	8	9	1 0 0	12	0	10	164	9	7
Euston .....	Euston .....	32	28	60	22.8	18.1	40.9	160	16	8	4	11	9	.....	2	5	0	167	13	5
Euwylong .....	Raymond Terrace .....	20	21	41	15.2	15.1	30.3	162	16	8	1	2	3	0 11 3	15	1	9	179	11	11
Evans' Plains .....	Evans' Plains .....	18	17	35	10.4	10.3	20.7	125	0	0	4	7	2	.....	220	3	0	349	10	2
Everett .....	Guyra .....	9	12	21	7.7	10.4	18.1	72	0	0	7	15	5	.....	2	16	6	82	11	11
Everton Vale .....	Rocky River .....	14	12	26	11.3	8.9	20.2	113	0	0	4	1	5	.....	2	5	10	119	7	3
Exeter .....	Exeter .....	37	28	65	24.6	15.4	40.0	195	0	0	3	7	8	0 17 6	37	15	10	237	1	0
Fairford .....	Fairford .....	28	25	53	21.5	20.6	42.1	214	12	3	4	6	7	.....	260	8	4	479	7	2
Fairfield .....	Fairfield .....	69	55	124	48.8	37.8	86.6	284	10	0	6	12	11	.....	43	3	0	338	5	11
Fairview .....	Wallabadah .....	7	7	14	5.6	5.1	10.7	72	0	0	3	4	6	.....	.....	.....	.....	75	4	6
Fairy Meadow .....	Fairy Meadow .....	89	65	154	70.2	45.5	115.7	354	0	0	7	0	8	0 5 6	13	14	0	375	0	2
Falconer .....	Guyra .....	13	14	27	10.1	10.9	21.0	106	13	2	4	7	3	.....	19	9	10	130	10	3
Fall's Creek .....	Novra .....	21	21	42	10.7	12.6	23.3	143	0	0	5	6	0	.....	23	3	4	181	9	4
Far Meadow .....	Berry .....	24	14	38	16.4	10.0	26.4	143	0	0	5	4	8	.....	5	12	0	158	16	8
Farnham .....	Farnham .....	27	28	55	21.6	21.8	43.4	185	11	8	4	0	4	.....	319	0	0	508	12	0
Felled Timber Creek .....	Dalton .....	10	21	31	6.6	13.2	19.8	125	0	0	2	8	0	.....	2	0	10	129	8	10
Ferndale .....	Glmore .....	3	16	19	2.6	14.2	16.8	85	6	8	0	15	3	.....	0	7	6	86	9	5
Fernhill .....	Inverell .....	21	13	34	13.5	7.4	20.9	148	0	0	3	9	0	.....	19	9	4	170	18	4
Fernleigh .....	Tintenbar .....	24	15	39	19.2	12.2	31.4	126	10	0	4	15	7	.....	7	15	10	139	1	5
Fernmount .....	Fernmount .....	34	31	65	23.2	19.4	42.6	210	15	0	7	4	2	2 17 0	46	16	4	267	12	6
Fifield .....	Fifield .....	14	12	26	5.5	6.4	11.9	135	8	4	3	14	11	.....	24	15	10	163	19	1
Finley .....	Finley .....	45	34	79	26.3	18.7	45.0	166	5	0	5	15	9	.....	91	4	2	263	4	11
Fish River Creek .....	Fish River Creek .....	14	13	27	8.4	6.4	14.8	125	0	0	3	13	2	.....	14	3	2	142	16	4
Five Dock .....	Five Dock .....	62	55	117	41.8	33.6	75.4	421	3	4	10	2	11	0 13 4	122	2	6	554	2	1
Fladbury .....	Dundee Railway Station .....	21	22	43	14.6	17.2	31.8	136	0	0	5	0	8	.....	2	15	10	143	16	6
Forbes .....	Forbes .....	213	203	421	130.7	111.9	242.6	787	10	0	26	1	6	1 6 6	76	19	11	891	17	11
Forest Creek .....	Frogmore .....	11	12	23	9.1	10.5	19.6	100	10	0	4	0	6	.....	1	15	10	106	6	4
Forest Hill .....	Wagga Wagga .....	16	18	34	9.7	12.7	22.4	125	0	0	4	18	3	.....	69	2	4	199	0	7
Forest Lodge .....	Glebe .....	509	478	987	368.2	333.9	702.1	2,144	4	1	52	6	6	1 0 5	156	8	2	2,353	19	2
Forest, Lower .....	Milthorpe .....	20	20	40	14.0	16.8	30.8	148	0	0	3	14	10	.....	3	6	10	155	1	8
Forrester .....	Forrester .....	13	14	27	10.3	10.6	20.9	113	0	0	5	12	4	.....	1	5	10	119	18	2
Forster .....	Forster .....	39	25	64	27.4	16.3	43.7	171	0	0	3	6	5	.....	4	5	10	178	12	3
Fort-street .....	Sydney .....	4,113	633	1,946	946.2	674.4	1,620.6	5,364	11	0	114	8	11	4 11 11	382	12	9	5,866	4	7
Do. Practising .....	Do .....	.....	.....	.....	.....	.....	.....	360	0	0	.....	.....	.....	.....	.....	.....	.....	360	0	0
Fort-street, Lower .....	Sydney .....	189	166	355	137.7	108.7	246.4	628	0	8	19	7	3	.....	94	2	6	741	10	5
Fosterton .....	Dungog .....	14	13	27	10.1	10.9	21.0	113	0	0	4	4	2	.....	31	3	4	148	7	6
Four-mile Creek .....	East Matland .....	14	13	27	12.1	11.1	23.2	135	8	4	5	6	11	.....	19	5	10	160	1	1
Foxground .....	Gerrungong .....	12	12	24	8.6	9.4	18.0	135	8	4	3	9	8	.....	11	3	2	150	1	2
Fox Hill .....	Cobargo .....	15	29	44	10.7	20.7	31.4	160	10	0	7	3	5	2 5 0	16	18	10	186	17	3
Frimpton .....	Moatefield .....	27	15	42	21.1	11.8	32.9	198	1	5	1	18	6	.....	160	11	6	360	11	5
Frederickton .....	Frederickton .....	76	72	148	53.2	51.6	104.8	352	13	4	8	0	11	.....	8	5	11	369	0	2
Freeman's Reach .....	Windsor .....	41	38	79	27.7	26.7	54.4	244	0	0	2	8	2	.....	12	9	0	258	17	2
Frogmore .....	Frogmore .....	26	26	52	18.2	19.4	37.6	170	0	0	3	3	8	.....	4	2	9	177	6	5
Frome's Creek .....	Mudgee .....	12	22	34	8.4	15.2	23.6	125	0	0	2	6	1	.....	2	5	10	129	11	11
Fullerton .....	Fullerton .....	10	16	26	7.7	13.1	20.8	113	0	0	5	0	5	.....	2	10	10	120	11	3
Furracabad .....	Glen Innes .....	11	11	22	8.8	8.7	17.5	88	0	0	3	19	3	.....	1	15	10	93	15	1
Galathara Road .....	Narrabri .....	13	11	24	8.7	7.9	16.6	135	8	4	3	19	6	.....	14	9	10	153	17	8
Galley Swamp .....	Galley Swamp .....	72	87	159	37.8	47.8	85.6	258	5	0	9	11	7	7 7 3	22	7	11	297	11	9
Galong .....	Galong .....	22	10	32	14.3	4.3	18.6	113	0	0	4	11	0	.....	15	1	10	132	12	10
Galston .....	Galston .....	46	48	94	31.2	35.8	67.0	254	0	0										

APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.											
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.		Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.						
							£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Gerrymberry...	South Grafton	15	26	41	6.5	11.8	183	130	15	0	3	10	2	13	15	10	148	1	0
Gourie	Gourie	46	48	94	27.3	31.6	589	225	0	0	5	10	1	6	18	11	237	9	0
Ghinni Ghinni	Ghinni Ghinni	20	8	28	15.4	5.9	21.3	125	0	0	3	16	0	1	15	10	130	11	10
Giant's Creek		6	24	30	4.6	15.7	20.3	148	0	0	5	12	2	1	15	10	155	8	0
Gilgai	Inverell	41	21	62	27.1	14.6	41.7	180	8	4	5	14	6	8	9	10	195	8	3
Gilgandra	Gilgandra	49	38	87	31.9	23.0	54.9	231	0	0	6	0	10	4	1	0	15	5	10
Gilgunnia	Gilgunnia	17	15	32	9.3	8.1	17.4	158	15	0	3	6	0	40	5	10	202	6	10
Gilleston	East Greta	56	47	103	36.0	30.0	66.0	218	15	6	6	12	11	1	0	0	155	0	0
Gilmandyke	Rockley	24	22	46	15.7	15.5	31.2	135	10	0	7	2	9	13	9	10	156	2	7
Girilambone	Girilambone	37	37	74	24.0	24.7	48.7	152	15	0	5	2	3	7	12	0	903	6	8
Girilambone Mine	Girilambone	59	52	111	29.0	26.6	55.6	247	13	4	11	1	10	43	0	9	301	15	11
Gladsville	Gladsville	113	93	206	68.7	58.3	127.0	366	19	9	12	15	5	821	19	9	1,201	19	11
Gladstone	Gladstone	41	52	93	29.0	28.2	57.2	247	17	3	5	8	10	1	16	0	515	10	0
Glebe	Glebe	756	657	1,413	55.9	44.0	100.8	2,940	6	6	87	9	0	441	15	0	3,470	8	6
Glen	Tent Hill	40	43	83	32.9	35.6	68.5	274	13	4	6	1	8	27	1	11	312	2	2
Glenbrook	Glenbrook	14	15	29	11.1	11.8	22.9	113	0	0	4	6	8	1	15	10	119	2	6
Glenburn	Wiseman's Creek	16	19	35	11.0	14.5	25.5	125	0	0	2	0	0	27	13	4	154	13	4
Glencoe	Glencoe	24	16	40	17.8	13.4	31.1	136	0	0	3	11	3	2	2	9	141	14	0
Glendon Brook	Glendon Brook	25	17	42	17.9	12.4	30.3	148	0	0	6	5	1	23	6	4	177	11	5
Glenfield	Liverpool	26	35	61	14.8	18.5	33.3	160	10	0	3	12	8	21	10	2	185	12	10
Glenhaven	Glenhaven	11	9	20	4.7	3.2	7.9	113	0	0	4	6	10	1	15	10	119	2	8
Glen Hill	Pictou	9	9	18	5.9	5.2	11.1	8	0	0	3	1	7	7	11	4	99	19	5
Glen Innes	Glen Innes	209	214	423	164.3	154.1	318.4	801	15	0	34	14	5	78	2	0	914	11	5
Glenmore	The Oaks	12	13	25	9.2	8.3	17.5	125	0	0	3	1	8	22	9	4	150	11	0
Glenmore Road	Paddington	213	165	378	151.0	110.5	261.5	841	11	8	18	16	1	170	15	3	1,031	7	6
Glen Morrison	Glen Morrison	6	11	17	3.5	8.6	12.1	72	0	0	3	14	1	16	15	0	92	9	1
Glenorie	Glenorie	20	22	42	14.0	14.5	28.5	160	10	0	4	4	4	464	3	4	628	17	8
Glenrcaugh	South Grafton	11	13	24	7.3	10.1	17.4	98	6	8	2	12	9	122	0	10	223	0	3
Glenroy	Rosewood	17	11	28	12.9	9.3	22.2	113	0	0	3	17	9	17	4	4	134	2	1
Glenthorne	Glenthorne	20	13	33	11.9	7.3	19.2	135	8	4	3	17	8	9	1	5	148	7	5
Glen William	Clarence Town	18	21	39	11.4	18.2	29.6	148	0	0	3	19	5	26	4	6	178	3	11
Glenwood	Hall	9	9	18	6.8	6.8	13.4	73	6	8	3	8	7	1	3	0	77	18	3
Gobarralong	South Gobarralong	12	10	22	7.0	4.6	11.6	72	0	0	3	13	7	2	2	6	77	16	1
Gobbagumblin	Coolamon	25	17	42	16.4	13.7	30.1	160	10	0	5	6	11	490	12	9	656	9	8
Gocup	Gocup	10	13	23	5.4	7.7	13.1	103	0	0	3	13	8	1	10	10	108	4	6
Gollan	Gollan	11	12	23	8.5	7.3	15.8	72	0	0	3	8	0	10	1	2	85	9	2
Golspie	Golspie	23	14	37	13.5	7.0	20.5	148	0	0	4	1	3	20	7	10	172	9	1
Gondarin Creek	Mount Keira	4	7	11	2.3	3.2	5.5	125	0	0	2	16	4	1	15	10	129	12	0
Goobang	Parkes	21	22	43	13.9	11.7	25.6	136	10	0	3	17	11	2	5	10	142	13	9
Good Hope	via Yass	7	16	23	5.2	11.7	16.9	91	0	0	2	18	2	2	15	9	96	13	11
Goodooga	Goodooga	27	35	62	18.4	23.7	42.1	192	17	2	1	19	9	18	18	11	213	15	10
Googedee	Brungle	11	12	23	10.1	9.7	19.8	88	0	0	5	19	3	1	5	10	95	5	1
Goolagong	Goolagong	24	19	43	15.7	11.5	27.2	171	0	0	4	13	4	3	7	10	179	1	2
Goolma	Goolma	14	14	28	9.8	10.2	20.0	113	0	0	2	7	8	1	15	10	117	3	6
Goonellebah	Lismore	25	30	55	15.8	19.8	35.6	171	0	0	5	10	7	8	1	10	184	12	5
Goonoo Goonoo	Goonoo Goonoo	9	11	20	2.3	7.4	9.7	72	0	0	3	12	9	75	12	9	75	12	9
Goonooiwgall	Inverell	25	13	38	15.9	8.3	24.2	136	0	0	5	16	4	1	15	10	143	12	2
Goorangoola	Goorangoola	13	4	17	9.2	3.2	12.4	83	13	4	2	13	11	87	9	3	87	9	3
Goorihurst	Currabubula	11	12	23	6.9	9.4	16.3	84	0	0	3	6	1	87	6	1	87	6	1
Gordon	Gordon	97	106	203	68.3	80.8	149.1	385	11	8	11	8	7	28	8	1	425	8	4
Gordon's Point	Hay	17	10	27	8.9	6.8	15.7	81	13	4	0	17	3	0	15	0	192	10	4
Gordonville	Bellingen	23	18	41	17.7	14.2	31.9	148	0	0	3	14	3	1	13	4	153	7	7
Gorham	Burrowa	10	11	21	7.4	9.5	16.9	88	0	0	1	0	10	0	15	0	97	8	10
Gosford	Gosford	84	81	165	44.2	46.9	91.1	321	12	5	5	9	3	83	10	11	410	12	7
Gosforth	Gosforth	15	17	32	9.7	12.1	21.8	125	0	0	5	2	1	99	14	3	229	16	4
Gosling Creek	Orange	12	10	22	5.2	5.2	10.4	91	0	0	4	3	9	2	5	10	97	9	7
Gosper's Downs	Meranburn	15	14	29	9.4	10.4	19.8	113	0	0	3	8	9	5	17	5	122	6	2
Gough Town	Merrylands	99	98	197	72.7	65.1	137.8	363	8	4	11	5	6	356	19	2	732	7	9
Goulburn	Goulburn	351	325	676	230.8	220.8	451.6	1,532	19	5	48	19	7	1,103	17	10	2,685	16	10
Goulburn North	Goulburn	203	187	390	134.4	121.4	255.8	919	15	0	23	16	6	83	1	11	1,026	13	5
Goulburn South	Goulburn	249	214	463	162.8	131.4	294.2	1,079	19	3	21	7	4	135	17	10	1,055	4	5
Gouldsville	Singleton	18	15	33	11.0	9.9	20.9	147	0	0	4	16	10	4	10	10	156	7	8
Gourlay	Candelo	17	11	28	13.0	8.1	21.1	113	3	0	0	18	0	22	14	10	136	12	10
Gowrie	Goonoo Goonoo	10	10	20	6.7	6.9	13.6	88	0	0	3	9	9	53	7	4	144	17	1
Grafton	Grafton	441	440	882	293.1	291.5	584.6	2,030	5	0	51	14	0	140	7	0	2,223	15	6
Grafton Common	Grafton	12	14	26	9.7	11.7	21.4	88	0	0	3	6	3	1	5	9	92	12	0
Grafton South	South Grafton	107	81	188	63.4	47.2	110.6	365	3	1	13	2	2	50	1	8	428	6	11
Graham's Valley	Glencoe	24	19	43	18.8	13.9	32.7	148	0	0	4	16	8	2	15	10	155	12	6
Graman	Graman	20	15	35	10.9	9.8	20.7	135	8	4	3	2	10	5	13	10	144	5	0
Grantham	George's Plains	9	9	18	4.8	6.8	11.6	125	0	0	4	10	1	5	15	10	135	5	11
Granville	Granville	380	355	735	276.1	255.9	532.0												

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.											
		Boys.	Gills.	Total.	Boys.	Gills.	Total.	Salaries.		Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.						
							£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
Greenwood .....	Tumberumba .....	8	10	18	6.0	7.2	13.2	89	0	10	3	0	3	1	18	4	93	19	5
Gregadoo .....	Wagga Wagga .....	8	10	18	5.3	5.5	10.8	113	0	0	2	6	8	15	0	10	130	7	6
Greghamstown ..	Blayney .....	21	15	36	13.0	12.1	25.1	148	0	0	5	0	0	2	0	10	155	0	10
Gregra .....	Cudal .....	13	16	29	6.9	8.1	15.0	113	0	0	1	6	8	47	0	10	161	7	6
Greig's Flat .....	Greig's Flat .....	28	36	64	19.8	22.6	42.4	165	5	0	4	19	4	44	3	5	214	7	9
Grenfell .....	Grenfell .....	114	112	226	71.6	71.4	143.0	352	0	0	13	17	4	296	10	11	664	7	3
Gresford .....	Gresford .....	36	33	75	24.1	22.8	46.9	171	0	0	4	3	9	20	10	7	195	14	4
Greswick .....	Seaham .....	10	12	22	6.8	9.2	16.0	113	0	0	4	1	2	1	10	10	118	12	0
Greta .....	Greta .....	140	122	262	98.3	90.5	188.8	654	13	4	11	10	7	99	19	0	763	2	11
Grong Grong .....	Grong Grong .....	40	35	75	21.6	18.4	40.0	216	6	8	6	5	11	84	8	5	307	1	0
Guilford .....	Guilford .....	41	30	71	22.6	17.3	39.9	159	0	0	3	10	2	8	19	3	173	15	5
Gulgambone .....	Gulgambone .....	45	48	93	29.5	35.8	65.3	246	0	0	6	3	11	188	18	7	446	12	6
Gulf Creek .....	Gulf Creek .....	12	9	21	9.0	7.7	16.7	136	0	0	2	4	1	1	15	10	139	19	11
Gulgamree .....	Gulgamree .....	12	11	23	9.9	7.9	17.8	148	0	0	3	4	10	2	5	10	153	10	8
Gulgong .....	Gulgong .....	60	85	145	40.2	53.7	93.9	338	13	4	6	12	2	10	19	5	356	4	11
Gullen .....	Gullen .....	29	28	57	20.6	19.5	40.1	171	0	0	4	13	11	2	18	4	178	12	3
Gullen Flat .....	Gullen Flat .....	13	9	22	7.4	5.7	13.1	85	6	8	4	0	2	11	5	0	100	11	10
Gum Flat .....	Gum Flat .....	36	27	63	23.2	18.1	41.3	195	0	0	5	2	7	10	8	11	210	11	6
Gunbar .....	Gunbar .....	20	16	36	13.8	10.0	23.8	135	8	4	3	0	7	8	15	10	147	4	9
Gundagai .....	Gundagai .....	90	75	165	50.5	37.5	88.0	321	5	8	7	14	10	200	10	5	533	0	8
Gundagai South ..	Gundagai .....	48	27	75	19.7	11.5	31.2	226	10	0	7	0	2	9	10	11	243	1	1
Gundaroo .....	Gundaroo .....	23	19	42	17.0	14.0	31.0	171	0	0	5	19	5	604	1	9	781	1	2
Gundurimba .....	Gundurimba .....	27	18	45	19.9	12.6	32.5	171	0	0	3	2	5	1	5	10	175	8	3
Gundy .....	Gundy .....	18	24	42	10.3	14.9	25.2	148	0	0	5	4	10	65	11	4	218	16	2
Gunnary .....	Burrowa .....	18	15	33	14.2	10.7	24.9	100	10	0	3	19	8	94	0	10	198	10	6
Gunnedah .....	Gunnedah .....	149	127	276	115.7	95.5	211.2	515	0	0	13	16	7	21	14	5	552	10	2
Gunnenbene .....	Carroll .....	10	16	26	6.1	11.7	17.8	98	8	4	3	18	7	1	10	0	106	6	11
Gunning .....	Gunning .....	54	44	98	39.9	33.8	73.7	291	5	1	7	12	1	12	8	11	313	0	7
Guntawang .....	Guntawang .....	17	33	50	10.8	27.9	38.7	205	0	0	4	12	8	123	12	1	333	4	9
Guyong .....	Guyong .....	16	11	27	10.6	6.7	17.3	117	0	0	2	13	11	2	9	6	138	3	5
Guyra .....	Guyra .....	44	48	92	23.0	25.0	48.0	239	10	0	6	3	4	7	6	11	253	0	3
Gwynne .....	Old Juneec .....	14	18	32	9.0	13.0	22.0	94	5	0	2	14	2	1	15	10	98	15	0
Hall's Creek .....	Bingara .....	16	17	33	9.0	7.9	16.9	125	0	0	4	7	8	12	5	10	141	13	6
Halton .....	Halton .....	12	9	21	8.8	6.6	15.4	88	0	0	2	16	9	1	15	10	92	12	7
Hamilton .....	Hamilton .....	510	471	981	366.4	323.3	689.7	1,869	13	6	42	18	2	283	19	1	2,200	1	3
Hampton .....	Mandurama .....	17	10	27	8.7	4.4	13.1	88	0	0	4	0	1	9	11	4	101	11	5
Hanbury .....	Waratah .....	178	164	342	118.4	122.7	241.1	475	1	7	10	16	2	425	6	9	931	4	6
Hanging Rock .....	Nundle .....	20	20	40	16.0	16.0	32.0	130	15	0	4	10	11	12	0	10	166	0	6
Haming .....	Bendemeeer .....	11	6	17	10.1	6.0	16.1	77	6	8	4	3	8	0	15	0	84	1	7
Harefield .....	Harefield .....	11	12	23	6.0	8.2	14.2	92	1	8	1	13	11	2	5	11	96	1	6
Hargraves .....	Hargraves .....	23	23	46	15.0	15.6	30.6	171	0	0	3	14	3	378	1	5	554	4	8
Harley Hill .....	Berry .....	15	10	25	11.3	6.8	18.1	91	0	0	3	5	9	1	5	10	95	11	7
Harrington .....	Harrington .....	39	28	67	33.5	22.2	55.7	221	4	4	5	1	5	35	14	11	262	0	8
Hartford .....	Waleha .....	18	13	31	11.7	8.5	20.2	83	0	0	4	5	5	0	10	0	92	15	5
Hartley .....	Hartley .....	13	19	32	7.8	11.7	19.5	125	0	0	3	7	3	44	7	4	172	14	7
Hartley Vale .....	Hartley Vale .....	78	65	143	58.8	51.3	110.1	323	11	8	8	18	11	67	3	6	404	14	1
Harwood Island ..	Harwood Island ..	66	73	139	47.2	51.8	102.0	334	0	1	10	1	11	39	2	2	353	4	2
Hawkesbury, Lower	Wiseman's Ferry ..	11	9	20	9.2	7.0	16.2	113	0	0	3	16	6	5	8	4	122	4	10
Hawkins' Creek ..	Burraba .....	20	20	40	17.7	13.2	30.9	136	0	0	5	0	7	3	18	10	144	19	5
Hay .....	Hay .....	213	220	433	131.4	126.7	258.1	828	8	3	16	12	5	43	12	11	835	4	4
Heathcote .....	Heathcote .....	7	16	23	4.2	10.2	14.4	135	8	4	2	9	10	11	5	10	149	4	0
Helensburgh .....	Helensburgh .....	176	176	352	126.5	116.6	243.1	596	2	7	19	7	9	36	7	5	652	3	11
Henty .....	Henty .....	31	34	65	18.2	19.1	37.3	171	0	0	8	7	7	9	2	4	206	1	10
Hernaui .....	Guy Fawkes .....	17	14	31	11.7	9.3	21.0	113	0	0	3	11	6	13	15	10	133	19	4
Heron's Creek .....	Kew .....	16	12	28	13.8	10.7	24.5	100	10	0	2	3	9	102	13	9	120	13	9
Hexham .....	Hexham .....	37	43	80	27.6	31.2	58.8	244	13	6	6	16	4	6	9	11	260	2	6
Hibbard .....	Port Macquarie ..	26	33	59	19.9	24.8	44.7	188	10	2	6	0	3	29	0	10	225	12	9
Hickey's Creek ..	Toorooka .....	16	10	26	13.7	7.6	21.3	88	0	0	4	16	7	0	10	0	93	6	7
Hill Crest .....	Kangaroo Valley ..	9	17	26	7.0	13.1	20.1	113	0	0	3	2	1	1	5	10	117	7	11
Hill End .....	Hill End .....	107	78	185	76.3	52.3	128.6	387	15	0	8	6	4	64	15	6	474	7	4
Hillgrove .....	Hillgrove .....	203	206	412	154.3	152.5	306.8	615	0	0	37	0	11	286	1	5	638	2	4
Hillmont .....	Marengo .....	14	18	32	8.3	12.0	20.3	113	0	0	3	10	10	14	5	10	130	16	8
Hill Plain .....	Deniliquin .....	23	20	40	13.1	18.7	31.8	136	6	0	7	1	6	182	16	0	325	17	6
Hillston .....	Hillston .....	59	59	118	39.0	42.8	81.8	346	4	0	9	16	3	84	17	11	447	1	5
Hill Top .....	Hill Top .....	4	8	12	2.6	5.1	7.7	54	15	6	1	0	10	55	16	4	55	16	4
Hill View .....	Ualla .....	12	6	18	11.3	5.3	16.6	63	0	0	2	17	8	1	0	0	71	17	8
Hinton .....	Hinton .....	61	64	127	49.3	52.0	100.3	263	5	0	4	14	3	127	6	9	395	6	0
Hobby's Yards ..	Hobby's Yards .....	12	16	28	6.1	8.8	14.9	148	0	0	4	5	0	64	6	4	216	11	4
Holdsworth .....	Liverpool .....	18	11	29	13.5	9.9	23.4	125	0	0	3	9	4	11	8	10	139	18	2
Holmwood .....	Cowra .....	29	23	52	13.3	10.4	23.7	136	0	0	3	4	3	5	0	10	144	5	1
Holy Camp* .....	Grenfell .....	5	11	16	3.4	8.1	11.5	30	0	0	0	9	3	30	9	3	30	9	3
Homebush .....	Homebush .....	152	98	250	98.7	58.9	157.6	428	8	0	21	9	2	36	17	1	483	14	3
Homeville .....	West Maitland .....	114	114	228	72.6	72.8	145.4	440	1	8	9	13	8	64	6	2	514	1	6
Hopefield .....	Corowa .....	10	14	24	7.6	13.2	20.8	125	0	0	0	17	4	4	15	10	130	13	2
Hornsby .....	Hornsby .....	31	22	53	26.3	17.0	43.3	159	0	0	5	0	8	31	14	10	195	15	6
Hornsby Junction..	Hornsby Junction..	103	90	193	77.1	63.1	140.2	434	15	3	13	8	8	74	1	11	525	19	9
Horseshoe Bend ..	West Maitland .....	45	35	80	34.5	22.8	57.3	195	16	8	4	14	3	61	16	11	262	7	10
Hoskins' Town ..	Hoskins' Town .....	17	10	27	11.2	7.0	18.2	114	11	8	3	7	4	9	9	10	127	8	10
Howell .....	Moorvatba .....	12	13	25	7.4	9.6	17.0	125	0	0	2	17	8	110	0	10	237	18	6
Howlong .....	Howlong .....	28	17	45	23.2	12.9	36.1	148	0	0	4	3	9	24	13	8	176	17	5
Hoxton Park .....	Hoxton Park .....																		

APPENDIX VII—continued.

Name of School	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.														
		Boys	Girls	Total.	Boys	Girls	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.										
								£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
Hunter's Hill .....	Hunter's Hill .....	57	51	108	36.7	26.8	63.5	285	0	0	6	14	5	.....	.....	14	2	9	305	17	2	
Huntingdon... ..	Huntingdon... ..	13	18	31	10.1	11.2	21.3	88	0	0	3	8	3	.....	.....	1	15	10	93	4	1	
Huon .....	Jindera .....	5	13	18	4.0	9.6	13.6	88	0	0	2	4	8	.....	.....	0	7	6	90	12	2	
Hurlstone .....	Ashfield .....	.....	162	162	.....	98.9	98.9	406	5	2	11	16	4	.....	.....	548	1	11	966	3	5	
Hurstville .....	Hurstville.....	326	279	605	222.4	191.2	413.6	1,287	8	1	27	16	7	0	9	9	171	1	3	1,486	15	8
Hurstville West ..	Hurstville.....	88	81	169	64.7	58.6	123.3	422	13	4	8	10	1	3	9	8	53	12	2	488	5	3
Huskisson North...	Tomerong .....	7	14	21	5.6	8.8	14.4	125	0	0	3	8	2	.....	.....	2	5	10	130	14	0	
Ilford .....	Ilford .....	35	25	60	24.5	15.7	40.2	155	13	4	3	17	0	.....	.....	88	13	4	248	3	8	
Illabo .....	Illabo .....	26	22	48	18.6	12.4	31.0	171	0	0	3	10	1	.....	.....	2	18	4	177	8	5	
Iluka .....	Iluka .....	22	14	36	18.7	12.2	30.9	136	0	0	5	3	11	.....	.....	1	5	10	142	9	9	
Ingleburn .....	Ingleburn .....	50	48	98	38.4	33.1	71.5	285	0	0	5	14	7	.....	.....	7	11	11	298	6	6	
Inverell .....	Inverell .....	202	163	365	133.3	108.1	241.4	782	5	11	31	17	2	22	19	9	25	5	4	862	8	2
Iona .....	Woodville.....	34	17	51	26.9	13.6	40.5	213	18	5	8	1	5	.....	.....	21	11	1	243	10	11	
Irene .....	Rockley .....	10	7	17	4.3	5.1	9.4	88	0	0	2	18	3	.....	.....	1	15	1	92	13	4	
Ironbong .....	Bethungra .....	12	12	24	6.1	5.8	11.9	81	6	8	3	1	0	.....	.....	6	0	0	90	7	8	
Irrington .....	Casino .....	23	21	44	17.7	16.7	34.4	171	0	0	4	3	9	.....	.....	33	7	2	208	10	11	
Isabella .....	Burruga .....	7	15	22	6.6	13.4	20.0	116	16	8	4	1	0	1	5	0	1	9	7	123	12	3
Islington .....	Wickham .....	212	193	405	145.3	125.9	271.2	847	18	4	16	1	10	.....	.....	62	9	1	926	9	3	
Ivanhoe .....	Ivanhoe .....	13	11	24	8.4	6.7	15.1	22	9	0	3	1	3	7	0	0	0	4	0	32	14	3
Jacob & Joseph Creek	Qurindri .....	10	13	23	8.8	11.1	19.9	116	0	0	3	6	6	3	12	3	5	15	1	128	13	10
Jaqua .....	Bungonia .....	8	9	17	4.4	5.7	10.1	92	3	4	2	11	3	0	11	11	2	4	10	97	11	4
Jamberoo .....	Jamberoo .....	45	44	89	25.8	24.2	50.0	224	2	4	6	13	7	0	9	10	6	6	11	237	12	8
Jasper .....	Federal .....	19	12	31	9.0	15.1	24.1	113	0	0	2	7	10	.....	.....	24	9	8	139	17	6	
Jasper's Brush .....	Jasper's Brush.....	37	32	69	24.1	20.6	44.7	285	0	0	5	8	10	0	16	0	10	8	0	301	12	10
Jellatt Jellatt .....	Bega .....	14	23	37	9.2	15.9	25.1	160	10	0	4	19	9	.....	.....	14	15	10	180	5	7	
Jembaicumbene ..	Jembaicumbene ..	21	25	46	11.9	18.1	30.0	148	0	0	4	12	0	.....	.....	19	10	10	172	2	10	
Jenkins .....	Nangus .....	16	17	33	7.2	7.7	14.9	88	0	0	4	12	11	.....	.....	2	0	10	94	13	9	
Jennings .....	Wallangarra (Q.)...	20	16	36	15.6	12.0	27.6	163	0	0	4	12	4	.....	.....	3	15	10	171	8	2	
Jerilderie... ..	Jerilderie .....	56	46	102	37.5	30.9	68.4	249	12	7	8	10	4	.....	.....	10	19	5	269	2	4	
Jerrara .....	Jerrara .....	14	12	26	11.2	9.9	21.1	125	0	0	5	6	7	.....	.....	1	17	10	132	4	5	
Jerrawa .....	Jerrawa .....	13	19	32	9.2	9.5	18.7	148	0	0	5	7	9	.....	.....	6	2	10	139	10	7	
Jerrunga .....	Kangaroo Valley ..	9	8	17	6.8	5.0	11.8	113	0	0	3	5	8	.....	.....	1	15	10	118	1	6	
Jerry's Plains .....	Jerry's Plains .....	25	27	52	19.2	20.1	39.3	171	0	0	4	16	2	.....	.....	53	0	10	228	17	0	
Jesmond .....	Lambton .....	119	103	222	84.1	68.0	152.1	428	13	4	4	5	5	0	18	4	38	17	7	472	14	8
Jilliby Jilliby .....	Jilliby Jilliby .....	20	17	37	12.1	11.0	23.1	136	0	0	4	5	6	.....	.....	5	10	10	145	16	4	
Jindabyne .....	Jindabyne .....	12	12	24	7.3	7.1	14.4	80	9	2	1	11	3	.....	.....	13	13	4	95	4	7	
Jindalee .....	Jindalee .....	15	15	30	11.1	11.5	22.6	125	0	0	2	5	5	.....	.....	1	15	10	129	1	3	
Jindalee West .....	Cootamundra .....	15	10	25	9.0	5.6	14.6	123	8	4	3	17	5	.....	.....	8	13	1	135	18	10	
Jindera .....	Jindera .....	17	19	36	8.0	9.3	17.3	148	0	0	0	10	3	.....	.....	2	0	10	150	11	1	
Jingellic .....	Jingellic .....	16	9	25	10.2	3.8	14.0	113	0	0	3	18	1	.....	.....	24	8	4	141	6	5	
Joadja .....	Joadja .....	27	30	57	17.0	17.9	34.9	187	2	9	4	2	4	.....	.....	7	16	11	199	2	0	
Johnson's Creek ..	Weismantle .....	13	11	24	10.8	11.8	22.6	113	0	0	4	4	9	.....	.....	1	15	10	119	0	7	
John's River .....	Taree .....	7	9	16	6.2	7.1	13.3	88	0	0	1	9	9	.....	.....	1	15	10	91	5	7	
Jones' Creek .....	Gundagai .....	25	18	43	8.9	14.9	23.8	106	15	0	7	5	11	.....	.....	21	15	0	135	15	11	
Jugiong .....	Jugiong .....	38	16	54	27.5	12.6	40.1	171	0	0	5	7	2	.....	.....	3	0	4	179	7	6	
Junction .....	Trunkey Creek ..	13	10	23	11.8	8.3	20.1	88	0	0	0	14	6	.....	.....	88	10	5	177	4	11	
June .....	June .....	169	159	328	112.4	101.2	213.6	716	10	1	27	8	10	2	3	0	575	17	6	1,321	19	5
June, Old .....	Old June .....	18	16	34	11.7	12.7	24.4	148	0	0	4	0	6	.....	.....	1	15	10	153	16	4	
June Reefs .....	June .....	27	18	45	16.1	8.1	24.2	109	6	8	2	15	8	2	4	0	1	9	5	115	15	9
Kameruka .....	Candelo .....	16	9	25	13.1	7.0	20.1	94	3	4	3	6	0	.....	.....	2	13	5	100	2	9	
Kangaloon .....	Kangaloon .....	32	26	58	23.8	21.6	45.4	165	5	0	3	15	11	.....	.....	145	3	4	314	4	3	
Kangaloon, East ..	Robertson .....	22	19	41	16.4	14.6	31.0	148	0	0	2	1	8	.....	.....	100	14	1	250	15	9	
Kangaroo River ..	Kangaroo River ..	15	21	36	9.1	15.2	24.3	113	0	0	4	16	7	.....	.....	1	15	10	119	12	5	
Kangaroo Valley ..	Kangaroo Valley ..	44	30	74	33.7	23.9	57.6	285	0	0	5	2	4	7	19	3	237	17	10	535	19	5
Karangi .....	Karangi .....	26	29	55	20.6	23.2	43.8	141	15	0	5	9	6	.....	.....	1	15	10	149	0	4	
Katoomba .....	Katoomba .....	127	116	243	87.4	73.0	160.4	445	10	0	14	12	6	.....	.....	462	3	9	922	6	3	
Kayuga .....	Kayuga .....	18	16	34	12.1	11.1	23.2	142	17	6	4	6	11	11	17	0	187	5	10	346	7	3
Keerong .....	Lismore .....	10	10	20	6.1	7.5	13.6	88	0	0	3	0	6	.....	.....	16	10	4	107	10	10	
Kegworth .....	Leichhardt .....	378	363	741	268.4	249.5	517.9	1,634	10	5	46	13	8	0	14	0	319	1	4	2,000	19	5
Keiraville .....	Wollongong .....	76	45	121	54.8	31.7	86.5	293	15	3	6	12	10	.....	.....	22	14	5	323	2	6	
Keirson .....	Tarana .....	19	16	35	10.2	8.7	18.9	88	0	0	3	4	8	.....	.....	0	15	0	91	19	8	
Kelly's Plains .....	Kelly's Plains .....	29	22	51	20.0	16.4	36.4	147	12	1	4	7	1	.....	.....	154	15	10	306	15	0	
Kellyville .....	Kellyville .....	37	48	85	27.1	38.0	65.1	213	18	6	13	13	8	.....	.....	825	15	8	1,053	7	10	
Kelso .....	Kelso .....	66	56	122	44.8	38.9	83.7	329	10	0	9	11	6	.....	.....	11	1	6				

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.														
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.		Books, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.									
								£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
King's Plains	Blayney	29	22	51	19.2	15.9	35.1	148	0	0	5	7	2				3	14	4	157	1	6
Kingswood	Kingswood	36	32	68	26.3	22.4	48.7	185	11	8	5	15	10				18	17	4	210	4	10
Kiora	Kiora	15	11	26	11.1	8.7	19.8	125	0	0	2	17	1				8	8	4	136	5	5
Kirkton	Belford	39	29	68	27.0	24.5	51.5	223	1	6	5	17	6				22	13	6	251	12	6
Kogarah	Kogarah	520	417	937	406.0	313.0	719.0	1,953	0	0	55	5	5	5	1	1	1,075	15	5	3,089	1	11
Kookabookra	Kookabookra	5	11	16	4.6	10.0	14.6	135	8	4	1	6	5				29	8	4	166	3	1
Koorawatha	Koorawatha	36	35	71	18.4	15.4	33.8	242	11	1	6	15	4				20	2	0	269	8	5
Koppin Yarratt	Central Lansdowne	25	18	43	17.1	14.2	31.3	148	0	0	1	12	6				7	8	11	157	1	5
Koribahk	Nabiac	32	20	52	25.3	15.1	40.4	169	0	0	3	0	10	2	2	0	11	8	8	185	11	6
Kowen	Queanbeyan	11	10	21	8.6	7.9	16.5	88	0	0	3	15	5	1	17	0	15	6	6	103	18	11
Krambach	Krambach	21	16	37	18.0	13.8	31.8	148	0	0	4	19	1				85	15	4	238	14	5
Kurrajong, North	Kurrajong	38	40	78	29.0	28.3	57.3	232	7	3	8	3	5				7	1	11	247	12	7
Kurrajong, South	Grose Vale	24	20	44	17.4	13.4	30.8	125	0	0	4	16	10				1	16	4	131	13	2
Kurrara	Chinderah	16	15	31	9.7	7.0	16.7	88	0	0	3	10	9							91	10	9
Kydra	Nimitybelle	15	14	29	10.2	11.1	21.3	82	11	8	4	16	10				57	4	0	144	12	6
Kyogle	New Park	24	13	37	20.8	9.7	30.5	135	8	4	4	14	8				13	15	10	163	18	10
Laemalac	Tumut	16	11	27	11.3	8.5	19.8	88	0	0	3	15	11				1	0	0	92	15	11
Laggan	Laggan	15	12	27	10.8	9.0	19.8	125	0	0	3	7	10				1	15	10	130	3	8
Lagoon	The Lagoon	19	25	44	13.4	19.9	33.3	185	11	8	5	15	11				9	2	9	200	10	4
Laguna	Laguna	11	21	32	6.5	11.9	18.4	125	0	0	4	6	8				4	14	4	134	1	0
Lake Albert	Wagga Wagga	33	37	70	25.3	27.5	52.8	274	3	4	4	12	8	23	13	6	441	7	2	743	16	8
Lake Bathurst	Lake Bathurst	22	13	35	19.1	11.0	30.1	142	5	0	2	2	9				2	5	10	146	13	7
Lake Cudgellico	Lake Cudgellico	46	38	84	33.8	22.7	56.5	226	10	0	5	18	11				22	6	11	254	5	10
Lakelands	The Oaks	16	8	24	12.3	5.9	18.2	114	10	3	1	4	5	2	5	9	17	0	5	135	0	10
Lalla Rookh	Yerong Creek	13	6	19	8.0	4.1	12.1	106	15	0	3	2	8				1	18	10	111	16	6
Lambing Hill	Goolma	6	11	17	4.8	8.1	12.9	125	0	0	2	15	6				1	15	10	129	11	4
Lambton	Lambton	258	287	545	180.9	192.2	373.1	1,340	4	9	27	4	8	1	4	4	90	6	7	1,460	0	4
Lamorna	Hay	31	24	55	18.3	13.4	31.7	156	5	0	5	1	0				16	18	9	178	4	9
La Perouse	La Perouse	11	5	16	8.2	3.8	12.0	72	0	0	4	6	10				5	19	9	82	6	7
Largs	Largs	48	43	91	34.6	34.3	68.9	256	13	4	11	0	3				163	8	10	436	2	5
Laughtondale	Wiseman's Ferry	14	7	21	11.7	4.3	16.0	113	0	0	4	5	0	2	15	0	2	2	6	222	2	6
Laurieton	Laurieton	65	49	114	50.6	35.2	85.8	244	15	8	9	7	8	3	8	0	275	16	11	533	8	3
Lavadia	Ulmara	28	13	41	17.5	10.4	27.9	127	10	0	6	0	8				123	17	10	262	8	6
Lawrence	Lawrence	65	63	128	47.4	47.2	94.6	320	18	6	8	18	3	1	6	0	9	18	5	341	1	2
Lawrence, Lower	Laurence	20	20	40	9.6	10.5	20.1	148	0	0	3	5	10				37	6	4	188	12	2
Lawson	Lawson	42	40	82	26.3	25.7	52.0	301	13	4	5	17	3				61	18	7	369	9	2
Lawson's Creek	Mudgee	20	27	47	11.6	18.7	30.3	148	0	0	4	6	10				12	16	4	165	3	2
Leadville	Leadville	28	38	66	16.8	26.3	43.1	164	13	6	5	9	5				6	16	11	176	19	10
Leech's Gully	Tenterfield	20	20	40	14.6	15.5	30.1	130	0	0	4	10	5				9	10	0	144	10	5
Leichhardt	Leichhardt	759	760	1,519	566.0	534.3	1100.3	3,007	17	9	92	13	8	19	11	3	3,101	11	4	6,221	14	0
Leichhardt, West	Leichhardt	443	317	760	331.2	218.8	550.0	1,837	11	8	31	4	8				215	18	5	2,084	14	9
Lerida	Collector	17	13	30	11.5	8.7	20.2	113	0	0	2	9	11	1	13	9	2	0	10	119	4	6
Lewis Ponds	Lewis Ponds	38	30	68	28.9	21.5	50.4	224	13	7	6	6	0				6	16	11	237	16	6
Lilydale	Candelo	20	18	38	10.7	10.8	21.5	148	0	0	4	13	10				19	15	10	172	9	8
Linburn	Linburn	25	27	52	18.1	20.0	38.1	171	0	0	3	17	9				82	15	10	257	13	7
Lindendale	Wollongbar	21	12	33	13.9	8.3	22.2	126	8	4	4	16	3				1	7	10	132	12	5
Lismore	Lismore	303	263	571	210.4	172.4	382.8	1,133	18	0	31	18	4	8	15	8	704	11	9	1,879	3	9
Lithgow	Lithgow	379	372	751	265.9	243.5	509.4	1,733	15	6	28	11	8	0	15	4	492	15	0	2,255	17	6
Little Coogee	Waverley	56	45	101	39.8	31.0	70.8	210	3	10	3	17	4				55	7	10	269	9	0
Little Plain	Inverell	30	24	54	20.8	16.1	36.9	207	4	9	5	0	3				86	12	11	298	17	11
Liverpool	Liverpool	187	174	361	114.7	93.5	208.2	950	12	9	20	5	5	0	14	5	150	10	3	1,122	2	10
Llandilo	Penrith	18	16	34	10.7	10.6	21.3	160	10	0	3	12	4				16	15	10	180	18	2
Lochiel	Pambula	22	22	44	14.6	16.5	31.1	155	13	4	3	3	0				30	0	10	188	17	2
Lochinvar	Lochinvar	26	28	54	18.8	21.3	40.0	195	0	0	5	14	5				78	11	5	279	5	10
Lockhart	Lockhart	34	38	72	21.7	22.0	43.7	165	0	0	6	5	3				718	12	11	889	18	2
Lockwood	Canowindra	10	24	34	4.8	13.5	18.3	88	0	0	5	9	10				57	8	1	150	17	11
Long Reach	Marulan	17	12	29	13.0	9.0	22.0	91	0	0	3	4	11				13	12	5	107	17	4
Longueville	Longueville	26	25	51	15.5	13.7	29.2	171	0	0	5	4	8				19	10	0	195	14	8
Lorne	Kendall	17	11	28	14.7	8.6	23.3	88	0	0	2	12	1				47	0	0	137	12	1
Lostock	Lostock	14	17	31	10.8	11.8	22.6	125	0	0	4	4	0				2	7	0	131	11	0
Lost River	Wheeo	23	11	34	13.8	6.5	20.3	113	0	0	4	6	2				1	15	10	119	2	0
Louth	Louth	5	12	17	3.2	7.4	10.6	159	18	1	3	7	1				10	8	7	173	13	9
Lowesdale	Lowesdale	25	12	37	20.7	9.4	30.1	88	0	0	3	15	11				6	15	10	98	11	9
Lucknow	Lucknow	173	131	304	120.6	81.6	202.2	500	2	9	6	19	1				106	13	0	613	14	10
Luddenham	Luddenham	35	19	54	18.7	7.3	26.0	182	6	8	4	2	4	1	13	10	1	15	10	189	18	8
Luskintyre	Lochinvar	13	14	27	10.3	10.9	21.2	122	8	4	6	2	1	1	14	6	17	12	10	147	17	9
Lyndhurst	Lyndhurst	17	21	38	13.3	15.9	29.2	148	0	0	3	17	4				8	2	10	160	0	2
McDonald, Central	Central McDonald	17	19	36	16.6	14.3	30.9	120	13	4	4	3	2				1	15	10	126	12	4
McDonald, Upper	Upper McDonald	13	23	36	10.1	19.1	29.2	125	0	0	6	9	6				1	15	10	133	5	4
McHenry's Creek	Young	18	17	35	11.2	11.5	22.7	164	16	8	3	3	2				1	15	10	159	15	8
McLean's Ridges	Wollongbar	17	11	28	14.5	8.0	22.5	125	0	0	3	6	10				1	5	10	129	12	8
McPhail	McPhail	42	51	93	31.9	37.3	69.2	261	3	4	21	2	3	3	6	3	27	16	0	313	7	10
Macleay Entrance	Arakoon	39	26	65	26.9	16.7	43.6	185	11	8	5	3	11				172	15	1	363	10	8
Macksville	Macksville	36	28	64	24.2	18.7	42.9	229	4	1	5	4	7		</							



## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls			Average Weekly Attendance			Expenditure from Public Funds.														
		Boys	Girls	Total	Boys	Girls	Total	Salaries		Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.									
								£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.			
Malebo	Malebo	14	17	31	10.5	12.4	22.9	125	0	0	3	12	2	5	0	0	35	0	10	168	13	0
Maluendri	Wollbrook	15	26	41	9.1	13.4	22.5	169	16	8	3	16	11				178	2	9	351	16	4
Manchester Square	Moss Vale	9	9	18	6.7	6.5	13.2	72	0	0	3	5	11				15	7	6	91	13	5
Mandurama	Mandurama	46	40	86	34.0	27.7	61.7	267	0	0	4	13	1	1	11	3	40	11	3	313	15	7
Mangamore	Goulburn	11	12	23	7.4	9.5	16.9	88	0	0	3	17	6				0	10	0	92	7	6
Mangrove Creek	Mangrove Creek	14	5	19	10.4	4.0	14.4	125	0	0	3	17	3	12	12	8	1	5	10	142	15	9
Mamie's Creek	Walcha	14	8	22	10.4	6.8	17.2	91	0	0	4	4	0				1	15	10	96	19	10
Mamildra	Mamildra	17	21	38	12.1	16.5	28.6	180	8	4	3	5	1				55	0	8	238	14	1
Manilla	Manilla	89	80	169	47.9	40.7	88.6	324	8	4	12	5	11				16	14	7	353	8	10
Manilla, Upper	Upper Manilla	15	14	29	8.4	8.5	16.9	96	0	0	4	6	4	2	19	3	3	11	4	106	16	11
Manly	Manly	283	232	515	175.0	148.8	323.8	1,035	9	5	45	8	6	9	7	3	667	19	11	1,758	5	1
Manton	Yass	17	18	35	10.5	10.7	21.2	123	5	0	4	14	10	2	18	6	21	2	10	157	1	2
Marangulla	Lyndhurst	8	5	13	5.4	2.7	8.1	125	0	0	3	18	10				10	12	10	139	11	8
March	March	31	22	53	15.1	10.4	25.5	171	0	0	4	0	7				9	15	10	184	16	5
Marengo	Marengo	33	38	71	20.6	21.7	42.3	171	0	0	3	17	9				109	3	7	284	1	4
Markwell	Bulahdelah	19	15	34	10.0	9.1	19.1	88	0	0	5	3	11				33	0	4	126	4	3
Marlee	via Wingham	16	9	25	12.8	7.7	20.5	115	15	0	6	17	6	11	17	10	3	7	0	137	17	4
Maroota	Pitt Town	16	14	30	11.8	11.2	23.0	143	18	4	5	0	9				9	12	6	158	11	7
Marrangaroo	Marrangaroo	21	25	46	13.1	16.4	29.5	148	0	0	3	11	2				6	15	10	158	7	0
Marrar	Old Junee	11	15	26	7.4	11.4	18.8	84	0	0	3	14	7				1	16	2	93	10	9
Marrickville	Marrickville	541	492	1,033	107.6	83.8	191.4	2,458	18	0	77	3	11	0	13	0	93	14	1	2,630	9	0
Marrickville, West	Marrickville	307	284	591	15.1	19.5	34.6	1,531	0	6	36	14	1				127	16	7	1,695	11	2
Marsden	Marsden's	19	15	34	14.9	11.0	25.9	155	11	8	5	2	6	4	10	0	4	3	0	169	7	2
Marsden Park	Marsden Park	40	28	68	32.1	18.8	50.9	270	13	4	7	14	1				43	14	0	322	1	5
Marshall Mount	Marshall Mount	12	26	38	8.4	19.5	27.9	161	8	3	3	7	11	2	3	9	28	5	10	195	5	9
Martindale*	Corowa	5	5	10	3.8	4.7	8.5	29	10	6				3	0	0	1	12	10	34	3	4
Martin's Creek	Paterson	10	11	21	7.3	8.2	15.5	102	11	10	4	15	7	1	7	0	0	10	0	109	4	5
Martinsville	Cooranbong	22	20	42	16.5	16.1	32.6	149	13	4	5	11	6				1	15	10	107	5	8
Marulan	Marulan	33	35	68	19.6	21.6	41.2	214	18	8	4	7	2	0	10	8	27	1	11	246	18	5
Maryland	Maryland	14	15	29	9.9	10.6	20.5	88	0	0	4	14	6				44	15	10	137	10	4
Maryvale	Maryvale	31	15	46	23.7	12.7	36.4	195	0	0	4	0	7				6	6	11	205	7	6
Mathoura	Mathoura	50	60	110	35.0	46.6	81.6	179	0	9	8	2	3				8	17	0	195	19	3
Maude	Maude	15	11	26	10.1	6.7	16.8	72	0	0	2	16	0	2	4	3	1	0	0	78	0	3
May Villa	Carlingford	17	37	54	9.5	21.7	31.2	171	0	0	6	7	3	0	16	6	1	15	10	179	19	7
Meadow Flat	Meadow Flat	12	20	32	8.7	12.6	21.3	125	0	0	3	6	2				3	18	4	132	4	6
Meadows, The	Seven Hills	39	29	68	28.5	22.3	50.8	231	0	0	5	8	3				373	6	4	609	14	7
Medowie	Raymond Terrace	14	14	28	10.7	10.8	21.5	113	0	0	4	10	3				10	10	8	128	0	11
Meerscham Vale	Wardell	35	31	66	24.2	18.7	42.9	159	0	0	5	1	0				1	15	10	165	16	10
Menah	Mudgee	13	7	20	9.3	5.0	14.3	83	0	0	4	3	7				9	17	6	102	1	1
Menangle	Menangle	27	19	46	20.3	15.0	35.3	169	1	8	4	5	8				59	18	0	233	5	4
Menindee	Menindee	35	24	60	27.6	18.8	46.4	327	17	6	5	8	1	9	14	6	8	14	11	351	15	0
Meraburn	Meraburn	29	17	46	17.9	12.4	30.3	143	0	0	3	4	8				128	5	10	279	10	6
Merannie	Singleton	14	14	28	12.0	12.4	24.4	142	5	3	3	7	2	1	15	9	16	5	10	143	14	0
Merewether	Merewether	187	155	342	134.5	105.3	239.8	551	11	11	14	13	11				123	0	0	689	5	10
Meilla	Breadalbane	16	18	34	9.2	10.1	19.3	125	0	0	4	15	8				85	19	10	215	15	6
Merimbula	Merimbula	21	17	38	18.9	12.7	31.6	189	13	4	3	1	6				140	7	10	333	2	8
Meringo	Numbuggy	21	13	34	13.3	8.6	21.9	148	0	0	3	17	0				5	8	4	157	5	4
Meroo	Nowra	26	30	56	29.3	22.4	42.7	178	8	8	4	5	2				420	17	7	603	11	5
Merrendee	Merrendee	19	8	27	13.1	5.0	18.1	125	0	0	4	3	7				8	10	10	137	14	5
Merriwa	Merriwa	27	29	56	16.1	15.3	31.4	171	0	0	3	18	10				101	4	3	276	3	1
Metz	Metz	85	76	161	65.5	59.7	125.2	303	7	4	12	3	10				77	6	11	392	18	1
Michelago	Michelago	25	12	40	17.0	7.4	24.4	148	0	0	4	9	1				76	4	4	228	13	5
Middle Dural	Dural	14	13	27	10.8	10.5	21.3	113	0	0	2	14	10				1	15	10	117	10	8
Middle Fallbrook	Glenmie's Creek	10	13	23	5.8	9.2	15.0	125	0	0	1	12	4				6	5	10	132	18	2
Mila	Bombala	7	13	20	4.8	7.7	12.5	135	8	4	3	19	7				11	15	10	151	3	9
Milbrulong	The Rock	23	5	28	16.1	3.8	19.9	122	8	4	5	0	9				15	15	10	143	4	11
Milburn Creek	Wood-tock	9	18	27	5.5	12.9	18.4	125	0	0	1	5	1				9	4	2	135	9	3
Miller's Forest	Miller's Forest	34	27	61	24.6	18.6	43.2	153	15	0	7	5	0	8	9	0	156	13	4	326	2	4
Millfield	Millfield	22	19	41	16.6	14.4	31.0	125	0	0	5	0	11				29	0	7	159	1	6
Milngandi	Pambula	19	9	28	13.3	6.3	19.6	100	10	0	2	5	5	2	0	0	2	1	10	106	17	3
Millsville	Mudgee	10	18	28	5.5	12.4	17.9	113	0	0	3	4	5				22	11	4	133	15	9
Millthorpe	Millthorpe	89	68	157	58.6	47.7	106.3	412	0	0	12	19	5				10	16	5	435	14	10
Milthorpe	Bathurst	143	123	266	94.5	73.3	167.8	578	2	11	19	7	2	2	6	9	24	19	5	624	16	3
Milong	Young	8	14	22	5.1	9.6	14.7	113	0	0	3	3	9				5	15	10	121	19	7
Milton	Milton																					

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys	Girls	Total.	Boys	Girls	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
								£ s d.	£ s d.	£ s d.	£ s d.	£ s d.
Molong .. .. .	Molong .. .	97	91	188	73.6	62.7	136.3	384 0 0	10 8 6	.....	35 13 11	430 2 5
Mondrook .. .	Linonee .. .	12	9	21	10.9	8.4	19.3	113 0 0	0 19 4	.....	14 15 10	128 15 2
Mongarlowe .. .	Mongarlowe .. .	17	19	36	12.8	13.0	25.8	148 0 0	4 14 0	.....	60 15 10	213 9 10
Monkera .. .	Monkera .. .	14	7	21	11.2	3.4	16.6	103 0 0	4 9 3	.....	10 7 4	117 16 7
Monteagle .. .	Monteagle .. .	20	25	45	9.4	15.1	24.5	171 0 0	4 15 8	.....	3 0 4	178 16 0
Moan Brook .. .	Moan Brook .. .	25	21	46	19.3	15.6	34.9	148 0 0	4 13 1	.....	2 5 10	14 18 11
Moan Flat .. .	Gundy .. .	12	11	23	8.0	8.8	16.8	88 0 0	3 19 8	.....	4 8 10	96 8 6
Moonbah .. .	Jindabyne .. .	11	20	31	7.4	13.8	21.2	103 11 8	1 19 4	3 19 3	120 0 6	229 10 5
Moonbi .. .	Moonbi .. .	31	15	46	20.4	9.9	30.3	113 0 0	2 19 7	.....	4 10 10	120 10 9
Moor Creek .. .	Tamworth .. .	31	15	46	20.4	9.9	30.3	148 0 0	4 1 11	.....	9 5 10	161 7 9
Moor Creek .. .	Tamworth .. .	10	19	29	4.1	7.7	11.8	30 3 4	.....	.....	0 11 6	30 14 10
Waterworks*												
Moorfields .. .	Canterbury .. .	37	32	69	22.6	18.7	41.3	171 0 0	4 11 6	.....	41 5 10	216 17 4
Moorilda .. .	Moorilda .. .	13	15	28	8.3	9.5	17.8	148 0 0	4 9 0	.....	2 5 10	154 14 10
Moorland .. .	Moorland .. .	25	26	51	19.5	20.5	40.0	160 10 0	6 3 10	.....	9 8 0	176 1 10
Moorwatha .. .	Howlong .. .	11	14	25	7.3	9.0	16.3	88 0 0	3 5 2	.....	5 7 7	96 12 9
Moree .. .	Moree .. .	109	217	416	125.5	123.6	249.1	607 18 3	12 17 0	2 6 9	215 5 9	840 7 9
Morisset .. .	Morisset .. .	39	33	72	29.7	25.1	54.8	171 0 0	8 17 7	.....	28 1 4	207 18 11
Morongla Creek .. .	Morongla Creek .. .	15	15	30	8.9	9.9	18.8	125 0 0	3 18 5	.....	11 10 4	140 8 9
Mororo .. .	Mororo .. .	14	13	27	10.4	9.5	19.9	125 0 0	3 7 0	.....	2 5 10	130 12 10
Morpeth .. .	Morpeth .. .	114	79	193	87.2	63.7	150.9	379 17 0	8 14 5	.....	33 1 5	421 12 10
Mortdale .. .	Mortdale .. .	93	90	183	50.8	52.0	102.8	563 10 0	12 7 6	2 3 5	105 4 7	683 5 6
Mortlake .. .	Mortlake .. .	41	32	73	23.1	20.0	43.1	265 5 0	6 15 0	.....	31 5 5	303 5 0
Morundah .. .	Morundah .. .	15	21	36	8.1	12.3	20.4	113 0 0	3 14 2	.....	1 5 10	118 0 5
Morungulan .. .	Dripstone .. .	17	24	41	13.6	19.7	33.3	148 0 0	3 6 2	.....	1 15 10	153 2 0
Moruya .. .	Moruya .. .	75	70	145	47.4	43.5	90.9	347 18 11	8 5 9	21 11 6	48 2 2	425 18 4
Mosquito Island .. .	Newcastle .. .	34	14	48	27.7	10.0	37.7	171 0 0	4 2 5	.....	23 14 4	198 16 9
Mosman .. .	Mosman .. .	147	123	270	101.3	85.8	187.1	454 16 4	14 11 0	.....	509 1 11	978 9 3
Mossiel .. .	Mossiel .. .	25	15	40	16.1	8.2	24.3	148 0 0	3 8 11	.....	2 5 10	153 14 9
Moss Vale .. .	Moss Vale .. .	68	65	133	60.1	39.8	99.9	353 15 6	6 6 1	25 15 6	20 1 2	405 18 3
Moulamein .. .	Moulamein .. .	22	17	39	14.3	12.1	26.4	173 10 0	1 19 0	.....	83 8 11	258 17 11
Mountain Home .. .	Tarana .. .	9	14	23	6.1	10.3	16.4	135 8 4	3 19 8	.....	12 3 10	151 11 10
Mount Butler .. .	Arndale .. .	13	8	21	9.3	6.1	15.4	72 0 0	3 16 7	.....	14 3 6	90 0 1
Mount Costigan .. .	Mount Costigan .. .	33	23	56	19.8	12.1	31.9	185 11 8	7 4 6	3 10 0	13 0 10	208 7 0
Mount Drysdale .. .	Mount Drysdale .. .	30	32	62	26.5	24.6	51.1	235 0 0	4 8 4	.....	6 17 0	246 5 4
Mount George .. .	Woodside .. .	14	9	23	11.1	7.6	18.7	88 0 0	0 18 9	2 2 0	49 17 6	140 18 3
Mount Gipps .. .	Round Hill .. .	7	8	15	5.7	5.9	11.6	115 0 0	3 11 11	.....	19 11 5	138 3 4
Mount Gwynne .. .	Mulwala .. .	23	17	40	12.8	12.0	24.8	88 0 0	1 0 3	.....	163 13 4	252 13 7
Mount Hope .. .	Mount Hope .. .	17	29	46	15.0	25.7	40.7	130 6 4	5 16 3	14 8 0	54 11 3	265 1 10
Mount Hunter .. .	Mount Hunter .. .	35	22	57	26.4	16.4	42.8	194 14 6	4 2 9	.....	12 13 4	211 10 7
Mount Keira .. .	Wollongong .. .	74	66	140	48.1	40.8	88.9	359 0 7	9 9 4	0 12 8	189 19 4	559 1 11
Mount Kembra .. .	Mount Kembra .. .	104	77	181	76.3	55.7	132.0	327 0 0	8 17 1	.....	8 6 5	344 3 6
Mount Lawson .. .	Judd's Creek .. .	11	15	26	6.0	9.0	15.0	88 0 0	4 4 5	.....	7 3 6	99 7 11
Mount McDonald .. .	Mount McDonald .. .	46	57	103	36.8	44.1	80.9	219 0 0	6 17 7	.....	7 16 11	233 14 6
Mount Mitchell .. .	Mount Mitchell .. .	16	13	29	13.8	9.7	23.5	113 0 0	3 14 7	.....	2 3 4	118 17 11
Mount Mooby .. .	Scone .. .	16	15	31	6.3	7.1	13.4	124 0 3	4 17 3	.....	4 10 10	133 8 4
Mount Pleasant .. .	Bridgeman .. .	12	21	33	7.8	14.6	22.4	88 0 0	4 13 3	.....	63 12 4	156 5 7
Mount Rivers .. .	Linstock .. .	14	10	24	9.7	8.0	17.7	88 0 0	3 16 2	.....	9 13 6	101 19 8
Mount Tamar .. .	Bathurst .. .	13	11	24	10.0	9.1	19.1	113 0 0	3 3 6	.....	2 0 10	118 4 4
Mount Thorley .. .	Singleton .. .	10	8	18	7.8	5.9	13.7	91 0 0	3 16 11	.....	7 5 10	102 2 9
Mount Victoria .. .	Mount Victoria .. .	36	40	76	23.5	24.9	48.4	232 8 0	4 7 9	1 6 2	28 10 0	266 11 11
Mount View .. .	Mount View .. .	23	37	60	14.4	22.8	37.2	156 15 0	6 14 3	27 11 4	60 8 7	251 9 2
Mudgee .. .	Mudgee .. .	290	272	562	207.5	191.8	399.3	1,352 7 4	25 14 11	4 3 6	383 8 7	1,765 14 4
Mudgee, South .. .	Mudgee .. .	45	33	78	26.1	19.2	45.3	154 0 0	3 19 6	.....	51 15 10	214 15 4
Mugincoble .. .	Parkes .. .	11	12	23	5.1	8.6	13.7	113 0 0	3 15 7	.....	1 15 10	118 11 5
Mulbring .. .	Mulbring .. .	37	32	69	26.9	21.4	48.3	235 0 0	6 16 5	8 13 3	18 16 11	269 6 7
Mulgoa .. .	Mulgoa .. .	24	20	44	17.7	16.2	33.9	189 16 8	3 16 8	0 11 3	1 15 10	196 0 5
Mulgoa Forest .. .	The Oaks .. .	19	10	29	14.5	8.8	23.3	125 0 0	3 10 0	5 15 0	6 13 4	140 18 4
Mullamuddy .. .	Mudgee .. .	25	23	48	15.1	10.5	25.6	136 0 0	3 11 4	.....	7 15 10	147 7 2
Mullengandra .. .	Mullengandra .. .	16	11	27	6.9	4.7	11.6	125 0 0	1 13 9	.....	1 15 10	128 9 7
Mullengrove .. .	Wheeo .. .	11	16	27	7.9	13.0	20.9	88 0 0	3 11 0	.....	12 5 10	103 16 10
Mullion Creek .. .	Mullion Creek .. .	22	11	33	14.0	6.2	20.2	136 0 0	3 16 5	.....	1 19 10	141 16 3
Mullumbimby .. .	Mullumbimby .. .	29	39	68	18.9	26.6	45.5	171 0 0	4 14 0	.....	1 5 10	176 19 10
Mulwala .. .	Mulwala .. .	55	53	108	40.7	35.5	76.2	234 13 4	9 19 7	.....	25 18 1	270 11 0
Mulyan .. .	Mulyan Creek .. .	16	14	30	8.6	9.6	18.2	113 0 0	1 17 4	.....	1 13 4	116 10 8
Mumbil .. .	Mumbil .. .	18	26	44	15.2	20.3	35.5	162 10 11	2 10 8	7 10 9	4 15 10	177 8 2
Mumbulla .. .	Bega .. .	14	6	20	11.0	4.5	15.5	88 0 0	2 7 9	.....	15 17 6	106 5 3
Mummel .. .	Mummel .. .	18	8	26	11.6	4.6	16.2	125 0 0	3 14 0	.....	2 9 10	131 3 10
Mundawa .. .	Singleton .. .	14	13	27	10.5	8.5	19.0	113 0 0	3 7 5	.....	4 15 10	121 3 3
Mundongo .. .	Tumut .. .	29	19	48	19.6	13.7	33.3	159 10 0	4 10 10	16 11 6	59 11 7	240 3 11
Mundooran .. .	Mundooran .. .	20	18	38	15.3	14.3	29.6	146 18 4	3 1 7	.....	11 17 6	161 17 5
Munghorn .. .	Cooyal .. .	16	14	30	11.4	10.4	21.8	125 0 0	3 0 5	.....	2 5 10	130 6 3
Mungindi .. .	via Moree .. .	47	31	78	32.3	20.1	52.4	199 17 6	6 14 8	.....	10 13 4	217 5 6
Munni .. .	Bendolba .. .	17	11	28	13.1	7.6	20.7	113 0 0	4 6 10	.....	3 14 10	121 1 8
Munyaba .. .	Henty .. .	11	16	27	6.4	10.4	16.8	66 13 4	3 18 5	4 5 0	2 5 6	77 2 3
Murray's Flats .. .	Goulburn .. .	13	12	25	10.5	10.6	21.1	91 0 0	2 16 8	.....	1 15 10	95 12 6
Murrayville .. .	via Maclean .. .	10	8	18	7.6	5.8	13.4	80 13 4	2 17 9	0 7 0	31 15 9	115 13 10
Murrumboola .. .	Murrumboola .. .	26	11	37	10.1	5.3	15.4	135 8 4	3 2 9	17 5 6	17 15 10	173 12 5
Murroo .. .	Dry Plain .. .	10	18	28	5.7	10.9	16.6	113 0 0	5 5 10	.....	2 5 10	120 11 8
Murrumbidgee .. .	Old Juneo .. .	14	13	27	10.4	7.6	18.0	113 0 0	2 18 8	.....	1 5 0	117 3 8
Murrumbidgee .. .	Yass .. .	24	22	46	13.6	9.3	22.9	148 0 0	4 12 3	.....	26 2 1	178 14 4
Murrumbidgee .. .	Murrumbidgee .. .	31	26	57	23.4	19.3	42.7	171 0 0	1 6 6	.....	1 15 10	174 2 4
Murrumburrah .. .	Murrumburrah .. .	105	109	214	68.2	71.5	139.7	352 0 0	13 12 2	.....	244 18 2	610 10 4

\* Closed, 31st March

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
							£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Murrurundi.....	Murrurundi.....	103	75	178	70.9	45.9	116.8	346 6 8	8 0 2	.....	441 5 4	795 12 2
Murwillumbah.....	Murwillumbah.....	130	128	258	75.3	71.1	146.4	409 15 4	11 16 4	.....	33 14 10	455 6 6
Muscle Creek.....	Muswellbrook.....	14	11	25	8.4	7.6	16.0	88 0 0	4 0 6	.....	8 15 10	100 16 4
Muswellbrook.....	Muswellbrook.....	165	122	287	114.0	79.8	193.8	564 3 4	19 15 6	4 6 9	54 0 6	642 6 1
Muttama.....	Muttama.....	20	22	42	8.0	9.6	17.6	149 0 0	4 11 8	.....	20 8 4	173 0 0
Myalla.....	Cooma.....	8	9	17	5.5	5.8	11.3	72 15 0	1 5 6	3 6 0	12 17 10	90 4 4
Myrangle.....	Camnock.....	15	13	28	10.9	10.0	20.9	119 0 0	3 15 9	.....	7 10 10	130 6 7
Myra Vale.....	Myra Vale.....	20	15	35	13.4	10.7	24.1	171 0 0	3 15 11	.....	2 10 4	177 6 3
Myrtle Creek.....	Picton.....	8	8	16	6.0	6.5	12.5	88 0 0	3 1 7	.....	.....	91 1 7
Myrtleville.....	Myrtleville.....	15	11	26	12.4	6.3	18.7	113 0 0	2 2 1	.....	1 15 10	116 17 11
Nambucca Heads.....	Nambucca Heads.....	33	44	77	25.9	33.6	59.5	231 0 0	5 12 1	.....	3 17 6	240 9 7
Nambucca, Lower.....	Macksville.....	6	14	20	3.2	9.1	12.3	74 13 4	2 6 2	.....	.....	76 19 6
Nangunia.....	Berrigan.....	14	11	25	10.1	10.2	20.3	78 13 4	2 19 8	.....	1 5 1	82 13 1
Narara.....	Narara.....	17	11	28	11.2	8.9	20.1	135 8 4	4 2 6	.....	8 5 5	147 16 3
Narellan.....	Narellan.....	53	45	98	37.9	30.3	68.2	251 9 10	4 18 7	12 1 8	113 7 11	381 18 0
Naremburn.....	Willoughby.....	209	179	388	151.7	135.9	287.6	877 12 2	24 11 2	.....	64 11 1	966 14 5
Narrabeen.....	Narrabeen.....	13	17	30	10.8	12.7	23.5	135 8 4	3 13 3	.....	649 15 3	788 16 10
Narrabri.....	Narrabri.....	253	236	489	172.9	158.2	331.1	805 4 3	21 12 2	32 14 6	387 10 7	1,227 1 6
Narrabri, West.....	West Narrabri.....	124	105	229	69.3	65.1	134.4	433 0 0	16 12 7	2 13 3	35 8 7	487 14 5
Narrandera.....	Narrandera.....	192	180	372	110.2	99.9	210.1	533 0 9	17 16 11	2 0 9	546 12 1	1,099 10 6
Narrango.....	Narrango.....	11	12	23	7.0	9.4	16.4	113 0 0	3 3 10	.....	2 5 10	118 9 8
Narromine.....	Narromine.....	84	65	149	61.5	41.8	103.3	335 6 8	12 11 11	.....	461 19 2	809 17 9
Neila Creek.....	Cowra.....	11	15	26	7.3	7.4	14.7	83 0 0	4 1 8	1 12 6	1 5 10	95 0 0
Nelanglo.....	Gundaroo.....	16	12	28	12.2	9.2	21.4	125 0 0	3 16 10	.....	2 5 10	131 2 8
Nelligen.....	Nelligen.....	40	32	72	31.3	24.7	56.0	227 13 9	6 3 0	.....	61 6 11	295 3 8
Nelson.....	Riverstone.....	9	11	20	3.9	4.7	8.6	91 0 0	3 11 9	.....	1 8 4	96 0 1
Nelson's Bay.....	Nelson's Bay.....	9	20	29	5.0	11.7	16.7	113 0 0	4 9 11	.....	1 15 10	119 5 9
Nelson's Plains.....	Nelson's Plains.....	37	29	66	27.6	21.8	49.4	171 0 0	6 7 8	.....	119 15 10	297 3 6
Nemingha.....	Tamworth.....	26	28	54	13.4	20.5	33.9	184 5 0	4 15 9	.....	7 5 1	196 5 10
Nerriga.....	Nerriga.....	19	10	29	12.9	5.7	18.6	113 0 0	3 7 2	.....	2 5 10	118 13 0
Nerrigundah.....	Nerrigundah.....	17	16	33	13.3	12.2	25.5	125 0 0	4 6 2	.....	2 3 10	131 10 0
Nethercote.....	Pambula.....	21	10	31	12.2	7.0	19.2	135 8 4	3 10 5	.....	7 17 2	146 15 11
Neutral Bay.....	Neutral Bay.....	331	281	612	236.5	198.1	434.6	1,614 3 0	49 3 7	12 7 4	93 5 2	1,768 19 1
Never Never.....	Bellingen.....	15	20	35	10.8	13.7	24.5	88 0 0	1 7 6	.....	15 0 0	104 7 6
Nevertire.....	Nevertire.....	32	20	52	23.0	11.3	34.3	160 10 0	3 17 1	.....	12 5 5	176 12 6
Neville.....	Neville.....	41	34	75	23.7	18.8	42.5	229 6 6	7 17 11	0 10 0	32 6 11	270 1 4
Newbridge.....	Newbridge.....	37	28	65	22.6	16.2	38.8	270 0 0	3 16 3	.....	14 16 11	288 13 2
Newcastle.....	Newcastle.....	353	386	739	261.3	275.5	536.8	1,992 2 9	41 12 11	.....	364 17 5	2,398 13 1
Newcastle, East.....	Newcastle.....	152	152	304	103.0	102.4	205.4	480 12 7	11 6 8	.....	82 19 6	574 8 9
Newcastle, South.....	Mercwether.....	399	443	842	272.3	258.1	530.4	1,849 3 0	37 13 2	31 18 7	411 6 2	2,330 0 11
New Italy.....	New Italy.....	27	28	55	22.1	24.2	46.3	235 0 0	4 3 10	.....	5 16 11	245 0 9
New Lambton.....	New Lambton.....	259	202	461	158.5	141.8	300.3	843 4 9	13 15 10	.....	891 5 8	1,753 6 3
Newport.....	Dora Creek.....	22	24	46	15.3	15.7	31.0	202 10 0	5 4 2	.....	139 2 4	346 16 6
Newrea.....	Newrea.....	17	10	27	9.8	6.0	15.8	88 0 0	3 5 3	.....	2 10 10	93 16 1
Newrybar.....	Tintenbar.....	16	9	25	13.5	6.4	19.9	125 0 0	3 8 1	.....	1 5 10	129 13 11
Newstead.....	Moruya.....	36	46	82	19.5	25.5	45.0	74 13 4	3 1 9	.....	5 10 0	83 5 1
Newtown.....	Newtown.....	903	858	1,761	657.6	513.8	1,271.4	3,378 8 1	128 4 0	19 15 0	93 9 7	3,619 17 6
Newtown, North.....	Newtown.....	413	335	748	307.9	236.8	544.7	1,667 10 0	46 0 8	.....	2,308 10 0	4,022 0 8
New Vale.....	Lithgow.....	20	14	34	10.4	8.1	18.5	135 8 4	3 19 11	.....	23 4 0	162 12 3
Niangala.....	Walcha Road.....	13	17	30	9.7	13.2	22.9	88 0 0	3 6 6	.....	3 10 0	94 16 6
Nicholson-street.....	Balmain.....	184	161	345	134.6	120.6	255.2	733 13 4	22 4 5	13 12 4	67 3 6	836 13 7
Nimitybelle.....	Nimitybelle.....	11	9	20	9.0	7.2	16.2	171 0 0	4 16 0	.....	13 12 4	189 8 4
Nine-mile.....	Nine-mile.....	31	23	54	24.1	17.4	41.5	171 0 0	4 12 3	.....	54 0 10	229 13 1
Noorooma.....	Noorooma.....	19	20	39	11.1	11.2	22.3	132 13 4	4 10 2	.....	25 15 10	162 19 4
Norah Creek.....	Molong.....	8	13	21	6.1	9.8	15.9	90 5 0	2 15 2	.....	1 5 10	94 6 0
North Creek.....	Ballina.....	14	22	36	9.9	15.5	25.4	125 0 0	4 8 3	.....	6 5 10	135 14 1
Norton's Gap.....	Casino.....	9	15	24	4.3	9.1	13.4	113 0 0	3 2 4	1 3 0	14 8 1	131 13 5
Norwood.....	Goulburn.....	9	9	18	7.8	7.2	15.0	80 13 4	3 12 2	.....	3 17 6	88 3 0
Nowra.....	Nowra.....	161	164	325	101.0	93.6	194.6	635 7 10	15 8 3	13 7 2	73 10 7	737 13 10
Nowra Hill.....	Nowra.....	23	19	42	17.8	14.4	32.2	136 0 0	4 5 8	.....	1 15 10	142 1 6
Noycan.....	Woodstock.....	69	52	121	29.3	23.9	53.2	261 13 8	7 0 5	.....	18 1 6	286 15 7
Nubba.....	Nubba.....	27	23	50	17.8	13.3	31.1	149 18 4	4 12 5	2 7 0	25 11 10	182 9 7
Nullabong.....	Coonabarabran.....	15	12	27	7.6	7.1	14.7	94 3 4	3 18 10	.....	3 8 11	101 11 1
Nullamanna.....	Nullamanna.....	19	17	36	12.6	12.4	25.0	125 0 0	3 16 7	.....	19 10 4	148 6 11
Numba.....	Numba.....	17	15	32	10.7	10.5	21.2	125 0 0	3 2 3	.....	1 15 10	129 18 1
Numulgi.....	Lismore.....	27	27	54	19.3	19.5	38.8	153 15 0	4 12 9	.....	3 10 7	161 18 4
Nundle.....	Nundle.....	68	68	136	49.2	50.6	99.8	351 10 0	7 19 5	.....	81 0 8	440 10 1
Nurung.....	Galong.....	10	14	24	4.5	6.9	11.4	88 0 0	3 1 5	.....	0 15 0	91 16 5
Nymagee.....	Nymagee.....	62	64	126	43.2	43.0	86.2	327 5 1	6 18 3	.....	20 5 9	354 9 1
Nymboida.....	Grafton.....	14	14	28	11.4	10.0	21.4	125 0 0	3 6 0	.....	86 0 10	214 6 10
Nyngan.....	Nyngan.....	118	111	229	66.6	63.9	130.5	448 1 5	15 18 5	1 19 0	36 12 5	502 11 3
Nyngan Creek.....	Canowindra.....	17	20	37	8.6	9.7	18.3	102 0 0	4 15 2	.....	137 10 0	244 5 2
Oakdale.....	The Oaks.....	20	20	40	16.6	15.5	32.1	119 0 11	5 7 8	7 3 7	166 5 1	297 17 3
Oakendale.....	Glen Oak.....	17	24	41	12.3	17.7	30.0	148 0 0	6 6 6	.....	23 8 10	177 15 4
Oakhampton.....	West Maitland.....	47	41	88	29.2	28.8	58.0	223 10 0	2 14 0	.....	28 3 7	254 7 7
Oaklands.....	Coraki.....	32	18	50	18.8	10.7	29.5	166 5 0	4 3 4	.....	20 8 8	190 17 0
Oak Park.....	Glennie's Creek.....	19	13	32	13.1	9.2	22.3	160 10 0	4 15 8	.....	15 2 7	180 8 3
Oaks.....	The Oaks.....	26	28	54	17.0	21.6	38.6	171 0 0	3 9 7	.....	40 10 1	214 19 8
Oakwood.....	Inverell.....	12	7	19	8.1	5.3	13.4	125 0 0	3 11 1	.....	63 11 10	192 2 11
Obley.....	Obley.....	12	14	26	8.7	10.0	18.7	96 10 0	0 13 9	.....	1 5 6	98 9 3
Oberon.....	Oberon.....	41	37	78	27.0	23.4	50.4	254 14 3	2 11 3	3 8 6	41 9 5	302 3 5
O.B.X. Creek.....	South Grafton.....	16	12	28	13.4	8.1	21.5	113 0 0	2 17 6	.....	10 5 4	126 2 10
O'Connell.....	O'Connell.....	28	19	47	16.1	11.7	27.8	148 0 0	5 6 10	.....	7 7 10	160 14 8

## APPENDIX VII—continued.

Name of School	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.								
		Boys	Girls	Total	Boys	Girls	Total	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.				
					£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Off Flat .....	Hampton .....	14	16	30	8.0	8.4	16.4	88	0	0	3	1	11	20	0	0
Omega Retreat ..	Gerrington .....	16	22	38	13.3	19.0	32.3	148	0	0	4	11	0	1	5	10
Ooranook .....	Bembola .....	18	11	29	14.9	8.5	23.4	100	10	0	3	18	1	2	15	10
Ophir .....	Lower Lewis Ponds	18	11	29	10.7	5.9	16.6	113	0	0	1	11	5	1	13	4
Orange .....	Orange .....	349	296	645	210.1	167.1	377.2	1,505	2	10	46	16	8	149	4	5
Orange, East .....	Orange .....	113	92	205	56.7	45.2	101.9	384	0	0	8	16	0	39	4	4
Osborne .....	Moorilda .....	24	14	38	16.1	9.8	25.9	119	0	0	5	6	0	8	6	4
Otford .....	Otford .....	26	24	50	13.9	12.7	26.6	172	0	0	6	12	4	207	18	10
Ourne .....	Albury .....	19	9	28	13.8	6.3	20.1	113	0	0	2	19	6	5	13	4
Ourmbah .....	Ourmbah .....	38	36	74	24.4	22.2	46.6	214	12	3	5	14	9	39	6	11
Owendale .....	Broke .....	15	6	21	7.0	3.6	10.6	113	0	0	1	9	3	4	5	9
Owen's Gap .....	Scone .....	20	11	31	17.4	9.2	26.6	88	0	0	4	18	8	108	5	1
Oxley .....	Oxley .....	26	16	42	18.6	9.8	28.4	148	0	0	4	0	3	2	5	10
Oxley Island .....	Oxley Island .....	24	34	58	19.2	26.2	45.4	171	0	0	2	1	0	1	12	10
Paddington .....	Paddington .....	787	679	1,466	557.2	427.0	984.2	3,028	17	7	64	2	8	190	14	9
Page's River .....	Scone .....	14	14	28	9.6	11.2	20.8	109	7	2	4	2	9	21	12	6
Pallamallawa ..	Pallamallawa .....	22	26	48	15.2	19.1	34.3	178	11	8	5	10	5	8	1	10
Palmer's Island ..	Palmer's Island ..	51	33	84	34.8	25.1	59.9	223	0	0	6	8	4	45	9	5
Pambula .....	Pambula .....	56	56	112	37.2	40.1	77.3	285	0	0	1	19	9	188	8	5
Pamoolah .....	Pamoolah .....	29	28	57	20.2	21.3	41.5	171	0	0	4	5	11	2	13	4
Parke .....	Parke .....	174	159	333	101.5	87.5	189.0	308	3	4	12	4	1	34	5	9
Parkeborough ..	Parkeborough .....	25	14	39	16.7	6.6	23.3	160	10	0	1	18	4	17	9	1
Parkebourne .....	Breadalbane .....	25	11	36	14.0	5.3	19.3	136	0	0	3	9	11	7	13	10
Parkville .....	Parkville .....	20	15	35	14.9	9.1	24.0	125	0	0	3	12	6	3	15	10
Parramatta, North	Parramatta, North	240	249	489	172.3	175.2	347.5	1,506	5	2	34	13	0	47	0	11
Parramatta, South	Parramatta .....	585	450	1,035	398.5	291.0	689.5	1,972	7	9	62	2	4	126	2	2
Paterson .....	Paterson .....	52	38	90	31.2	22.8	54.0	229	0	0	7	17	9	23	15	2
Payne's Crossing ..	Wollumbi .....	24	17	41	15.3	13.8	29.1	148	0	0	4	8	10	21	15	10
Peak Hill .....	Peak Hill .....	77	77	154	53.6	52.9	106.5	357	0	0	13	5	5	107	5	9
Peakhurst .....	Peakhurst .....	79	51	130	50.9	32.7	83.6	290	1	8	9	4	1	68	3	4
Pearce's Creek ..	Pearce's Creek ..	19	17	36	12.2	12.6	24.8	88	0	0	3	13	10	1	7	6
Pee Dee .....	Bellbrook .....	11	7	18	7.7	5.4	13.1	113	0	0	2	18	8	1	5	10
Peel .....	Peel .....	29	27	56	15.8	14.5	30.3	148	0	0	4	17	4	161	16	7
Peelwood .....	Peelwood .....	20	12	32	15.1	5.5	20.6	142	5	0	1	7	6	3	12	1
Pelican Creek ..	South Gundurimba	19	22	41	14.3	15.8	30.1	136	0	0	4	5	0	5	15	10
Pelican Island ..	Kempsey .....	18	19	37	15.0	15.9	30.9	171	0	0	3	14	4	1	5	10
Pennant Hills ..	Pennant Hills ..	32	33	65	19.4	22.0	41.4	285	0	0	6	18	2	6	7	0
Penrith .....	Penrith .....	311	280	591	220.9	194.8	415.7	1,213	8	0	32	13	0	39	2	1
Perth .....	Perth .....	24	17	41	14.8	11.4	26.2	171	0	0	5	1	3	2	13	5
Petersham .....	Petersham .....	561	452	1,013	424.9	313.1	738.0	2,297	17	4	78	13	3	1,568	8	6
Pictou .....	Pictou .....	95	57	152	64.6	39.4	104.0	365	16	8	5	7	11	85	9	2
Pilgaa .....	Pilgaa .....	24	31	55	17.9	22.4	40.3	219	17	6	5	3	0	13	0	8
Pimlico, North ..	Wardell .....	10	11	21	7.1	6.5	13.6	125	0	0	3	12	7	1	5	10
Pine Rocks .....	Springside .....	14	5	19	8.4	3.4	11.8	74	13	4	2	6	0	0	15	0
Pinnacles .....	Pinnacles .....	16	10	26	12.2	7.0	19.2	135	6	8	0	13	6	3	12	1
Pinnacle Swamp ..	Rylstone .....	14	12	26	11.8	11.0	22.8	113	0	0	2	8	1	2	5	10
Pipeclay Creek ..	Mudgee .....	27	19	46	18.7	13.7	32.4	148	0	0	1	7	7	7	11	4
Pipeclay Spring ..	Bombala .....	21	21	42	15.8	16.0	31.8	159	6	8	2	2	6	13	3	8
Pitt Row .....	Granville .....	79	73	152	52.2	44.2	96.4	395	8	4	10	0	11	22	9	11
Pitt Town .....	Pitt Town .....	59	55	114	45.4	46.7	92.1	292	10	0	7	8	1	15	12	5
Pittwater .....	Bayview .....	28	31	59	16.3	16.1	32.4	171	0	0	4	2	1	109	5	7
Platina .....	Platina .....	18	19	37	15.0	15.1	30.1	113	0	0	4	13	10	74	12	7
Plattsburg .....	Wal'snd-Pla'tsb'rg	319	318	637	237.9	222.7	459.6	1,513	6	10	36	18	1	140	2	11
Pleasant Hills ..	Pleasant Hills ..	23	30	53	10.8	14.0	24.8	171	0	0	3	7	8	3	10	10
Plunkett-street ..	Sydney .....	261	214	475	179.0	133.8	312.8	1,224	7	0	28	17	9	31	2	9
Point Danger .....	Tweed Heads .....	29	23	52	18.6	12.3	30.9	171	6	8	4	7	1	10	5	10
Pokolbin .....	Pokolbin .....	35	25	60	24.0	17.3	41.3	171	0	0	5	5	7	8	10	4
Pond's Creek .....	Stannifer .....	9	11	20	6.6	9.4	16.0	110	18	4	3	16	4	11	4	0
Ponto .....	Ponto .....	17	8	25	9.5	4.8	14.3	65	18	4	1	6	2	3	15	0
Pooncarie .....	Pooncarie .....	13	15	28	8.6	9.5	18.1	69	15	0	0	14	6	2	1	10
Porter's Mount ..	Cowra .....	17	11	28	10.2	6.4	16.6	99	3	4	4	17	11	1	6	3
Portland, Lower ..	Lower Portland ..	25	9	34	15.9	7.6	23.5	148	0	0	5	1	8	1	15	10
Port Macquarie ..	Port Macquarie ..	108	97	205	82.9	73.6	156.5	376	13	4	8	13	2	46	6	6
Prospect .....	Prospect .....	45	52	97	22.0	25.3	47.3	325	0	0	8	3	2	109	11	11
Pudman Creek ..	Rye Park .....	18	26	44	12.4	17.7	30.1	155	13	4	1	7	0	2	5	10
Putty .....	Howe's Valley ..	11	11	22	9.5	7.3	16.8	100	10	0	2	19	8	107	9	6
Pyangle .....	Lue .....	7	11	18	5.8	9.3	15.1	91	0	0	2	9	3	2	5	10
Pyramul, Upper ..	via Mudgee .....	17	20	37	13.1	16.0	29.1	148	0	0	1	11	8	27	15	10
Pyree .....	Pyree .....	44	34	78	30.1	22.8	52.9	214	10	11	8	5	0	227	11	10
Pyrmont .....	Pyrmont .....	449	386	835	336.0	282.5	618.5	1,938	11	9	48	13	6	217	2	4
Quazma .....	Quazma .....	13	22	35	10.1	14.6	24.7	148	0	0	4	17	8	105	0	4
Quambone .....	Quambone .....	15	15	30	10.9	11.2	22.1	78	14	10	9	0	8	64	3	0
Quandong .....	Grenfell .....	9	13	22	6.3	9.4	15.7	113	0	0	2	14	11	3	17	10
Queanbeyan .....	Queanbeyan .....	92	93	185	66.5	66.9	133.4	331	9	11	8	2	5	94	3	6
Quipolly .....	Quipolly .....	13	12	25	9.2	8.9	18.1	125	0	0	1	3	3	1	15	10
Quipolly Creek ..	Quipolly Creek ..	16	15	31	12.0	8.9	20.9	125	0	0	4	10	4	9	5	10
Quirindi .....	Quirindi .....	188	153	343	140.4	113.2	253.6	517	16	5	15	4	2	28	13	1
Quorrobolong ..	Mount Vincent ..	15	18	33	8.5	9.3	17.8	135	8	4	5	4	4	9	2	6
Raglan .....	Raglan .....	20	19	39	14.8	14.7	29.5	153	6	8	3	11	9	2	16	6
Rainbow Reach ..	Rainbow Reach ..	18	15	33	12.6	11.5	24.1	88	10	0	3	7	3	26	5	10
Raleigh .....	Raleigh .....	24	24	48	18.3	20.2	38									

APPENDIX VII—continued.

Name of School.	Post Town	Number of Children on Rolls			Average Weekly Attendance.			Expenditure from Public Funds.														
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.										
							£	s	d	£	s	d	£	s	d	£	s	d				
Randwick Asylum.	Randwick	89	62	151	50.6	38.9	89.5	670	5	0	9	16	4	2	7	2	23	8	0	705	16	6
Ravensdale	Yarramalong	14	15	29	11.1	4.3	20.3	113	0	0	5	5	10	...	...	...	1	5	10	119	11	8
Ravensworth	Ravensworth	33	23	56	20.6	16.2	36.8	148	0	0	4	15	3	...	...	...	14	6	8	167	1	11
Rawdon Island	Rawdon Island	22	25	47	16.7	18.3	35.0	148	0	0	3	8	1	...	...	...	70	0	10	221	8	11
Raymond Terrace	Raymond Terrace	88	112	200	65.8	79.3	145.1	425	16	3	15	8	7	1	0	0	29	17	5	472	2	3
Reddestone	Reddestone	8	9	17	5.4	5.6	11.0	125	0	0	4	6	0	...	...	...	25	5	10	154	11	10
Redfern	Redfern	874	795	1,669	631.0	555.6	1,186.6	3,104	11	0	79	18	7	...	...	...	129	5	5	3,313	15	0
Redfern, West	Redfern	213	188	401	157.9	125.9	273.8	1,206	10	5	24	17	8	...	...	...	226	3	10	1,457	11	11
Redlands	Corowa	20	21	41	10.2	14.3	24.5	136	10	0	3	11	10	...	...	...	51	13	4	191	15	2
Red Range	Red Range	22	28	50	18.1	25.1	43.2	171	0	0	4	7	10	...	...	...	1	18	4	177	6	2
Reefton	Reefton	19	30	49	12.0	22.1	34.1	211	13	4	5	3	8	...	...	...	32	14	2	249	11	2
Regentville	Penrith	29	26	55	17.7	15.5	33.2	171	0	0	5	10	7	...	...	...	8	4	4	184	14	11
Reidsdale	Brandwood	20	12	32	14.0	7.1	21.1	113	0	0	3	8	2	...	...	...	21	15	6	138	3	8
Rhine Falls	Cooma	10	17	27	7.5	11.6	19.1	88	0	0	5	13	2	...	...	...	52	0	6	145	13	8
Richmond	Richmond	141	132	273	104.4	94.6	199.0	495	16	8	23	13	1	3	4	1	1,279	5	10	1,801	19	8
Richmond, North	North Richmond	36	34	70	26.9	28.1	55.0	262	13	4	4	3	10	...	...	...	7	19	5	274	16	7
Richmond Vale	Buchanan	10	10	20	8.4	8.7	17.1	125	0	0	2	7	4	...	...	...	1	15	10	129	3	2
Riley	South Woodburn	9	5	14	7.5	4.3	11.8	111	6	8	2	17	6	...	...	...	10	15	10	125	0	0
Riley's Hill	Riley's Hill	42	49	91	32.8	36.5	69.3	288	5	5	6	0	3	0	6	6	23	3	0	317	15	2
Riley-street	Sydney	145	133	279	104.4	87.5	191.9	508	0	0	1	18	4	...	...	...	62	17	3	582	15	7
Riverstone	Riverstone	66	70	136	47.8	44.1	91.9	335	19	5	8	15	2	0	2	11	9	3	6	354	1	0
Rix Creek	Singleton	40	40	80	28.5	30.1	58.6	222	15	2	8	2	7	...	...	...	6	16	11	237	14	8
Robertson Park	Glen Quarry	26	29	55	19.1	22.1	41.2	171	0	0	3	18	8	...	...	...	2	5	10	177	4	6
Robertson	Robertson	38	50	88	24.7	29.7	54.4	241	0	0	5	6	7	...	...	...	142	1	8	388	8	3
Rob Roy	Inverell	12	8	20	7.0	6.0	13.0	89	5	0	4	1	5	2	15	0	1	11	5	97	12	10
Rockdale	Rockdale	315	296	611	224.4	198.1	422.5	1,525	7	2	29	2	3	...	...	...	314	14	10	1,869	4	3
Rockley	Rockley	39	35	74	22.5	20.6	43.1	219	6	0	5	13	11	1	5	9	43	2	6	269	8	2
Rockmore	Barraba	16	11	27	10.8	8.8	19.6	113	0	0	4	4	1	...	...	...	1	15	10	118	19	11
Rock, The	The Rock	38	32	70	24.6	22.0	46.6	193	10	0	10	9	8	0	7	5	13	7	11	217	15	0
Rock Vale	Rock Vale	34	27	61	26.0	19.9	45.9	162	0	0	2	3	3	...	...	...	4	3	8	168	6	11
Rocky Hall	Rocky Hall	32	23	55	19.1	13.8	32.9	148	0	0	8	0	4	...	...	...	2	2	4	158	2	8
Rocky Ponds	Balderodgery	18	17	35	9.7	9.2	18.9	147	18	7	1	4	9	...	...	...	1	14	10	150	18	2
Rocky River	Rocky River	46	38	84	31.7	36.6	58.3	217	7	10	5	12	5	...	...	...	8	1	5	231	1	8
Rolland's Plains	Rolland's Plains	16	8	24	10.7	5.2	15.9	125	0	0	3	9	11	...	...	...	1	15	10	130	5	9
Rookwood	Rookwood	154	133	292	111.1	85.9	197.0	577	19	4	12	4	7	4	5	3	174	17	5	769	6	7
Rosebank	Rosebank	22	11	33	12.2	5.4	17.6	88	0	0	3	18	3	...	...	...	23	9	0	115	7	3
Rose Bay	Watson's Bay	20	23	43	12.9	13.4	26.3	113	0	0	4	3	4	...	...	...	28	13	2	145	16	6
Rosenthal	Bulahdelah	21	15	36	12.8	10.4	23.2	128	10	0	0	16	8	1	18	7	8	11	0	139	16	3
Rosewood	Tumberumba	14	12	26	8.1	8.2	16.3	88	0	0	0	16	9	...	...	...	0	10	0	89	6	9
Ross Hill	Inverell	25	22	47	18.6	17.1	35.7	113	0	0	3	1	9	...	...	...	10	12	4	126	14	1
Rossi	Rossi	11	16	27	7.3	10.7	18.0	84	15	0	4	10	2	...	...	...	86	18	0	176	3	2
Rothbury	Rothbury	30	24	54	23.0	18.7	41.7	165	6	8	3	13	0	5	7	11	1	5	9	175	13	4
Rotherfield	Quirindi	8	10	18	5.4	8.1	13.5	90	1	8	3	2	3	1	0	0	4	12	2	93	16	1
Rouchel	Rouchel Brook	15	16	31	9.9	11.3	21.2	148	0	0	2	16	5	...	...	...	31	6	4	182	2	9
Rought	Singleton	54	56	110	44.6	45.6	90.2	301	13	4	7	13	10	1	10	3	48	19	5	359	16	10
Round Hill	Broken Hill	12	8	20	6.3	2.8	9.1	148	0	0	2	10	1	...	...	...	2	5	10	152	15	11
Round Mount	Inverell	25	28	53	15.0	18.5	33.5	124	10	0	6	9	11	...	...	...	31	16	10	162	16	9
Round Swamp	Capertee	16	9	25	11.0	6.2	17.2	110	6	8	2	5	6	...	...	...	2	5	10	114	18	0
Rous	Rous	31	25	56	21.7	21.1	45.8	165	5	0	3	14	9	...	...	...	1	5	10	170	5	7
Rouse Hill	Rouse Hill	17	18	35	12.9	11.9	24.8	148	0	0	2	18	3	...	...	...	2	0	10	152	19	1
Rous Mill	Rous Mill	36	40	76	25.5	29.4	54.9	236	8	8	3	10	11	...	...	...	5	17	0	215	16	7
Run of Water	Yarra	30	20	50	18.6	11.2	29.8	133	15	3	5	8	5	...	...	...	72	1	9	211	5	5
Ryanda	Langothlin	9	20	29	7.4	16.7	24.1	113	0	0	5	11	2	...	...	...	2	15	10	121	7	0
Rydal	Rydal	34	19	53	26.8	14.4	41.2	148	0	0	1	9	0	...	...	...	299	12	10	449	1	10
Rydalmere	Rydalmere	28	24	52	23.0	17.3	40.3	171	0	0	4	16	1	...	...	...	5	8	10	181	4	11
Ryde	Ryde	161	142	303	116.7	97.0	213.7	691	16	8	20	0	8	6	10	5	82	13	7	801	1	4
Ryde, North	North Ryde	34	42	76	20.6	25.4	46.0	233	2	4	5	8	8	...	...	...	57	1	3	295	12	3
Rye Park	Rye Park	24	29	53	15.0	19.1	34.1	153	15	0	4	4	2	...	...	...	2	5	10	160	5	0
Rylstone	Rylstone	72	84	156	54.3	60.8	115.1	339	10	0	10	6	11	...	...	...	26	11	0	376	7	11
Rywang	Swamp Oak	28	21	49	18.9	15.1	34.0	157	2	4	4	15	6	...	...	...	45	15	6	207	13	4
Sackville Reach	Sackville Reach	19	24	43	13.8	16.5	30.3	142	5	0	3	10	0	...	...	...	2	14	0	148	9	0
Salisbury	Underbank	11	12	23	6.3	7.0	13.3	113	0	0	2	5	11	...	...	...	1	18	10	117	4	9
Salisbury Plains	Uralla	12	13	25	7.3	7.3	14.6	88	3	4	2	14	1	13	7	9	2	10	10	106	16	0
Salt Ash	William Town	17	20	37	14.5	16.4	30.9	146	18	4	4	0	4	1	1	0	6	10	6	158	10	2
Sam's Flat	Walcha	15	15	30	12.0	12.5	24.5	113	0	0	4	10	4	...	...	...	1	5	10	118	16	2
Sandigo	Narrandera	9	12	21	5.2	7.7	12.9	96	10	0	3	3	0	...	...	...	9	5	10	108	18	10
Sandringham	Sandringham	54	36	90	36.5	25.6	62.1	285	0	0	7	10	6	...	...	...	203	5	3	495	15	9
Sandy Creek	Dubbo	32	23	55	22.1	16.6	38.7	155	17	0	12	1	6	...	...	...	15	5	10	183	4	4
Sapphire	Inverell	11	16	27	8.9	12.2	21.1	135	8	4	1	12	9	...	...	...	5	13	10	142	14	11
Sassafras	Nowra	10	6	16	8.5	5.0	13.5	57	9	8	4	18	8	2	3	8	2	9	0	67	1	0
Saucy Creek	Bombala	6	5	11	6.0	4.5	10.5	84	15	0	3	0	4	...	...	...	2	13	11	90	9	3
Saumarez	Dumaresq	30	25	55	21.4	19.3	40.7	235	0	0	9	6	5	...	...	...	7	6	11	251	13	4
Sawpit Gully	Young	24	14	38	13.9	6.0	19.9	160	10	0	4	16	6	...	...	...	15	0	4	180	6	10
Scone	Scone	98	72	170	69.3	4																

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.									
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.		Books, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.				
								£	s. d.	£	s. d.	£		s. d.	£	s. d.	
Shark Creek.....	Macleon .....	5	7	12	3 8	5 7	9 5	£	s. d.	£	s. d.	£	s. d.	£	s. d.		
Sharp's Creek.....	Adelong .....	15	9	24	12 7	7 3	20 0	72	0 0	2 16	11	2 16	0	4	2 6	81 15 5	
Shaw.....	Shaw .....	16	12	28	10 6	7 2	17 8	125	0 0	3 13	9	...	...	13	9 1	129 0 8	
Shaw's Creek.....	Goulburn .....	18	20	38	14 0	15 0	29 0	113	0 0	4 6	0	...	...	24	6 10	153 0 7	
Shellharbour.....	Shellharbour .....	40	49	89	28 6	32 6	61 2	228	0 0	7 4	4	...	...	103	11 11	338 16 3	
Shephardstown.....	Shephardstown .....	66	85	151	40 7	43 5	84 2	297	7 5	8 2	9	...	...	194	6 11	499 17 1	
Sherbrooke.....	Sherbrooke .....	14	8	22	10 8	5 8	16 6	103	0 0	3 2	9	...	...	1	19 10	103 2 7	
Sherwood.....	Sherwood .....	32	21	53	22 3	13 4	35 7	148	0 0	3 19	11	...	...	1	5 10	153 5 9	
Sidebottom.....	Taree .....	11	14	25	8 8	11 2	20 0	94	5 0	3 17	4	...	...	...	...	98 2 4	
Sidebrook.....	Ben Lomond .....	22	10	32	17 6	8 5	26 1	113	0 0	5 10	11	...	...	2	5 10	120 16 9	
Silverhill.....	Captain's Flat .....	17	19	36	11 9	11 8	23 7	113	0 0	3 6	8	...	...	36	5 8	152 12 4	
Silverton.....	Silverton .....	50	40	90	29 2	24 2	53 4	329	17 6	3 7	9	...	...	25	16 11	359 2 2	
Simpson's Ridge...	Bowraville .....	23	13	36	16 9	18 3	25 2	148	0 0	4 17	10	...	...	27	1 4	179 19 2	
Singleton.....	Singleton .....	213	198	411	141 1	124 4	265 5	1,151	0 10	37 5	10	1 10 8	193	15 2	1,383	12 6	
Skilhon Flat.....	Skilhon Flat .....	10	11	21	8 3	7 4	15 7	68	13 4	2 12	2	...	...	...	...	71 5 6	
Small's Forest.....	Ulmarra .....	11	11	22	9 2	7 2	16 4	78	13 4	...	...	1 11 11	0	10 0	80	15 3	
Smithfield.....	Smithfield .....	98	88	186	71 1	65 6	136 7	450	19 11	8 12	1	3 18 5	42	8 5	505	18 10	
Smith-street.....	Balmain .....	503	425	928	352 1	291 4	643 5	2,061	2 4	38 8	5	3 1 9	86	11 11	2,189	4 5	
Smiltown.....	Smiltown .....	44	38	82	29 4	24 6	54 0	221	19 11	4 19	7	...	...	5	16 11	232 16 5	
Snowy River.....	Buckley's Crossing .....	8	17	25	5 2	12 3	17 5	84	15 0	1 15	11	...	...	10	13 0	97 3 11	
Sofala.....	Sofala .....	37	54	91	20 6	31 9	52 5	224	18 5	5 9	6	...	...	54	1 5	284 9 4	
Solferino.....	Young .....	17	7	24	10 4	5 6	16 0	113	0 0	4 4	0	...	...	1	5 10	118 9 10	
Somerton.....	Somerton .....	18	17	35	17 0	13 0	30 0	148	0 0	4 4	4	...	...	149	6 10	301 11 2	
South Arm.....	Brushgrove .....	46	23	74	37 5	20 3	57 8	238	12 5	4 2	6	...	...	23	17 0	266 11 2	
Southgate.....	Southgate .....	29	40	69	22 1	30 5	52 6	233	2 2	5 8	4	3 5 0	6	3 10	247	19 4	
Southgate, Lower..	Lower Southgate .....	8	15	23	5 8	12 0	17 8	125	0 0	3 7	10	...	...	104	8 4	232 16 2	
South Lead.....	Forbes .....	37	30	67	20 4	17 6	38 0	183	5 0	2 6	6	4 5 0	396	9 10	586	6 4	
Spaniard's Hill.....	Douglas .....	21	26	47	15 8	16 7	32 5	171	0 0	5 2	8	...	...	40	4 4	216 7 0	
Sparling Swamp.....	Parkes .....	18	13	31	12 2	8 1	20 3	113	0 0	3 16	2	...	...	17	4 10	134 1 0	
Spicer's Creek.....	Spicer's Creek .....	22	15	37	13 2	10 4	23 6	125	0 0	0 19	7	...	...	1	5 10	127 5 5	
Springdale.....	Springdale .....	32	26	58	23 9	16 7	40 6	171	12 3	6 18	3	...	...	14	15 10	193 6 4	
Spring Hill.....	Spring Hill .....	61	47	108	43 9	32 7	76 6	211	6 1	7 7	11	...	...	14	11 11	233 5 11	
Springmount.....	Blayney .....	34	31	65	23 8	16 5	40 3	171	0 0	8 13	11	...	...	14	10 6	194 4 5	
Spring Ridge.....	Quirindi .....	10	12	22	7 7	7 9	15 6	88	0 0	3 16	8	...	...	50	13 0	142 9 8	
Springside.....	Springside .....	22	21	43	14 6	15 0	29 6	148	0 0	5 0	11	...	...	42	6 10	195 7 9	
Spring Vale.....	Bega .....	31	33	64	23 9	25 7	49 6	171	0 0	5 18	9	...	...	6	6 10	183 5 7	
Spring Valley.....	Currawang .....	12	13	25	7 3	8 6	15 9	113	0 0	4 4	7	...	...	2	10 10	119 15 5	
Springwood.....	Springwood .....	50	39	89	31 3	24 7	56 0	251	7 2	5 18	10	1 13 7	32	16 11	291	16 6	
Square Range.....	Niminybelle .....	15	14	29	10 2	10 1	20 3	135	8 4	3 6	8	...	...	6	7 3	145 2 3	
St. Albans.....	St. Albans .....	34	25	59	27 3	20 5	47 8	239	10 0	7 8	3	...	...	9	19 5	256 17 8	
St. Ethels.....	West Maitland .....	131	127	258	83 5	81 4	164 9	442	5 5	10 16	9	...	...	41	17 9	494 19 11	
St. Ives.....	St. Ives .....	44	49	93	33 1	35 1	68 2	312	1 8	7 15	1	5 3 4	12	16 3	337	16 4	
St. John's Park.....	St. John's Park .....	30	20	50	24 6	17 3	41 9	171	0 0	4 7	9	...	...	162	18 9	338 6 6	
St. Leonards.....	North Sydney .....	649	565	1,214	475 9	400 6	876 5	2,462	6 2	56 2	6	9 18 11	1,121	15 5	3,650	3 0	
St. Leonards, East	North Sydney .....	200	159	359	132 5	106 1	238 6	750	8 7	21 5	7	...	...	76	17 6	843 11 8	
St. Leonards, North	North Sydney .....	191	178	369	116 6	109 8	226 4	633	4 9	19 12	3	1 1 4	58	15 2	712	13 6	
St. Mary's.....	St. Mary's .....	141	116	257	110 0	90 1	200 1	452	16 10	8 2	5	19 0 0	40	0 8	519	19 11	
St. Peter's.....	St. Peter's .....	353	352	705	255 7	248 1	503 8	1,648	6 9	44 7	8	...	...	107	5 4	1,799	19 9
Staggy Creek.....	Gum Flat .....	22	16	38	14 2	10 8	25 0	137	15 0	3 8	8	...	...	14	0 10	155 4 6	
Stanhope.....	Branxton .....	20	13	33	14 0	9 5	23 5	148	0 0	1 16	4	...	...	1	7 10	151 4 2	
Stanmore.....	Stanmore .....	738	658	1,396	556 9	475 8	1,030 7	2,724	11 3	80 18	1	4 0 0	442	11 5	3,252	0 9	
Stannifer.....	Stannifer .....	20	24	44	16 8	20 8	37 6	148	0 0	5 17	7	...	...	9	15 10	163 13 5	
Station Point.....	Stuart Town .....	12	9	21	7 3	6 3	13 6	111	6 8	1 10	9	...	...	11	15 10	124 13 3	
Stewart's Brook.....	Stewart's Brook .....	41	35	76	30 6	26 2	56 8	171	0 0	5 12	5	...	...	18	12 5	195 4 10	
Stockinbingal.....	Stockinbingal .....	37	29	66	19 7	16 4	36 1	171	0 0	4 8	11	...	...	12	10 10	187 19 9	
Stockton.....	Stockton .....	251	230	481	183 9	165 0	348 9	1,211	19 1	25 6	1	...	...	58	13 10	1,295	19 0
Stockyard Mountain	Albon Park .....	14	7	21	9 9	4 3	14 2	88	0 0	3 1	6	...	...	...	...	91	1 6
Stonefield.....	Warnaldra .....	14	17	31	7 5	11 5	19 0	91	0 0	2 8	5	2 7 6	1	18 10	97	14 0	
Stonehenge.....	Stonehenge .....	19	27	46	17 2	23 7	40 9	171	0 0	4 4	8	...	...	31	5 10	206 10 6	
Stony Creek, Lower	Young .....	26	17	43	16 0	11 0	27 0	160	10 0	0 15	3	...	...	16	5 3	177 10 6	
Strathfield, South.	Enfield .....	124	127	251	86 6	91 8	178 4	382	10 0	14 14	7	11 9 0	87	3 8	495	17 3	
Strontian Park.....	Southgate .....	6	8	14	4 4	4 8	9 2	72	0 0	0 14	9	...	...	0	10 0	73 4 9	
Stroud.....	Stroud .....	40	41	81	29 4	30 8	60 2	219	0 0	4 2	3	...	...	6	7 0	229 9 3	
Stuart Town.....	Stuart Town .....	65	58	123	42 4	36 7	79 1	219	0 0	7 14	5	...	...	127	6 11	254 1 4	
Stubbo.....	Gulgong .....	14	24	38	7 8	12 3	20 1	113	0 0	1 15	10	...	...	2	5 10	117 1 8	
Summer Hill.....	Summer Hill .....	374	315	689	252 2	194 4	446 6	1,491	2 7	42 6	10	...	...	152	2 5	1,685	11 10
Summer Island.....	Kinchela Creek .....	58	36	94	43 2	27 0	70 2	260	3 0	6 3	9	4 5 0	6	4 11	276	16 8	
Summer Vale.....	Walcha .....	10	14	24	8 1	10 4	18 5	113	0 0	3 9	4	2 15 0	3	5 3	122	9 7	
Sunnyside.....	Tenterfield .....	28	15	43	20 4	10 4	30 8	171	0 0	6 4	2	...	...	1	18 4	179 2 6	
Surry Hills, South	Sydney .....	748	502	1,250	511 5	359 9	871 4	2,716	3 11	68 10	2	...	...	90	13 9	2,875	7 10
Sussex-street.....	Sydney .....	187	131	318	125 4	83 5	208 9	777	10 8	12 7	6	16 10 6	109	12 11	916	1 7	
Sutherland.....	Sutherland .....	67	70	137	49 7	49 7	99 4	354	17 6	8 15	10	0 12 1	16	11 11	380	17 4	
Sutton Forest.....	Sutton Forest .....	39	29	68	30 3	22 5	52 8	217	10 0	5 1	8	3 15 7	98	14 0	325	1 3	
Swamp Oak.....	Moonbi R'lyway Stn. ....	10	12	22	6 3	8 7	15 0	88	0 0	3 9	9	...	...	0	10 0	91 19 9	
Swan Bay.....	Swan Bay .....	26	20	46	16 4	9 2	25 6	171	0 0	3 3	11	...	...	1	5 10	175 9 9	
Swan Creek.....	Ulmarra .....	25	24	49	17 5	19 7	37 2	233	18 6	7 0	0	...	...	6	6 11	247 5 5	
Swan Ponds.....	Wangoola .....	20	6	26	9 5	2 6	12 1	80	0 0	3 12	6	2 5 3	0	10 0	86	7 9	
Swansea.....	Swansea .....	27	20	47	22 1	14 8	36 9	171	0 0	5 14	4	...	...	215	13 11	392 8 3	
Swan Vale.....	Swan Vale .....	20	8	28	12 5	5 3	17 8	113	0 0	4 10	6	...	...	26	11 10	144 2 4	
Swashfield.....	Black Springs .....	15	16	31	11 7	13 2	24 9	113	0 0	4 11	3	5 6 0	5	15 3	128	12 6	
Sweetman's Creek..	Millfield .....	14	8	22	8 4	4 8	13 2	88	0 0	2 13	2	...	...	15	10 0	106 3 2	
Tallagandra.....	Tallagandra .....	11	14	25	8 5	8 5	17 0	113	0 0	3 4	3	...	...	2	11 4	118	15 7
Tallawang.....	Gulgong .....	20	22	42	13 6	16 5	30 1	148	0 0	3 5	3	...	...	1	15 10	153 1 1	



APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
Taloumbi.....	Palmer Island .....	21	29	50	12·1	18·1	30·2	171 0 0	4 18 11	.....	1 13 10	177 12 9
Tambaroora.....	Tambaroora .....	27	15	42	17·7	11·9	29·6	169 12 5	5 3 4	.....	4 5 10	179 1 7
Tambar Springs .....	Tambar Springs .....	20	11	31	16·5	8·8	25·3	88 0 0	3 7 5	.....	0 10 0	91 17 5
Tamworth.....	Tamworth.....	315	293	608	209 0	185·0	394·0	1,612 11 10	38 0 10	21 14 11	51 11 2	1,723 18 9
Tamworth, West.....	Tamworth.....	171	191	362	110·8	118·7	229·5	480 14 1	17 10 3	.....	101 13 10	599 18 2
Tangmangaroo.....	Tangmangaroo.....	13	20	33	8·7	11·7	20·4	125 0 0	4 13 4	.....	23 9 4	153 2 8
Tanja.....	Bega.....	18	22	40	14·2	16·7	30·9	148 0 0	4 6 1	.....	1 15 10	154 1 11
Tantawanglo.....	Tantawanglo.....	24	17	41	16·1	14·3	30·4	148 0 0	3 19 1	.....	74 13 10	226 12 11
Taradale.....	Collector.....	10	4	14	7·3	2·9	10·2	72 0 0	2 16 7	.....	0 10 0	75 6 7
Tarago.....	Tarago.....	24	26	50	12·7	13·3	26·0	172 15 0	4 3 10	4 19 10	2 5 10	184 4 6
Taralga.....	Taralga.....	25	19	44	16·1	12·7	28·8	171 0 0	4 8 3	.....	2 5 10	177 14 1
Tarana.....	Tarana.....	32	30	62	23·7	21·8	45·5	171 0 0	4 2 8	.....	31 11 2	209 13 10
Tarban.....	Jennings.....	10	18	28	6·1	12·3	18·4	88 0 0	3 18 1	.....	21 15 10	113 13 11
Tarcutta.....	Tarcutta.....	22	24	46	15·9	17·2	33·1	148 0 0	3 8 2	.....	2 3 4	153 11 6
Taree.....	Taree.....	120	101	221	89·0	73·6	162·6	362 10 0	7 3 3	.....	12 12 11	382 6 2
Tarlo Gap.....	Goulburn.....	15	15	30	9·8	11·5	21·3	96 10 0	3 2 1	.....	1 15 10	101 7 11
Tarrabandra.....	Gundagai.....	5	4	9	4·8	4·0	8·8	66 15 0	2 7 7	.....	2 13 11	71 16 6
Tarragandah.....	Bega.....	15	18	33	11·6	14·3	25·9	113 0 0	3 11 5	.....	15 12 10	132 4 3
Tarrawingie*.....	Tarrawingie.....	17	13	30	6·2	3·6	9·8	59 8 2	0 4 1	.....	1 0 8	60 12 11
Tarro.....	Tarro.....	31	39	70	18·6	22·4	41·0	171 0 0	7 5 9	.....	127 3 3	305 9 0
Tatham.....	Tatham.....	19	22	41	8·6	10·2	18·8	143 0 0	3 2 0	.....	107 19 10	259 1 10
Tatlaia.....	Moama.....	11	10	21	5·4	5·9	11·3	121 0 0	2 13 7	.....	2 3 7	125 17 2
Tea Gardens.....	Tea Gardens.....	33	23	56	20·4	12·4	32·8	153 5 0	5 5 2	.....	1 15 10	160 6 0
Telegberry.....	Stroud.....	18	20	38	13·7	15·2	28·9	113 0 0	3 15 4	.....	1 15 10	118 11 2
Telegraph Point.....	Telegraph Point.....	22	22	44	13·2	15·3	28·5	113 0 0	4 7 5	1 8 0	90 4 10	209 0 3
Temora.....	Temora.....	127	125	252	87·5	85·0	172·5	479 10 0	7 8 1	33 0 10	120 8 7	640 7 6
Tempe.....	Tempe.....	234	206	440	172·8	149·1	321·9	824 8 11	19 19 6	2 2 6	384 6 10	1,230 17 9
Tenterfield.....	Tenterfield.....	174	149	323	112·7	89·8	202·5	793 5 0	16 7 10	36 12 3	47 2 0	893 7 1
Teralba.....	Teralba.....	106	82	188	76·9	59·4	136·3	403 16 5	15 10 6	.....	33 16 0	453 2 11
Termeil.....	Termeil.....	27	20	47	17·3	11·5	28·8	136 0 0	4 9 6	.....	11 17 10	152 7 4
Terra Bella.....	Terra Bella.....	14	14	28	8·3	10·1	18·4	123 1 8	2 18 11	.....	11 5 6	137 6 1
Terrara.....	Terrara.....	15	15	30	11·1	7·3	18·4	111 9 8	2 16 8	.....	5 9 2	119 15 6
Terry hie hie.....	Moree.....	14	3	17	5·4	9·0	6·3	103 11 8	1 9 4	.....	1 5 10	106 6 10
Teven Creek.....	Ballina.....	11	20	31	8·4	15·6	24·0	113 0 0	3 9 3	.....	87 15 9	204 5 0
Thackaringa.....	Thackaringa.....	14	17	31	9·9	9·9	19·8	111 0 0	4 0 3	.....	3 17 10	118 18 1
Thalaba.....	Alison.....	22	29	51	13·9	21·0	34·9	171 0 0	5 9 7	.....	101 4 10	277 14 5
Theresa Park.....	Camden.....	23	21	44	13·9	13·9	27·8	148 0 0	3 4 7	.....	1 5 10	152 10 5
Thrd Creek.....	Crookwell.....	18	12	30	11·2	9·2	20·4	113 0 0	3 16 3	.....	1 15 10	118 12 1
Thrlmere.....	Thrlmere.....	38	49	87	21·8	32·5	54·3	273 13 4	4 16 5	0 14 6	11 2 11	310 7 2
Thurroul.....	Thurroul.....	61	51	112	46·8	36·1	82·9	302 10 8	3 16 5	12 18 4	7 10 9	326 16 2
Thompson's Creek.....	Burrage.....	18	14	32	10·8	7·6	18·4	54 8 4	2 14 6	3 0 0	5 0 0	65 2 10
Thornford.....	Thornford.....	16	16	32	11·0	11·9	22·9	136 0 0	4 11 0	.....	2 5 10	142 17 0
Thornleigh.....	Thornleigh.....	45	56	101	36·7	39·8	76·5	331 0 0	8 19 7	.....	18 18 7	358 18 2
Thorp's Pinch.....	Rydal.....	20	17	37	10·0	9·3	19·3	125 0 0	5 11 1	.....	2 10 10	133 1 11
Three mile Waterhole.....	Wolumla.....	31	28	59	22·9	19·5	42·4	171 0 0	4 16 0	.....	3 10 10	179 6 10
Thuddungra.....	Thuddungra.....	10	15	25	7·2	9·8	17·0	88 0 0	3 10 5	.....	1 17 10	93 8 3
Thurgoona.....	Thurgoona.....	31	25	56	22·1	19·0	41·1	171 0 0	6 11 3	.....	2 10 4	180 1 7
Tia.....	Walcha.....	21	18	39	15·6	15·0	30·6	160 10 0	5 4 7	.....	18 5 10	184 0 5
Tibooburra.....	Tibooburra.....	33	22	55	24·3	16·8	41·1	183 10 0	5 8 11	.....	21 3 2	210 2 1
Tighe's Hill.....	Tighe's Hill.....	144	160	304	99·1	100·4	199·5	724 6 8	55 14 8	.....	724 6 8	780 1 4
Tilba Tilba.....	Tilba Tilba.....	36	32	68	14·5	10·9	25·4	195 0 0	5 15 7	.....	4 16 6	205 12 1
Tilbuster.....	Armidale.....	27	33	60	22·2	21·0	43·2	171 0 0	5 14 2	.....	9 0 10	185 15 0
Tingha.....	Tingha.....	90	63	153	71·5	48·9	120·4	338 13 4	8 12 8	.....	14 10 11	364 18 8
Tinonee.....	Tinonee.....	55	34	89	42·6	26·1	68·7	217 4 11	4 2 6	17 2 0	21 17 0	260 6 5
Tintenbar.....	Tintenbar.....	36	23	59	25·2	16·2	41·4	171 0 0	5 4 0	.....	70 3 4	246 7 4
Tintnbull.....	Tamworth.....	10	11	21	7·8	7·4	15·2	125 0 0	4 7 7	.....	1 5 10	180 13 5
Tipperary Gully.....	Young.....	21	19	40	13·3	10·9	24·2	148 0 0	5 0 9	.....	14 9 4	167 10 1
Tirranna.....	Goulburn.....	14	18	32	9·9	12·7	22·6	113 0 0	2 19 1	.....	12 6 0	123 5 1
Tirrannia Creek.....	Lismore.....	25	32	57	19·1	24·0	43·1	171 0 0	4 2 4	.....	1 15 10	176 18 2
Tiverton.....	King's Vale.....	20	14	34	14·2	8·8	23·0	88 0 0	3 16 9	4 1 3	7 6 4	103 4 4
Tocumwall.....	Tocumwall.....	62	44	106	39·6	29·2	68·8	265 6 8	6 9 2	.....	42 0 11	313 16 9
Tomago.....	Tomago.....	17	7	24	14·9	5·0	19·9	88 0 0	3 7 5	.....	1 15 10	93 3 3
Tomerong.....	Tomerong.....	30	30	60	21·1	22·0	43·1	171 0 0	3 10 8	.....	7 10 4	182 1 0
Tomingley.....	Tomingley.....	41	36	77	18·1	12·0	30·1	159 0 0	5 8 2	.....	9 11 11	174 0 1
Tomki.....	Tatham.....	20	17	37	15·1	12·0	27·1	148 0 0	3 13 10	.....	3 11 10	155 5 8
Tom's Lagoon.....	Forbes.....	24	13	37	12·3	7·4	19·7	113 0 0	2 18 1	.....	2 0 10	117 18 11
Tongarra.....	Albion Park.....	20	16	36	15·3	11·4	26·7	82 13 4	2 3 8	.....	0 18 8	85 15 8
Toolaroo.....	Lismore.....	19	26	45	14·2	19·2	33·4	160 10 8	0 15 0	.....	16 18 6	178 4 2
Toolejooa.....	Gerrington.....	22	22	44	18·7	18·9	37·6	148 0 0	4 7 2	.....	132 9 4	284 16 6
Toongabbie.....	Toongabbie.....	35	27	62	24·8	17·0	41·8	261 0 0	4 12 0	0 11 4	10 14 5	276 17 9
Tooraweenah.....	Tooraweenah.....	24	14	38	19·3	11·7	31·0	141 3 4	4 1 5	.....	6 12 6	151 17 3
Toorooka.....	Hickey's Creek.....	13	7	20	10·8	6·1	16·9	88 0 0	1 13 6	.....	34 8 0	124 1 6
Tootal.....	The Rock.....	21	10	31	11·2	5·6	16·8	100 10 0	5 8 7	.....	24 3 10	130 2 5
Tooyal.....	Coolamon.....	7	16	23	5·9	11·2	17·1	113 0 0	2 9 2	.....	122 5 8	237 14 10
Topi Topi.....	Bungwahl.....	24	20	44	17·2	14·4	31·6	160 10 0	5 13 5	.....	14 0 10	180 4 3
Toronto.....	Toronto.....	40	25	65	23·3	16·9	40·2	171 0 0	7 10 0	.....	38 18 10	217 9 8
Toual.....	Murrumbateman.....	11	15	26	9·5	9·7	19·2	66 0 0	2 19 0	.....	1 3 8	70 2 8
Towamba.....	Towamba.....	16	24	40	11·2	18·7	29·9	148 0 0	2 15 0	.....	1 15 10	152 10 10
Townsend.....	Berridale.....	8	10	18	6·9	7·8	14·7	78 6 11	3 14 10	.....	1 0 9	83 1 9
Towrang.....	Towrang.....	17	10	27	9·9	6·4	16·3	135 8 4	2 16 10	.....	12 19 10	151 5 0
Trajere.....	Eugowra.....	13	9	22	7·8	5·8	13·6	82 13 4	2 18 8	1 6 9	17 0 6	103 19 3
Trange.....	Trange.....	78	67	145	50·2	46·2	96·4	381 3 4	8 8 4	2 16 9	28 10 8	420 19 1
Tregeagle.....	Lismore.....	26	32	58	21·4	23·5	44·9	159 10 0	5 12 1	.....	52 5 10	217 7 11

\* Closed 31st May.

APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls			Average Weekly Attendance.			Expenditure from Public Funds.											
		Boys.	Gnls.	Total.	Boys.	Gnls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Footage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.							
Trelowarren .....	Parkes .....	61	56	117	41.6	36.6	78.2	£ 341	s. 13	d. 4	£ 7	s. 15	d. 9	£ 29	s. 8	d. 9	£ 378	s. 17	d. 10
Tremarton .....	Stockton .....	22	21	43	15.4	16.4	31.8	204	0	3	6	7	5				37	17	10
Trevaylor .....	Emmaville .....	14	16	30	9.8	12.7	22.5	93	3	4	4	1	4				0	4	5
Triangle Flat .....	Rockley .....	12	9	21	7.0	6.5	13.5	98	15	8	3	11	9	6	17	6	1	14	0
Trunkey .....	Tunkey .....	32	35	67	24.7	26.3	51.0	235	0	0	4	3	9				77	2	0
Tubbul .....	Young .....	13	14	27	9.2	8.9	18.1	113	0	0	2	19	5				2	3	4
Tucabna .....	Ulmarra .....	15	24	39	11.8	20.3	32.1	118	15	0	2	14	5				70	7	10
Tucaburra .....	Billnudgel, via Lis more	22	12	34	15.1	7.4	22.5	135	8	4	4	11	7				10	3	6
Tucklan .....	Tucklan .....	20	28	48	14.3	20.2	34.5	136	0	0	1	5	0				6	15	10
Tuckombil .....	Alstonville .....	16	8	24	11.6	5.7	17.3	118	0	0	3	8	5				6	15	7
Tuckurumba .....	Coraki .....	13	15	28	10.0	12.0	22.0	103	11	8	3	14	4				1	1	0
Tuena .....	Tuena .....	21	25	46	16.0	17.4	33.4	255	8	4	5	18	8	11	7	10	15	4	6
Tuggerah .....	Tuggerah Lakes	33	25	58	24.5	16.5	41.0	171	0	0	5	8	1				2	10	7
Tuggranong .....	Queanbeyan .....	20	15	35	12.2	8.7	20.9	155	6	1	1	14	9	0	14	6	3	4	11
Tullmar .....	Albon Park .....	8	8	16	4.1	3.2	7.3	103	0	0	2	15	8				4	5	10
Tumberumba .....	Tumberumba .....	53	55	108	36.4	33.8	70.2	269	11	2	6	5	10				8	7	5
Turnblon .....	Young .....	6	11	17	3.8	5.1	8.9	72	0	0	0	12	6				1	10	0
Tumbulgum .....	Tumbulgum .....	38	37	75	29.8	30.8	60.6	229	0	0	4	18	6				14	4	3
Tumut .....	Tumut .....	156	125	281	124.0	94.5	218.5	522	3	11	21	11	2	57	19	6	68	1	11
Tumut Plains .....	Tumut .....	24	21	45	18.8	16.2	35.0	171	0	0	4	0	3				103	15	10
Tuncurry .....	Tuncurry .....	20	25	45	15.4	14.5	29.9	159	10	0	3	10	7				88	19	0
Tunnabutta .....	Mudgee .....	15	15	30	9.3	9.6	18.9	113	0	0	2	14	10				2	5	10
Tunstall .....	Lismore .....	10	12	22	8.4	9.2	17.6	110	18	4	4	1	10				114	0	4
Turlinjah .....	Turlinjah .....	17	16	33	11.5	10.1	21.6	125	0	0	4	13	10				101	9	10
Turner's Flat .....	Skilhon Flat .....	14	14	28	10.4	8.8	19.2	125	0	0	4	15	10				1	15	10
Tyagong .....	Young .....	19	11	30	12.0	6.2	18.2	122	11	8	5	5	1				1	15	10
Tyndale .....	Macleay .....	25	38	63	17.9	28.3	46.2	171	0	0	7	10	0				1	15	10
Uarby .....	Uarby .....	10	18	28	4.7	11.3	16.0	84	10	0	1	8	6	2	2	6	1	13	0
Ulladulla .....	Ulladulla .....	34	22	56	23.6	13.1	36.7	171	0	0	1	19	0				18	2	10
Ulmarra .....	Ulmarra .....	68	44	112	48.5	32.8	81.3	275	10	0	4	4	8				12	15	11
Ulmarra, East .....	Ulmarra .....	21	18	39	15.4	14.8	30.2	149	18	4	1	5	6	1	0	0	16	9	0
Ultimo .....	Sydney .....	360	346	706	265.5	239.9	505.4	1,516	3	4	32	5	5				109	6	9
Umaralla Siding .....	Cooma .....	14	10	24	10.8	6.2	17.0	125	0	0	3	10	0				64	0	10
Unanderra .....	Unanderra .....	99	85	184	68.7	51.2	119.9	375	4	8	13	16	0	4	10	9	167	6	0
Unkya Creek .....	Unkya Creek .....	26	22	48	18.9	17.1	36.0	135	8	4	3	14	5	3	0	0	116	2	6
Uralla .....	Uralla .....	90	71	161	54.6	37.0	91.6	398	0	0	12	10	7				110	14	9
Urana .....	Urana .....	45	43	88	31.5	28.1	59.6	285	0	0	7	19	11	1	7	0	9	12	0
Urangbell .....	Upper Copmanhurst	20	17	37	16.2	12.8	29.0	136	0	0	3	0	11				31	5	4
Uranquinty .....	Uranquinty .....	19	17	36	11.5	13.1	24.6	166	16	8	3	8	9	6	0	8	9	18	4
Utungan .....	Macksville .....	11	8	19	7.7	7.0	14.7	58	16	0	2	19	4	2	10	4			
Vacy .....	Vacy .....	31	28	59	25.4	23.2	48.6	171	0	0	4	0	8				35	12	1
Vere .....	Whittingham .....	11	13	24	6.8	7.3	14.1	125	0	0	4	14	11				5	5	10
Verona .....	Quaana .....	11	18	29	7.9	14.1	22.0	113	0	0	5	5	8				20	7	4
Vineyard .....	Riverstone .....	16	21	37	10.3	12.0	22.3	139	16	6	5	0	4				2	3	10
Wagga Wagga .....	Wagga Wagga .....	182	164	346	121.6	110.9	232.5	752	3	0	27	2	11	7	18	9	451	16	5
Wagga Wagga Experimental Farm	Bomen .....	19	25	44	12.1	18.2	30.3	150	6	8	12	5	7	30	18	6	511	1	10
Wagga Wagga, North	Wagga Wagga .....	51	33	84	31.9	17.7	49.6	251	18	7	6	9	11	15	3	1	578	13	10
Wagga Wagga, South	Wagga Wagga .....	185	175	360	120.3	114.7	235.0	712	18	6	31	18	8				107	3	2
Wagra .....	Wagra .....	15	17	32	14.5	15.7	30.2	149	18	4	3	0	2				3	3	0
Wagragobilly .....	Gundagai .....	4	13	17	2.0	8.7	10.7	88	0	0	2	19	0	2	0	3	15	5	0
Wakefield .....	Wallsend .....	12	20	32	6.8	15.2	22.0	28	5	0	1	3	11						
Walang .....	Glanmire .....	17	10	27	12.7	7.1	19.8	88	0	0				1	3	3	1	18	4
Walbundrie .....	Walbundrie .....	22	16	38	14.3	9.6	23.9	113	0	0	4	2	5				1	18	4
Walcha .....	Walcha .....	101	120	221	75.5	80.9	156.4	402	11	8	12	0	9				13	17	2
Walcha Road .....	Walcha Road .....	10	8	18	7.2	6.2	13.4	135	0	0	1	2	4				2	5	10
Waldegrave .....	Forest Reefs .....	22	20	42	12.3	9.4	21.7	120	13	4	4	17	5				3	0	10
Walgett .....	Walgett .....	48	41	89	32.2	28.1	60.3	285	0	0	1	9	4	6	13	0	17	6	11
Walhallow .....	Qurindi .....	16	25	41	11.4	18.3	30.2	133	15	0	4	17	5				7	18	10
Wallabadah .....	Wallabadah .....	34	41	95	22.1	28.1	50.2	257	13	4	8	1	8	2	8	6	511	7	7
Wallaby Hill .....	Jamberoo .....	13	7	20	8.5	4.3	12.8	113	0	0	2	10	11	1	15	10			
Wallagoot .....	Tathra .....	26	15	41	19.8	8.6	28.4	136	0	0	5	13	6				2	0	10
Wallalong .....	Hinton .....	40	31	71	27.6	19.6	47.2	223	10	0	8	7	11	3	6	9	60	11	9
Wallamba, Lower	Faulford .....	5	10	15	3.0	8.4	11.4	65	5	10	1	0	9	2	3	0	0	9	8
Wallambyne .....	St. Albans .....	14	9	23	11.1	8.5	19.6	129	6	5	4	4	3	3	4	10	1	15	10
Wallangra .....	Wallangra .....	18	19	37	12.5	13.9	26.4	113	0	0	5	0	9				1	15	10
Wallaroo .....	Cowra .....	12	6	19	4.9	2.7	7.6	125	0	0	2	12	9				9	0	10
Walla Walla .....	Walla Walla .....	23	23	46	15.6	12.5	28.1	160	10	0	4	10	10				26	15	10
Wallaya .....	Robertson .....	10	7	17	5.3	3.8	9.1	73	6	8	4	8	11	1	10	6	0	13	9
Wallendbeen .....	Wallendbeen .....	40	31	71	25.0	22.0	50.0	293	15	0	7	9	1	1	13	9	5	13	5
Wallerawang .....	Wallerawang .....	74	65	139	48.7	36.1	84.8	243	0	0	8	16	7				151	11	6
Wallgrove .....	Eastern Creek .....	47	41	88	33.0	26.2	59.2	227	16	8	5	5	8				11	18	11
Wall .....	Wall .....	17	15	32	9.0	9.5	18.5	152	11	8	2	0	10	1	12	3	4	11	7
Wallsend .....	Wallsend .....	473	417	890	353.5	296.6	650.1	1,789	1	3	37	7	1						

APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.					
		Boys.	Girls.	Total.	Boys.	Gnls.	Total.	Salaries.		Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
								£	s. d.	£	s. d.	£	s. d.
Wantiool	Junee	9	11	20	5.2	6.6	11.9	102	0 0	2 8 6	.....	3 5 10	107 14 4
Wapengo	Bega	16	13	29	11.6	9.7	21.3	113	0 0	3 7 9	.....	2 5 10	118 13 7
Warangesda	Warangesda	25	28	53	14.7	15.4	30.1	171	0 0	3 17 5	.....	2 5 10	177 3 3
Waratah	Waratah	104	92	196	74.8	55.2	130.0	320	13 4	8 13 4	.....	32 12 8	361 19 4
Warbro	Hickey's Creek	12	9	21	8.4	6.4	14.8	103	11 8	2 19 9	1 0 0	1 1 0	108 12 5
Wardell	Wardell	52	55	107	38.7	41.4	80.1	185	0 0	7 3 8	.....	8 6 6	200 10 2
Ward's River	Stroud	14	7	21	9.1	5.8	14.9	88	1 0	2 13 4	.....	2 12 1	93 6 5
Wargela	Tangmangaroo	15	12	27	11.0	10.1	21.1	135	8 4	2 18 6	.....	10 7 6	148 14 4
Warialda	Warialda	62	85	147	33.0	50.2	83.2	339	2 3	5 11 10	.....	38 6 7	383 0 8
Warkton	Warkton	9	16	25	6.2	9.7	15.9	113	0 0	2 11 3	.....	1 19 6	117 10 9
Warkworth	Warkworth	20	28	48	13.0	21.1	34.1	171	0 0	4 8 0	.....	47 5 10	222 13 10
Warne	Warne	18	25	43	12.1	18.0	30.1	122	8 4	4 13 7	7 5 8	16 0 10	150 8 5
Warraderry	Grenfell	12	11	23	11.1	8.2	19.3	36	13 3	0 9 0	1 18 6	23 10 0	62 10 9
Warrah	Willow Tree	11	12	23	6.6	7.3	13.9	91	0 0	4 4 9	.....	1 5 10	96 10 7
Warrangunyah	Iiford	13	12	25	10.2	10.4	20.6	113	0 0	1 8 2	.....	90 15 10	205 4 0
Warren	Warren	95	111	206	60.4	71.2	131.6	557	0 0	8 13 8	4 7 8	39 19 3	610 0 7
Watergumben	Canowindra	12	9	21	8.7	4.7	13.4	125	0 0	3 12 10	.....	2 13 4	131 6 2
Waterloo	Alexandria	343	290	638	254.7	203.8	458.5	1,697	19 6	36 15 6	3 18 0	84 18 5	1,823 11 5
Watson's Bay	Watson's Bay	79	85	164	59.0	56.4	115.4	363	3 4	9 17 8	9 10 2	236 19 7	619 10 9
Watson's Reef	Cunningham	32	29	61	18.5	18.9	37.4	160	1 8	2 12 6	.....	2 15 10	165 10 0
Wattamadara	Cowra	20	18	38	11.3	11.0	22.3	113	0 0	2 15 6	1 11 6	1 15 0	119 2 0
Wartamolla	Berry	14	12	26	11.2	10.3	21.5	89	0 0	1 15 0	2 10 6	3 12 0	96 17 6
Wattle Flat	Wattle Flat	42	36	78	16.1	12.9	29.0	219	0 0	5 7 5	.....	84 6 11	303 14 4
Wattleville	Neville	13	15	28	5.3	5.9	11.2	113	0 0	3 3 6	.....	26 7 10	142 11 4
Wauchope	Wauchope	40	53	93	29.2	37.9	67.1	235	0 0	5 10 0	.....	6 16 11	247 6 11
Waverley	Waverley	513	507	1,020	345.4	318.9	664.3	2,322	2 8	47 12 11	7 6 6	273 14 9	2,650 16 10
Weddin	Young	23	18	41	17.2	14.5	31.7	148	0 0	6 14 6	.....	9 7 4	164 1 10
Weetalaba*	Tambar Springs	7	5	12	6.0	3.9	9.9	42	0 0	2 11 7	.....	2 0 0	46 11 7
Wee Waa	Wee Waa	65	63	128	39.7	43.2	82.9	270	7 5	11 16 9	.....	19 1 0	301 5 2
Wellesley	Delegate	12	10	22	9.9	7.8	17.7	72	0 0	3 7 5	6 16 3	0 10 0	82 13 8
Wellngrove	Glen Innes	23	17	40	20.4	12.9	33.3	155	1 8	4 17 7	7 0 0	5 5 2	172 4 5
Wellington	Wellington	187	136	323	119.3	83.7	203.0	578	0 1	3 16 8	1 13 6	56 16 7	640 6 10
Welshman's Creek	Wallarobba	17	12	29	13.4	9.8	23.2	126	8 4	4 2 3	.....	1 15 10	5 18 1
Wentworth	Wentworth	75	54	129	46.6	32.4	79.0	423	16 2	5 5 10	.....	27 5 11	456 7 11
Wentworth Falls	Wentworth Falls	28	20	48	19.7	17.3	37.0	160	10 0	3 6 5	.....	15 0 10	178 17 3
Wentworthville	Wentworthville	49	29	78	36.7	20.5	57.2	219	0 0	5 14 10	.....	110 3 6	334 18 4
Werombi	Camden	13	11	24	10.7	7.8	18.5	125	0 0	3 16 0	.....	2 3 4	180 19 4
Werriberri	Picton	13	8	21	8.7	6.4	15.1	125	0 0	1 9 0	.....	1 15 10	128 4 10
Werris Creek	Werris Creek	44	44	88	34.5	32.2	66.7	286	0 0	5 0 11	.....	6 16 11	297 17 10
Wetherill Park	Wetherill Park	55	46	101	32.0	28.1	60.1	285	0 0	4 2 10	.....	12 9 11	301 12 9
Whian Whian	Eureka	20	23	43	13.6	17.0	30.6	148	0 0	2 5 1	.....	1 5 10	151 10 11
Whipstuck	Wyndham	15	13	28	9.9	7.9	17.8	136	0 0	4 5 7	.....	1 15 10	142 1 5
White Cliffs	White Cliffs	48	39	87	28.5	20.1	48.6	124	13 4	5 6 5	.....	110 11 5	240 11 2
Whiteman Creek	Whiteman Creek	15	17	32	11.8	12.5	24.3	113	0 0	3 11 5	.....	25 13 1	142 4 6
White Rock	White Rock	17	18	35	11.3	13.1	24.4	125	0 0	4 12 8	.....	9 1 10	138 14 6
Whittingham	Whittingham	26	11	37	20.2	6.9	27.1	148	0 0	3 8 5	.....	8 11 4	159 19 9
Whutton	Whutton	40	38	78	25.1	24.7	49.8	285	0 0	6 19 10	8 12 5	8 18 7	309 10 10
Wickham	Wickham	516	546	1,062	359.9	348.3	708.2	2,294	1 6	56 12 2	4 6 3	183 19 5	2,538 19 4
Wilberforce	Wilberforce	65	59	124	48.2	44.3	92.5	374	1 8	7 12 0	.....	50 8 11	432 2 7
Wilbertree	Canadian Lead	14	12	26	5.6	5.6	11.2	125	0 0	3 0 4	.....	2 5 10	130 6 2
Wilcannia	Wilcannia	74	66	140	49.6	46.4	96.0	433	15 1	10 0 3	6 0 0	106 2 0	555 17 4
Willandra	Dubbo	13	18	31	8.6	13.6	22.2	135	8 4	0 16 5	1 0 0	40 16 2	177 0 11
William-street	Sydney	415	365	780	299.2	252.0	551.2	1,853	3 2	47 3 6	0 6 6	85 7 9	1,986 0 11
William Town	William Town	32	21	53	23.9	18.4	42.3	171	0 0	5 8 11	.....	71 0 10	247 9 9
Willoughby	Willoughby	116	93	209	78.6	60.0	138.6	508	16 8	8 10 7	11 2 3	128 18 11	657 8 5
Willow Tree	Willow Tree	17	21	38	12.5	13.9	26.4	148	0 0	1 9 0	.....	60 18 4	210 7 4
Wilson's Downfall	Wilson's Downfall	10	13	23	7.8	9.7	17.5	88	0 0	2 19 2	2 3 11	0 10 0	93 13 1
Wilton	Wilton	15	28	43	7.9	16.2	24.1	148	0 0	3 2 2	.....	1 5 10	152 8 0
Winburndale	Duramana	16	16	32	11.3	12.3	23.6	84	15 0	4 5 0	.....	7 15 6	96 15 6
Winchendon Vale	Winchendon Vale	17	19	36	12.3	11.5	23.8	136	0 0	3 9 11	4 8 4	5 1 11	149 0 2
Windyey	Windyey	35	38	73	23.6	24.1	47.7	238	0 9	6 6 3	.....	8 15 5	253 2 5
Windowie	Gilmore	20	17	37	12.7	10.2	22.9	113	0 0	3 19 6	.....	16 4 10	133 14 4
Windsor	Windsor	173	162	335	120.7	110.6	231.3	952	13 1	24 5 6	.....	1,004 9 5	1,981 8 0
Wingello	Wingello	13	16	34	9.9	9.6	19.5	113	0 0	3 2 4	.....	2 5 10	118 18 2
Wingen	Wingen	18	12	30	12.5	7.6	20.1	28	5 0	3 1 4	.....	8 7 9	39 14 1
Wingham	Wingham	83	91	174	62.4	68.1	130.5	332	13 6	8 0 6	3 0 0	229 15 3	573 9 3
Winton	Via Tamworth	18	19	37	14.6	10.4	25.0	150	0 0	4 10 2	.....	15 10 11	170 1 1
Wurrabelah	Gunnedah	29	21	50	18.8	13.8	32.6	160	10 0	4 13 6	.....	23 11 10	193 15 4
Wirrimbi	Bowraville	14	13	27	11.0	10.1	21.1	135	8 4	4 2 4	.....	53 15 5	193 6 1
Wiseman's Ferry	Wiseman's Ferry	28	18	46	22.4	13.5	35.9	171	0 0	4 18 7	.....	1 15 10	177 14 5
Woerden	Clarencetown	17	11	28	11.0	8.1	19.1	113	0 0	4 4 10	.....	13 6 7	130 11 5
Wollar	Wollar	13	7	20	8.0	5.5	13.5	113	0 0	3 8 11	.....	11 5 10	127 14 9
Wollombi	Wollombi	24	24	48	15.4	14.8	30.2	195	0 0	6 15 11	.....	157 6 11	359 2 10
Wollongong	Wollongong	301	256	557	232.5	200.4	432.9	1,332	19 9	38 16 4	16 18 4	363 18 9	1,754 13 2
Wollun	Walcha Road	9	16	25	8.0	13.0	21.0	135	8 4	5 8 6	.....	25 2 6	165 19 4
Wolumba, South	Wolumba	26	22	48	20.4	16.3	36.7	148	0 0	4 6 5	.....	16 10 10	168 17 3
Wombah	Chatsworth Island	11	13	24	10.1	11.1	21.2	125	0 0	3 7 5	.....	44 19 4	173 6 9
Wombat	Wombat	50	41	91	23.4	19.4	42.8	223	0 0	9 1 11	.....	6 11 11	238 13 10
Wongajong	Forbes	32	34	66	22.2	19.2	41.4	147	15 0	8 14 10	4 18 0	10 0 1	171 7 11
Wondalga	Adelong	16	12	28	12.9	9.4	22.3	28	5 0	.....	.....	3 18 0	32 3 0
Woodburn	South Woodburn	60	54	114	33.9	25.9	59.8	315	13 4	5 11 7	.....	10 15 11	332 0 10
Woodford Dale	Brushgrove	15	16	31	10.8	12.5	23.3	171	0 0	3 11 5	.....	1 15 10	176 7 3
Woodford Leigh	Woodford Leigh	15	12	27	8.4	7.6	16.0	148	0 0	4 14 1	.....	41 13 10	194 7 11

\* Closed, 31st July.

## APPENDIX VII—continued.

Name of School.	Post Town.	Number of Children on Rolls			Average Weekly Attendance			Expenditure from Public Funds.					
		Boys	Girls	Total.	Boys	Girls	Total	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.	
Woodhill .....	Berry .....	11	5	16	9.8	4.1	13.9	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Woodhouselee ..	Woodhouselee .....	7	14	21	3.9	8.3	12.2	66 0 0	3 2 8	.....	6 2 6	75 5 2	
Woodport .....	Gosford .....	34	38	72	16.5	19.8	36.3	125 0 0	2 3 2	.....	2 2 10	129 6 0	
Woodonga .....	Young .....	13	14	27	8.4	8.3	16.7	301 13 4	7 6 7	.....	169 13 8	478 13 7	
Wood's Reef ...	Barraba .....	15	17	32	9.1	11.1	20.2	134 8 4	2 13 3	1 9 0	3 10 6	142 1 1	
Woodstock .....	Rooty Hill .....	61	32	93	41.9	18.7	60.6	113 0 0	3 19 10	.....	1 15 10	118 15 8	
Woogoolga .....	Woogoolga .....	25	17	42	20.5	11.3	31.8	230 11 2	7 12 8	.....	23 15 5	261 19 3	
Woollahra .....	Woollahra .....	695	641	1,336	486.2	425.1	911.3	148 0 0	2 18 8	.....	1 5 10	152 4 6	
Woolla Woolla ..	Taree .....	20	9	29	14.4	7.6	22.0	2,857 14 7	64 3 0	7 15 6	259 18 4	3,189 11 5	
Woolomol .....	Tamworth .....	26	29	55	18.2	23.7	41.9	113 0 0	3 0 9	.....	1 5 10	117 6 7	
Woolwich .....	Woolwich .....	81	33	114	53.8	20.8	74.6	153 15 0	4 9 0	.....	9 16 4	158 0 4	
Woomargama .....	Woomargama .....	12	16	28	7.4	11.4	18.8	307 13 4	7 11 9	.....	37 17 5	353 2 6	
Woonona .....	Woonona .....	213	183	396	167.4	133.8	301.2	125 0 0	4 17 4	.....	19 8 4	149 5 8	
Worragee .....	Nowra .....	10	6	16	7.3	4.3	11.6	782 10 8	7 9 11	.....	104 4 11	894 5 6	
Wowagin .....	Taralga .....	18	20	38	14.3	16.5	30.8	125 0 0	2 11 2	.....	12 15 10	140 7 0	
Wrightville .....	Wrightville .....	79	83	162	56.8	52.7	109.5	146 18 4	4 7 1	.....	11 7 6	162 12 11	
Wyagdon .....	Bathurst .....	17	13	30	11.9	8.1	20.0	277 10 0	10 19 2	.....	25 15 11	314 5 1	
Wyadra .....	Gulgong .....	11	16	27	6.4	9.9	16.3	113 0 0	6 1 11	.....	35 7 10	154 9 9	
Wyalong .....	Wyalong .....	119	104	223	78.8	72.6	151.4	88 0 0	4 7 10	.....	2 5 10	94 13 8	
Wyalong, West ..	Wyalong, West ..	145	115	260	105.4	78.9	184.3	502 15 0	8 10 0	.....	65 0 5	576 5 5	
Wyee .....	Wyee .....	13	9	22	8.1	5.0	13.1	16 14 11	16 14 11	4 7 9	365 9 11	929 14 4	
Wyndella .....	Aimadale .....	13	14	27	10.3	9.6	19.9	80 0 0	3 5 9	.....	4 15 0	88 0 9	
Wyndham .....	Wyndham .....	25	24	49	17.7	15.9	33.6	125 0 0	3 14 6	.....	2 5 10	131 0 4	
Wyong .....	Wyong .....	55	40	95	37.8	23.6	63.4	171 0 0	3 15 11	.....	2 6 10	177 2 9	
Wyong Creek .....	Wyong Creek .....	28	12	40	21.4	9.2	30.6	225 0 0	4 0 6	.....	75 6 11	304 7 5	
Wyrallah .....	Wyrallah .....	41	40	81	29.7	26.2	55.9	148 0 0	4 5 9	.....	1 15 10	154 1 7	
Yalgogrin .....	Yalgogrin .....	24	29	53	18.0	16.2	34.2	218 0 0	4 16 10	.....	7 9 5	230 6 3	
Yallaroi .....	Warialda .....	9	10	19	4.9	7.0	11.9	159 0 0	6 3 3	.....	2 0 11	167 4 1	
Yalwal .....	Yalwal .....	38	39	77	25.3	22.6	47.9	72 11 3	1 4 7	3 12 6	49 5 0	126 13 4	
Yamba .....	Yamba .....	35	19	54	28.1	14.7	43.8	237 2 0	5 17 7	.....	13 5 7	256 5 2	
Yambla .....	Table Top .....	11	16	27	9.2	13.1	22.3	171 0 0	3 17 9	.....	70 10 3	245 8 0	
Yammatree .....	Bongongolong ..	18	9	27	9.9	4.6	14.5	113 0 0	2 15 8	3 14 0	8 13 4	128 3 0	
Yarra .....	Cowra .....	22	25	47	10.0	10.6	20.6	148 0 0	4 0 7	.....	2 0 10	119 1 5	
Yarraford .....	Glen Innes .....	21	12	33	14.0	9.9	23.9	113 0 0	4 18 1	.....	1 5 10	152 0 2	
Yarragundry .....	Wagga Wagga .....	16	11	27	13.3	7.3	20.6	113 0 0	3 4 9	.....	2 14 10	118 19 7	
Yarrabappin .....	Stuart's Point .....	30	25	55	21.7	20.9	42.6	185 11 8	4 2 1	.....	12 5 10	201 19 7	
Yarramalong .....	Yarramalong .....	25	13	38	20.2	9.9	30.1	148 0 0	4 6 3	.....	1 19 10	154 6 1	
Yarramundi .....	Richmond .....	27	19	46	19.3	14.7	34.0	171 0 0	5 10 10	.....	1 15 6	178 6 4	
Yarranoo .....	Binda .....	16	16	32	11.0	9.8	20.8	66 0 0	4 9 7	.....	1 3 0	71 12 7	
Yarrawah .....	Robertson .....	23	28	51	9.0	12.0	21.0	148 0 0	3 16 6	11 11 0	71 10 10	234 18 4	
Yarrowitch* .....	Walcha .....	Returns destroyed by fire.						8 13 2	.....	1 0 0	.....	133 19 11	143 13 1
Yarrowyck .....	Aimadale .....	21	11	32	14.1	5.7	19.8	113 0 0	2 16 3	.....	2 5 10	118 2 1	
Yarrunga .....	Avoca .....	15	16	31	10.3	10.6	20.9	148 0 0	4 1 0	.....	120 12 0	272 13 0	
Yass .....	Yass .....	119	109	228	93.5	76.9	170.4	404 10 0	15 14 5	0 15 3	123 0 0	543 19 8	
Yatheyattah .....	Yatheyattah .....	15	11	26	9.5	8.5	18.0	133 0 0	4 15 5	1 5 2	2 5 10	141 6 5	
Yeoval .....	Yeoval .....	14	14	28	7.8	9.4	17.2	116 11 4	2 17 7	.....	6 14 2	126 3 1	
Yerong Creek .....	Yerong Creek .....	29	32	61	17.6	23.3	39.9	171 0 0	11 9 8	17 7 5	33 15 2	233 12 3	
Yetholme .....	Yetholme .....	12	11	23	7.5	7.2	14.7	113 0 0	4 12 9	.....	26 0 10	143 13 7	
Yetman .....	Yetman .....	18	18	36	13.5	14.0	27.5	141 5 0	6 8 3	.....	58 2 5	205 15 8	
Yorklea .....	Casino .....	19	20	39	12.2	13.0	25.2	100 10 0	4 18 5	1 11 0	2 0 0	108 19 5	
Young .....	Young .....	249	220	469	169.2	159.5	328.7	1,391 13 4	27 1 3	3 1 9	498 9 0	1,920 5 4	
Young Wallsend ..	Young Wallsend ..	27	29	56	14.5	16.0	30.5	125 0 0	5 16 11	.....	1 15 10	132 12 9	
Yowaka .....	Pambula .....	15	20	35	10.1	12.8	22.9	160 10 0	2 1 0	.....	14 15 10	177 6 10	
Yurrame .....	Candelo .....	29	28	57	21.3	20.3	41.6	166 3 4	4 4 8	.....	6 6 10	176 14 10	

\* Closed, 11th February

## APPENDIX VIII.

ATTENDANCE of Children at Provisional Schools for the Quarter ending 31st December, 1898, or for the last Quarter of that year during which the Schools were in operation.

Name of School.	Post Town	Number of Children on Rolls.			Average Weekly Attendance			Expenditure from Public Funds.				
		Boys	Girls	Total.	Boys	Girls	Total	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
Ardnachlach ..	Galong .....	7	13	20	5.3	10.6	15.9	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Arthurville ..	Arthurville .....	11	9	20	5.4	6.1	11.5	58 4 2	2 7 5	2 5 8	44 10 0	107 7 3
Bagawah .....	South Grafton ..	15	12	27	10.5	8.8	19.3	72 0 0	3 3 0	2 17 10	.....	78 0 10
Bago, Lower ..	Batlow .....	8	10	18	5.6	8.5	14.1	88 0 0	2 13 0	1 10 0	3 10 0	95 13 0
Bamarang .....	Nowra .....	13	14	27	8.4	10.1	18.5	69 15 8	2 6 5	3 12 0	.....	75 14 1
Bando* .....	Gunnedah .....	8	3	11	6.3	1.8	8.1	84 0 0	2 6 2	.....	.....	86 6 2
Baigong .....	Tambaroora .....	8	10	18	7.1	8.5	15.6	53 6 8	3 4 2	.....	1 0 0	57 10 10
Barnett .....	Moanbrook .....	13	7	20	12.4	6.5	18.9	86 13 4	2 13 4	0 8 0	64 7 10	153 2 6
Barragon .....	Wollar .....	11	8	19	5.1	6.7	11.8	88 0 0	3 4 7	.....	.....	91 4 7
Beaconsfield ..	Temora .....	14	14	28	10.8	10.1	20.9	76 0 0	1 18 10	.....	7 0 0	84 18 10
Bear Hill .....	Bear Hill .....	7	7	14	3.7	3.8	7.5	38 0 5	3 13 2	4 4 3	.....	45 17 10
Beilsdown .....	Belingen .....	13	5	18	11.1	4.6	15.7	77 6 8	3 10 6	.....	0 10 0	81 7 2
								82 13 4	2 15 7	.....	0 10 0	85 18 11

\* Closed, 31st August.

APPENDIX VIII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.					Total.									
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Traveling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c											
							£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.				
Belmore River, Upper.	Gladstone	10	5	15	6 6	3 8	10 4	72	0	0	2	1	1					74	1	1		
Ben Bullen	Wallerawang	8	6	14	5 3	4 8	10 1	64	8	7	1	11	0	2	11	6	0	10	0	69	1	1
Beri	Warne	9	6	15	6 5	4 3	10 8	72	0	0	2	9	7				0	6	6	74	16	1
Bevendale	Bevendale	8	9	17	7 3	6 9	14 2	72	0	0	0	18	9	3	4	0	0	5	0	76	7	9
Bilambil	Tweed Heads	12	10	22	10 3	8 9	19 2	20	13	4	6	4	3	2	16	3	6	12	6	36	6	4
Binglebrah	Gresford	6	10	16	5 0	7 5	12 5	51	9	8	3	4	7	1	5	7	0	7	6	56	7	4
Blackville	Blackville	13	12	25	7 8	8 3	16 1	80	0	0	3	11	1				0	7	6	83	18	7
Blair Hill	Glenceoe	7	7	14	5 8	4 3	10 1	18	0	0										18	0	0
Blakney Creek	Dalton	10	14	24	5 4	7 9	13 3	71	2	0	3	18	7				0	15	0	74	15	7
Blaxlands	South Grafton	9	13	22	7 2	10 9	18 1	65	8	4				3	19	3	71	1	7	140	9	2
Blaxland's Ridge	Comleroy Road	15	15	30	8 9	9 4	18 3	88	0	0	4	7	7				19	11	4	111	18	11
Bobin Flat	Wingham	5	14	19	4 5	12 6	17 1	67	17	9	0	15	9	2	2	11				70	16	5
Bohnock	Pampoolah	14	14	28	11 6	11 7	23 3	48	13	4	0	18	10							49	12	2
Bohvia	Bohvia	12	12	24	9 1	9 0	18 1	88	0	0	3	0	10				0	10	0	91	10	10
Bongologong	Gundagai	11	9	20	7 1	6 4	13 5	72	0	0	1	12	0				1	15	0	75	7	0
Boogleguble	Dubbo	10	14	24	7 3	8 8	16 1	72	0	0	3	4	1				2	12	6	77	16	7
Boomey	Molong	10	15	25	7 2	9 5	16 7	71	0	0	0	18	3							74	18	3
Boonjaub	South Grafton	11	10	21	9 4	7 9	17 3	88	0	0	3	12	1				12	0	0	103	12	1
Boorooban	Wanganella	10	14	24	6 3	9 5	15 8	10	5	2	5	2	0	3	0	0	9	15	7	28	2	9
Boree Cabonne	Cheeseman's Creek	10	9	19	8 3	7 7	16 0	88	0	0	3	10	5				20	16	6	112	6	11
Botobolar, Upper	Lue	16	8	24	13 3	6 9	20 2	58	13	4	4	11	8				5	17	10	69	2	10
Box Ridge	Sofala	15	10	25	10 5	6 8	17 3	88	0	0	4	8	7				12	9	0	104	17	7
Braefield	Qurindi	13	12	25	9 3	8 9	18 2	88	0	0	4	6	5				63	3	2	155	9	7
Brandon Hill	Kiama	5	10	15	1 7	7 8	9 5	72	0	0	3	7	11							75	7	11
Bredbo, North	Bredbo	8	8	16	5 8	7 1	12 9	42	0	0	5	4	6	4	14	9				56	1	3
Breelong, West	Gulgandra	13	10	23	9 8	6 5	16 3	72	0	0	3	16	4							75	16	4
Brewarrina Mission	Brewarrina	8	11	19	7 3	10 3	17 6	88	0	0	1	9	0							89	9	0
Bribaree	Thuddungra	6	6	12	5 7	5 1	10 8	6	10	0				2	7	9				8	17	9
Bridgewater	Molong	7	10	17	5 3	7 9	13 2	70	4	9	4	16	2	2	12	6				77	13	5
Briery	Wandsworth	12	7	19	7 1	5 0	12 1	70	0	0	3	14	4				5	12	6	79	6	10
Brightling Park	Gulgambone	12	9	21	8 5	8 1	16 6	54	0	0	3	15	7	2	7	9				60	3	4
Brisbane Valley	Norway	12	14	26	8 8	10 1	18 9	88	0	0	3	10	8				10	15	0	102	5	8
Brooman	Via Milton	11	6	17	7 9	4 3	12 2	72	0	0	3	18	8				4	12	6	80	11	2
Brungle	Brungle	10	11	21	7 5	8 2	15 7	11	9	9							94	10	0	105	19	9
Brushy Creek	Guyra	3	11	14	2 2	7 7	9 9	72	0	0	3	2	10				0	12	6	75	15	4
Buckajo	Bega	13	6	19	9 9	5 3	15 2	34	0	0	5	10	3	2	5	0	45	0	0	86	15	3
Budden	Rylstone	12	12	24	5 8	9 2	15 0	74	13	4	2	9	5	1	18	9	1	0	0	80	1	6
Budgerabong	Via Forbes	8	13	21	4 5	8 0	12 5	72	0	0	2	14	0	0	17	6	1	6	2	76	17	8
Bullenbolong	Berridale	6	14	20	4 8	12 4	17 2	72	14	8	3	12	1	3	3	3	5	10	0	85	0	0
Bundawarrah	Temora	17	10	27	11 6	6 8	18 4	73	6	8	4	10	7	0	7	6	0	9	6	78	14	3
Bundemar	Trangie	14	9	23	10 1	6 4	16 5	76	13	4	0	7	7	6	14	6	12	10	0	96	5	5
Bunyan	Cooma	8	5	13	3 4	2 8	6 2	72	0	0	3	10	8	0	18	10	1	8	6	77	18	0
Bureen	Denman	10	9	19	8 7	7 2	15 9	72	14	2	5	6	10				2	18	11	80	19	11
Burrumbuttock, North	Burrumbuttock	7	11	18	6 1	8 6	14 7	77	6	8	2	17	1	1	10	0				81	13	9
Butherwah	Urana	8	6	14	6 0	3 5	9 5	72	0	0	2	12	5	1	8	11	0	2	0	76	3	4
Bynya	Narrandera	8	13	21	4 1	6 5	10 6	84	0	0	3	7	4				0	15	0	88	2	4
Cambill Creek	Leadville	8	7	15	4 6	3 3	7 9	75	0	0	3	11	11	2	10	8				81	2	7
Camden Haven, Upper	Kendall	12	13	25	8 6	9 8	18 4	88	0	0	1	19	1				114	19	10	204	18	11
Camira	Myall Creek, via Lawrence.	6	12	18	4 5	8 6	13 1	66	0	0	4	4	9	4	5	0	1	10	0	75	19	9
Carinda	Carinda	10	5	15	8 0	4 1	12 1	70	1	3	3	6	3	5	15	6	11	12	6	90	15	6
Carrabolla	Lostock	7	12	19	4 8	7 6	12 4	63	11	5	3	2	9	2	8	1	15	13	3	84	15	6
Carwell	Rylstone	11	13	24	9 1	10 8	19 9	44	0	0	2	14	10	2	11	9				49	6	7
Castle Rock	Muswellbrook	5	10	15	4 4	6 1	10 5	43	13	10	0	14	6	1	9	1				45	17	5
Caulderwood	Jugiong	10	9	19	8 4	8 8	17 2	82	13	4	3	2	3	4	3	9	17	11	6	107	10	10
Chanticleer	Morundah	6	7	13	4 2	5 4	9 6	68	17	1	0	13	5	4	10	3				74	0	9
Cherson	Gundy	9	9	18	5 9	5 8	11 7	24	0	0	6	5	8	1	17	3				32	2	11
Clearbank †	Wellmgrove	4	6	10	3 3	3 7	7 0	18	0	0										18	0	0
Cluri	Manilla	10	9	19	5 7	5 5	11 2	72	0	0	4	4	1	1	9	9	6	0	0	83	13	10
Coalbagget †	Belarbigull	5	8	13	3 2	5 4	8 6	18	0	0										18	0	0
Coffin Rock	Wagga Wagga	6	11	17	5 7	9 9	15 6	86	13	4	3	13	7							90	6	11
Collengulhe, South	Collengulhe	12	11	23	6 7	9 3	16 0	31	15	8	2	14	10	4	7	9	91	2	0	130	0	3
Collingwood	Mudgee	15	11	26	8 0	6 6	14 6	81	6	8	2	10	10				1	0	0	84	17	6
Collombatta	Green Hill	12	11	23	8 0	7 3	15 3	82	13	4	1	15	6	2	1	0				86	9	10
Comarong	Comarong	7	7	14	4 2	4 2	8 4	69	17	3	2	18	4				0	10	0	73	5	7
Coccooonaah	Gunnedah	13	7	20	10 3	5 3	15 6	43	6	8	4	16	2				67	15	2	115	18	0
Coolootai	Wallangra	12	10	22	8 5	7 8	16 3	46	11	0	4	0	9	3	15	0	0	5	0	54	11	9
Crawford River	Bulahdelah	15	11																			

## APPENDIX VIII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
Dungarubba Creek	Riley's Hill	9	9	18	8.1	8.0	16.1	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Dungowan, Upper	Dungowan	4	16	20	3.4	12.8	16.2	86 18 8	0 13 11	.....	12 0 0	99 12 7
Dusodie	Bandon Grove	14	14	28	8.8	10.3	19.1	41 4 6	2 3 6	3 7 9	11 17 7	58 13 4
Edinglassie	Muswellbrook	8	10	18	7.6	8.9	16.5	88 0 0	3 6 0	.....	5 0 0	96 6 0
Eilginbah	Nevertire	10	11	21	7.8	8.0	15.8	51 16 1	6 14 8	0 10 9	1 19 8	61 1 2
Eldorado Gully	Ophir	5	10	15	2.8	6.9	9.7	88 0 0	4 3 0	1 19 6	20 5 0	114 7 6
Elliott	Devlin's Siding	14	10	24	8.3	7.7	16.0	72 0 0	3 5 8	.....	0 7 6	75 13 2
Elswick	Condoblin	8	7	15	5.9	5.6	11.5	80 0 0	3 5 2	.....	1 10 0	84 15 2
Emerald Hill	Gunnedah	8	13	21	5.6	9.8	15.4	62 16 8	5 17 3	6 4 4	15 10 0	90 8 3
Evansdale	Cooma	9	12	21	6.9	8.9	15.8	81 6 8	3 5 0	.....	.....	84 11 8
Eversleigh	Dumaresq	9	10	19	8.1	9.7	17.8	86 13 4	4 19 4	.....	0 12 6	92 5 2
Fair Hill	Manildra	10	12	22	6.2	8.4	14.6	86 13 4	5 16 4	.....	0 12 6	93 2 2
Fairy Hill	Casino	13	8	21	6.1	3.2	9.3	84 0 0	3 2 0	3 9 0	0 15 0	91 6 0
Fashion's Mount	Mumbil	11	13	24	8.4	8.0	16.4	75 6 8	3 3 6	.....	.....	78 10 2
Felton Wood	Oaklands	15	12	27	8.4	8.5	16.9	86 13 4	3 17 7	.....	48 4 5	138 15 4
Five-mile Creek	Gundagai	14	13	27	8.8	9.6	18.4	86 13 4	0 10 3	.....	1 7 6	88 11 1
Ford's Bridge	Ford's Bridge	12	8	20	10.1	6.1	16.2	44 0 0	7 4 11	3 14 9	94 1 2	149 0 10
Forest Farm	Hillgrove	11	9	20	9.2	7.9	17.1	88 0 0	3 3 1	2 11 6	11 5 0	104 19 7
Gay's Hill	Clunes	17	15	32	12.9	11.5	24.4	113 0 0	2 18 10	.....	0 12 6	116 11 4
Girvan	Booral	14	7	21	11.2	5.9	17.1	88 0 0	3 0 9	.....	0 3 0	91 3 9
Gledswood	Narellan	7	11	18	4.5	7.1	11.6	74 13 4	2 1 3	3 4 8	16 2 6	96 1 9
Glen Lee	Rylstone	9	6	15	5.8	5.0	10.8	88 0 0	4 4 11	.....	7 0 0	99 4 11
Glen Martin	Clarencetown	7	14	21	4.9	13.4	18.3	73 6 8	3 1 7	.....	1 0 0	77 8 3
Glenview	Bombala	5	10	15	2.1	7.9	10.5	81 6 8	3 0 0	.....	0 13 4	85 0 0
Gloucester River, U.	Barrington	16	15	31	12.2	10.5	22.7	72 0 0	2 16 7	.....	.....	74 16 7
Gobbaganla	Narandera	15	10	25	10.5	9.0	19.5	48 7 9	1 6 0	6 14 4	.....	56 8 1
Godfrey's Creek	Burrowa	5	14	19	3.5	12.7	16.2	88 0 0	3 2 10	.....	22 10 0	103 12 10
Gooda Creek	Jeir	19	7	26	9.5	3.8	13.3	72 0 0	1 0 9	.....	0 15 0	73 15 9
Goolmangar	Lismore	12	13	25	7.6	8.4	16.0	86 13 4	2 16 10	.....	0 17 6	90 7 8
Griffiths' Flat	Murrumbateman	3	14	17	2.7	11.1	13.8	40 0 0	5 15 2	.....	48 5 6	94 0 8
Gulgo	Condoblin	10	13	23	6.5	9.8	16.3	82 13 4	2 2 11	.....	0 15 0	85 11 3
Gulgullendah	Obley	12	7	19	8.0	6.6	14.6	64 13 4	1 15 8	4 10 3	27 15 0	98 14 3
Gulmarrad	Maclean	7	10	17	5.0	6.3	11.3	90 0 0	1 16 0	2 3 6	.....	93 19 6
Gurrundah	Breadalbane	12	13	25	8.1	8.7	16.8	74 13 4	3 11 7	1 5 0	.....	79 9 11
Hadley	Fullerton	6	18	24	5.6	14.9	20.5	86 13 4	0 11 0	.....	6 5 0	93 9 4
Hadsonville	Neville	13	13	26	6.6	7.8	14.4	77 11 8	2 9 11	4 6 8	2 7 3	86 15 6
Half-moon Reach, Upper.	Lower Portland, Hawkesbury R.	9	8	17	7.2	7.3	14.5	88 0 0	3 15 4	.....	0 10 0	92 5 4
Harben Vale	Blandford	4	11	15	2.2	7.1	9.3	50 11 3	5 5 3	0 7 4	.....	56 3 10
Havilah	Mudgee	16	6	22	9.2	5.3	14.5	31 2 2	6 17 7	4 14 7	1 0 0	43 14 4
Hawthorne	Emmaville	6	7	13	5.7	6.7	12.4	81 17 0	2 8 6	.....	1 0 0	85 5 6
Helvetia	Gulung	11	13	24	5.3	7.4	12.7	36 0 0	4 14 11	.....	4 0 0	44 14 11
Hillside	Warialda	10	8	18	7.9	6.7	14.6	42 0 0	5 4 9	.....	2 5 0	49 9 9
Hoskisson's Creek	Barraba	11	9	20	8.2	6.0	14.2	16 5 2	1 4 6	.....	55 0 0	72 9 8
Hyandra Creek	Via Dubbo	12	8	20	9.1	5.5	14.6	73 6 8	3 15 10	.....	0 10 0	77 12 6
Illaroo	Cambewarra	8	7	15	5.7	4.4	10.1	26 13 4	7 1 10	5 1 1	25 0 0	63 16 3
Ingebyra	Jindabyne	11	11	22	9.5	8.5	18.0	60 2 8	1 18 0	4 4 11	0 15 0	66 17 11
Inglewood	Bungendore	9	2	11	5.7	0.9	6.6	60 2 8	1 1 7	3 4 9	13 12 6	78 1 6
Ingliswood	Forest Reefs	10	10	20	8.6	7.2	15.8	82 13 4	1 19 6	.....	0 10 0	85 2 10
Jeir	Jeir	7	11	18	4.8	6.9	11.7	75 6 8	2 16 0	0 11 8	6 14 9	85 9 1
Jellore	Mittagong	5	9	14	3.6	5.4	9.0	86 13 4	3 11 11	.....	1 10 0	91 15 3
Jeogla	Wollomombi	9	9	18	7.8	7.2	15.0	58 13 4	0 9 6	.....	0 5 0	59 7 10
Karkatt	Krambach	15	7	22	11.9	5.3	17.2	85 6 8	4 0 10	.....	0 12 6	90 0 0
Keewong	Michelago	9	4	13	6.8	3.2	10.0	38 0 0	4 1 10	.....	.....	92 1 10
Kenny's Creek	Burrowa	7	13	20	5.8	11.3	17.1	62 12 0	3 11 4	6 10 6	0 14 0	73 7 10
Kentgrove	Laggan	14	8	22	11.7	4.9	16.6	88 0 0	3 14 2	.....	0 15 0	92 9 2
Kercargot	Come-by-Chance	5	9	14	2.8	7.7	10.5	39 13 4	5 16 7	2 10 0	1 9 0	49 8 11
Kikiamah	Thuddungra	17	18	35	11.0	12.3	23.3	63 7 9	2 6 7	4 13 6	.....	70 7 10
Kimo	Gundagai	15	10	25	3.6	3.2	6.8	88 0 0	3 6 5	.....	.....	91 6 5
Kingsvale	Kingsvale	13	9	22	9.3	6.7	16.0	76 0 0	3 19 4	.....	0 15 0	80 14 4
Kulki	Cherry Tree Hill, Inverell.	13	11	24	9.7	8.2	17.9	88 0 0	0 19 3	.....	9 17 6	98 16 9
Kundibakh	Tinnee	9	12	21	7.2	10.4	17.6	88 0 0	3 17 3	.....	0 10 0	92 7 3
Kyamba	Kyamba	7	11	18	5.7	9.3	15.0	61 14 8	1 17 6	2 10 7	26 18 2	93 0 11
Lake Plain	Cooma	14	11	25	11.7	7.2	18.9	84 0 0	0 16 5	.....	0 7 6	85 3 11
Lamb's Valley	West Maitland	10	4	14	8.5	2.9	11.4	73 6 8	4 8 5	3 4 6	17 18 0	98 17 7
Lansdowne, Upper	Cundletown	14	10	24	10.5	7.4	17.9	72 0 0	1 5 3	.....	0 10 0	73 15 3
Leaning Oak	Mudgee	11	15	26	7.7	8.5	16.2	88 0 0	4 13 1	.....	.....	92 13 1
Lesterfield	Coolamon	12	9	21	9.3	7.2	16.5	57 6 8	1 11 2	.....	.....	58 17 10
Limeburners' Creek	Limeburners' Creek	13	10	23	10.1	8.1	18.2	82 13 4	3 3 5	.....	37 11 0	123 7 9
Lincoln	Wellington	13	7	20	5.9	4.3	10.2	88 0 0	2 8 2	.....	12 10 0	105 19 10
Lintondale	Temora	13	15	28	8.6	8.1	16.7	88 0 0	2 8 2	.....	.....	90 8 2
Little Billabong †	Germanton	2	6	8	2.1	5.3	7.4	112 13 1	6 6 6	.....	22 0 0	140 19 7
Little Narravat †	Narrava	3	10	13	1.3	4.3	5.6	66 0 0	0 8 7	.....	.....	66 8 7
Lowther	Hartley	16	10	26	9.6	6.9	16.5	48 0 0	1 18 4	.....	0 5 0	50 3 4
Macleay Heads	Beachport	9	5	14	8.2	4.4	12.6	88 0 0	3 10 0	0 16 8	49 10 0	141 16 8
Mair Jimmy	Jerilderie	13	12	25	6.6	5.7	12.3	72 0 0	2 9 2	3 8 0	0 10 0	78 7 2
Manilla, Central	Upper Manilla	8	3	11	4.7	2.1	6.8	33 7 1	6 17 8	6 0 6	90 5 0	136 10 3
Manobali	Wyong	6	12	18	4.5	8.2	12.7	60 0 0	3 7 7	.....	.....	63 7 7
Manoa	Dubbo	7	11	18	6.1	10.2	16.3	86 13 4	3 17 6	.....	10 5 0	100 15 10
Manuka	Uralla	12	9	21	7.4	8.6	16.0	78 13 4	1 15 11	.....	7 16 10	88 6 1
Manus	Tumbarumba	11	8	19	10.0	7.3	17.3	76 0 0	3 9 11	.....	0 12 6	80 2 5
Marthaguy Creek	Gilgandra	11	6	17	8.9	5.0	13.9	82 13 4	2 15 10	.....	0 7 6	85 16 8
Marshwood	Greta	12	13	25	9.1	8.4	17.5	30 0 0	5 8 3	4 18 6	10 14 7	51 1 4
Mayfield	Oberon	9	10	19	6.9	6.8	13.7	44 0 0	5 3 8	.....	26 11 1	75 14 9

\* Closed, 30th September.

† Closed, 31st August.

‡ Closed, 30th November.



APPENDIX VIII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.														
		Boys	Girls	Total	Boys	Girls	Total	Salaries	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.										
							£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.				
Medgun Creek .	Moree . . . .	14	9	23	7·6	5·2	12·8	63	4	3	9	8	6	1	0	6	5	0	0	78	13	3
Medway . . . .	Cobbora . . . .	15	6	21	12·8	4·8	17·6	72	0	0	2	2	6	3	2	3				77	4	9
Meermaul . . . .	Gunnedah . . . .	11	13	24	6·4	5·6	12·0	88	0	0	3	8	4				0	10	0	91	18	4
Megalong . . . .	Via Katoomba . . . .	15	10	25	8·4	7·1	15·5	88	0	0	4	0	3	0	8	0	3	15	0	96	3	3
Merrigan Creek . . . .	Tarago . . . .	10	5	15	6·0	4·1	10·1	88	0	0	4	4	4				0	10	0	92	14	4
Middle Arm . . . .	Goulburn . . . .	15	5	20	9·5	4·3	13·8	88	0	0	3	6	2	2	2	0	0	5	0	93	13	2
Middlingbank . . . .	Cooma . . . .	10	4	14	6·9	3·3	10·2	77	19	4	1	4	9							79	4	1
Milbang . . . .	Breadalbane . . . .	7	9	16	5·2	6·6	11·8	42	0	0	3	7	7				0	10	0	45	17	7
Milker's Flat . . . .	Fremantle . . . .	13	6	19	7·8	5·2	13·0	72	0	0	3	10	4				0	12	6	76	2	10
Mingelo . . . .	Mingelo . . . .	13	16	29	7·6	10·1	17·7	88	0	0	1	5	3				0	15	0	90	0	3
Mobla . . . .	Bunnaway . . . .	20	13	33	13·0	6·0	19·0	83	0	0	3	11	0				0	10	0	92	1	0
Modell . . . .	Coonamble . . . .	12	5	17	10·4	4·5	14·9	30	0	0	5	16	0	2	8	10	11	19	5	50	4	3
Molloy . . . .	Narrabri . . . .	13	9	22	8·6	6·4	15·0	88	0	0	3	10	2							91	10	2
Mona Vale . . . .	Manly . . . .	11	13	24	7·8	10·0	17·8	84	0	0	3	16	10				0	12	6	88	9	4
Mooney Mooney . . . .	Coolac . . . .	10	14	24	6·0	7·4	13·4	77	6	8	3	14	6				1	19	0	83	0	2
Moor Creek, Upper . . . .	Tamworth . . . .	17	9	26	10·5	7·1	17·6	88	0	0	5	10	3				68	0	0	161	10	3
Morrison's Hill . . . .	Wallendbeen . . . .	9	7	16	3·6	3·8	7·4	72	0	0	3	17	3				0	12	0	76	9	3
Mosquito Creek . . . .	Warialda . . . .	10	8	18	8·9	7·1	16·0	66	0	0	3	9	5	3	10	3				72	19	8
Mount Drummond . . . .	Bundarra . . . .	5	11	16	2·3	7·8	10·0	70	5	2	5	19	10	1	8	3	8	10	6	86	3	9
Mountjoy . . . .	Jugiong . . . .	4	8	12	1·8	4·5	6·3	72	0	0	2	13	2				1	15	0	76	8	2
Mount Murray . . . .	Robertson . . . .	9	5	14	7·3	4·2	11·5	54	0	0	0	8	11	1	8	9				55	17	8
Muddy Creek . . . .	Warne . . . .	8	6	14	4·7	5·4	10·1	72	0	0	2	5	0	2	1	11	0	10	0	76	16	11
Mullaley . . . .	Mullaley . . . .	8	12	20	4·1	7·1	11·2	72	0	0	2	14	4				1	10	0	76	4	4
Mulghan's Flat . . . .	Ginninderra . . . .	9	3	12	7·2	2·6	9·8	54	0	0	2	8	11	3	4	9	0	15	0	60	8	8
Mulyan (Abor.) . . . .	Cowra . . . .	9	6	15	6·4	5·1	11·5	88	0	0	2	1	3	2	17	6	0	10	0	93	8	9
Mundaroo . . . .	Tumbarumba . . . .	10	8	18	8·1	7·4	15·5	86	13	4	0	16	9				0	7	6	87	17	7
Mungay Creek . . . .	West Kempsey . . . .	11	10	21	9·0	8·1	17·1	72	0	0	8	0	11				19	0	0	99	0	11
Munmurra . . . .	Cassilis . . . .	8	10	18	4·5	7·7	12·2	70	0	0	0	8	5				3	10	0	73	18	5
Murrumbula . . . .	Buckley's Crossing . . . .	7	8	15	5·3	7·3	12·5	24	0	0	4	1	6	4	10	7	18	0	0	50	12	1
Murrin . . . .	Euabalong . . . .	13	9	22	7·5	6·5	14·0	100	0	0	3	5	2				7	6	6	110	11	8
Naradahun . . . .	Hillston . . . .	12	11	23	10·8	8·2	19·0	57	6	8	6	0	5	6	12	6	13	0	11	83	0	6
Neilsen's Creek . . . .	Jerry's Plains . . . .	2	16	18	1·4	9·3	10·7	88	0	0	2	7	6				15	19	1	106	6	7
Newton Boyd* . . . .	Dalmorton . . . .	7	4	11	6·7	3·7	10·4	72	0	0	0	8	3							72	8	3
New Wharf . . . .	Booral . . . .	9	8	17	6·1	5·9	12·0	46	13	4	6	16	6	0	16	8	18	4	3	72	10	9
Nicholson's Lagoons . . . .	Quipolly . . . .	14	13	27	9·6	7·5	17·1	88	0	0	4	8	2	0	18	0	0	5	0	93	11	2
Ningedo . . . .	Narrabri . . . .	13	7	20	12·3	6·2	18·5	69	11	8	4	4	8	5	15	9	5	13	4	85	5	5
Noraville . . . .	Wyee . . . .	12	9	21	8·4	7·1	15·5	88	0	0	4	6	8							92	6	8
Notherwono . . . .	Wagga Wagga . . . .	14	17	31	12·0	10·8	22·8	74	5	10	2	15	9	8	17	6	0	7	0	86	6	1
Numbla . . . .	Buckley's Crossing . . . .	9	7	16	5·4	5·7	11·1	84	0	0	3	12	7	1	0	0				88	12	7
Numbugga . . . .	Bega . . . .	8	8	16	6·1	7·4	13·5	61	5	4	3	16	8	2	10	0	34	0	0	101	12	0
Oakborough† . . . .	Rylstone . . . .	7	11	18	5·0	7·4	12·4	29	6	8										29	6	8
Oakey Creek . . . .	Bingara . . . .	12	8	20	10·3	6·1	16·4	50	7	4	3	11	6	3	2	9	1	18	9	59	0	4
Oakvale . . . .	Berridale . . . .	6	16	22	3·9	10·5	14·4	70	13	4	3	11	4	3	7	3	0	10	0	78	1	11
Oban . . . .	Guyra . . . .	8	15	23	4·9	9·9	14·8	75	14	0	3	9	2	3	15	3	11	5	0	94	3	5
Overton‡ . . . .	Overton . . . .	4	6	10	3·0	6·0	9·0	55	6	8	0	16	9				8	10	0	64	13	5
Palmer's Island, Lower . . . .	Yamba . . . .	12	8	20	7·8	5·7	13·5	73	11	2	3	3	11	2	10	0				79	5	1
Pejar . . . .	Pejar . . . .	13	12	25	8·4	8·5	16·9	18	0	0				1	13	2				19	13	2
Pera Bore . . . .	Pera Bore . . . .	11	13	24	9·2	10·2	19·4	16	3	4	6	18	0	2	15	0	137	0	0	163	6	4
Pericoe . . . .	Pericoe . . . .	10	9	19	8·2	7·2	15·4	88	0	0	2	13	4							90	13	4
Piedmont . . . .	Burrarorang . . . .	13	8	21	6·9	2·5	9·4	88	0	0	1	17	0							89	17	0
Pine Mount . . . .	Woodstock, West . . . .	3	16	19	1·2	10·7	11·9	77	6	8	2	16	2							80	2	10
Pomeroy . . . .	Goulburn . . . .	13	9	22	9·2	6·8	16·0	88	0	0	3	9	7				4	2	6	95	12	1
Porter's Retreat . . . .	Black Springs . . . .	9	9	18	4·9	4·9	9·8	65	19	1	4	1	2	3	14	3	0	10	0	74	4	6
Quinburra . . . .	Craigie . . . .	11	14	25	8·6	11·2	19·8	29	6	8	0	10	3	5	19	3	3	12	0	39	8	2
Rhyanna . . . .	Goulburn . . . .	8	9	17	5·9	6·7	12·6	72	0	0	2	18	11				4	12	9	79	11	8
Roachdale . . . .	Germanton . . . .	4	12	16	2·5	8·3	10·8	6	0	0	4	11	9				100	10	0	111	1	9
Rock Flat . . . .	Via Cooma . . . .	8	13	21	4·8	6·2	11·0	86	13	4	1	0	9				20	17	6	108	11	7
Rock View . . . .	Rothbury . . . .	12	8	20	8·3	5·8	14·1	76	0	0	2	18	3				0	10	0	79	8	3
Rose Valley . . . .	Gerrington . . . .	4	16	20	2·8	13·0	15·8	74	13	4	1	15	9	1	16	4	15	8	1	93	13	6
Rushford . . . .	South Grafton . . . .	9	7	16	5·9	4·1	10·0	86	13	4	3	1	11							89	15	3
Sally's Flat . . . .	Sofala . . . .	1	8	9	5·2	5·2	10·2	60	0	0	1	7	5				1	0	0	62	7	5
Sandholes . . . .	Moree . . . .	13	10	23	11·2	7·1	18·3	91	1	8	4	11	3							95	12	11
Savernake . . . .	Savernake . . . .	8	17	25	4·3	8·3	12·6	88	0	0	4	3	11	1	0	0	4	12	6	97	16	5
Sinclair . . . .	Inverell . . . .	12	5	17	10·4	3·9	14·3															

APPENDIX VIII—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys	Girls	Total	Boys	Girls	Total	Salaries	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total
							£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Tilpa	Tilpa	10	9	19	8.9	7.9	16.8	112 1 4	2 14 9		15 0 0	129 16 1
Tumor	Blandford	6	16	22	3.7	11.2	14.9	77 6 8	2 5 2			79 11 10
Tintot	Graman	9	15	24	7.5	11.9	19.4	62 0 0	4 7 9	2 12 9	0 10 0	69 10 6
Tooloom	Tooloom	12	4	16	9.2	3.7	12.9	73 6 8	2 16 3	2 15 0	0 10 0	79 7 11
Toothill	South Grafton	5	9	14	4.3	7.4	11.7	78 13 4	2 18 1			81 11 5
Torrington	Torrington	8	15	23	6.6	11.7	18.3	88 0 0	3 8 1		6 10 0	97 18 1
Towamba, Lower	Via Eden	10	7	17	8.5	6.8	15.3	47 6 8	9 19 7	4 16 3	64 4 3	126 6 9
Trelawney	Ashford	13	7	20	10.6	5.5	16.1	22 0 0	6 16 9	1 2 6	75 7 6	105 6 9
Trickett*	Temora	10	4	14	5.8	1.9	7.7	30 0 0				30 0 0
Tucki Tucki	Wyrallah	13	8	21	9.1	5.1	14.2	80 0 0	2 8 4	0 7 6	2 0 0	84 15 10
Tumorrana	Tumut	21	14	35	11.1	7.1	18.2	60 0 0	3 7 11	5 16 6	0 15 0	69 19 5
Tyagarah	Byron Bay	9	10	19	6.0	7.2	13.2	73 6 8	3 2 9	1 12 0		78 1 5
Ulandra	Bulgandra	5	6	11	4.5	4.9	9.4	72 0 0	0 5 0			72 5 0
Ungarie	Ungarie	4	4	8	3.4	3.6	7.0	73 6 8	2 0 7		0 15 0	76 2 3
Valla	Deep Creek	12	7	19	9.8	6.1	15.9	18 0 0	6 7 0		38 15 0	63 2 0
Wallaringa	Wallarobba	12	9	21	8.0	6.2	14.2	73 6 8	2 19 4		15 10 0	91 16 0
Walla Walla, West	Walla Walla	13	10	23	10.1	7.6	17.7	88 0 0	3 0 6		0 7 6	91 8 0
Wangat	Wangat	10	6	16	8.5	4.8	13.3	72 0 0	3 6 11			75 6 11
Wantabadgery	Wagga Wagga	11	16	27	7.3	12.9	20.2	88 0 0	3 6 5		25 0 0	116 6 5
Warham	Yass	6	15	21	2.3	5.5	7.8	73 6 8	0 16 9		3 14 1	77 17 6
Warner	Cockle Creek	13	14	27	9.7	8.8	18.5	88 0 0	1 15 0		5 0 0	94 15 0
Warneton	Warneton	10	12	22	7.2	7.6	14.8	88 0 0	2 18 3			90 18 3
Warrell Creek	Macksville	4	11	15	3.2	8.7	11.9	58 9 0	2 12 3	1 1 0		62 2 3
Warrigal	Paikes	16	10	26	11.4	7.6	19.0	88 0 0	2 2 5	2 0 0	0 10 0	92 12 5
Warrumbucca	Braidwood	9	9	18	5.3	4.9	10.2	72 0 0	4 8 6		0 12 6	77 1 0
Wattle Vale	Burruga	13	10	23	4.9	4.0	8.9	82 10 8	4 1 6		12 3 0	98 15 2
Webber's Creek	Glendon Brook	18	5	23	13.5	2.9	16.4	69 3 8	2 8 0	2 6 7	6 0 0	79 18 3
Wedalton	Thuddungra	14	8	22	7.1	5.0	12.1	86 13 4	4 5 0			90 18 4
Wedderburn	Campbelltown	10	8	18	8.5	6.7	15.2	86 13 4	1 5 3		19 11 0	107 9 7
Weean	Nullamanna	11	10	21	9.1	8.3	17.4	86 13 4	4 3 9		0 10 0	91 7 1
Weetangerra	Ginninderra	8	10	18	6.8	7.7	14.5	88 0 0	3 1 4		1 1 6	92 2 10
White Swamp	White Swamp	8	10	18	7.8	8.7	16.5	92 10 0	3 3 2			95 13 2
Williams' Creek	Gundaroo	10	7	17	7.1	5.6	12.7	67 16 6	1 9 9	2 1 3	0 10 0	71 17 6
Williamsdale	Williamsdale	10	12	22	6.9	10.1	17.0	63 16 8	2 6 2	2 16 9	0 10 0	69 9 7
Wilhamwood	Pictou	8	4	12	5.6	2.8	8.4	77 6 8	2 13 4		11 5 0	91 5 0
Winderahdeen	Tubbul, via Young	9	10	19	5.7	7.7	13.4	6 11 10				6 11 10
Wollumbi	Murwillumbah	10	11	21	8.8	9.6	18.4	72 0 0	2 15 4	1 15 0	4 0 0	80 10 4
Wombrook	Cooma	11	9	20	7.7	6.2	13.9	82 13 4	1 7 3	0 15 0	0 12 6	85 8 1
Wongan Creek	Manilla	9	13	22	4.9	9.4	14.3	82 13 4	3 7 4		1 10 0	87 10 8
Woodfield	Sutton	7	13	20	5.1	11.1	16.2	79 6 8	3 7 11	3 9 9	7 10 0	93 14 4
Woolomin	Woolomin	19	7	26	12.7	4.9	17.6	88 0 0	4 0 4		0 10 0	92 10 4
Wyangle	Tumut	11	8	19	7.0	5.9	12.9	72 0 0	2 9 0		79 17 3	154 6 3
Wybong	Wybong	6	11	17	4.8	8.6	13.4	77 6 8	1 6 9		6 10 0	85 3 5
Yango	Laguna	8	14	22	6.1	10.3	16.4	74 12 9	3 4 5		0 18 0	78 15 2
Yanko, Upper	Narrandera	15	12	27	12.0	8.5	20.5	72 0 0	1 10 11	2 0 9	86 6 7	161 18 3
Yantabulla	Yantabulla	7	9	16	4.6	7.1	11.7	64 0 0	1 14 6			65 14 6
Yarragong	Foibles	14	8	22	11.4	6.3	17.7	58 13 4	5 16 5	2 0 0	8 4 0	74 13 9
Yarrow	Glen Innes	15	15	30	9.0	11.0	20.0	82 13 4	2 8 1		0 10 0	85 11 5
Yathella	Harefield	10	10	20	6.5	7.3	13.8	88 0 0	2 16 6		14 7 0	105 3 6
Yerryong Vale	Nowra	8	10	18	6.5	6.5	12.5	72 0 0	3 4 11		0 10 0	75 14 5
Yourie	Cobargo	9	8	17	5.7	5.8	11.5	88 0 0	3 9 4		4 5 0	95 14 4

\* Closed, 31st May

APPENDIX IX.

ATTENDANCE of Children at Half-time Schools for the Quarter ending 31st December, 1898, or for the last Quarter of that year during which the Schools were in operation.

Name of School.	Post Town	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds				
		Boys	Girls	Total	Boys	Girls	Total	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total.
							£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Aberbaldie	Walcha Road	7	11	18	6.0	7.8	13.8	118 15 0	5 9 11	7 10 0	1 0 0	132 14 11
Ingalba	Walcha Road	18	7	25	14.6	5.3	19.9					
Abington	Bundarra	7	12	19	5.3	9.1	14.4	160 10 0	8 0 7	7 10 0	10 0 0	186 0 7
Koala	Bundarra	10	8	18	8.5	7.5	16.0					
Adelong Grove	Adelong	9	14	23	6.4	11.6	18.0	123 8 4	2 16 6	7 10 0	12 12 6	146 7 4
Kalafat	Adelong	4	6	10	3.4	5.1	8.5					
Alceton	Karuah	6	6	12	3.9	4.0	7.9	100 10 0	7 17 8	7 10 0	10 4 9	126 2 5
Branch River	Karuah	12	10	22	10.9	8.3	19.2					
Altcar	Moama	7	11	18	5.8	9.0	14.0	88 0 0	1 10 7	7 10 0	0 15 0	97 15 7
Tomara	Moama	14	6	20	10.8	5.0	15.8					
Anarel	Rydal	7	5	12	5.2	4.5	9.7	125 8 4	6 6 0	7 10 0	13 10 0	152 14 4
Cheetham's Flats	Rydal	14	6	20	9.4	3.4	12.8					
Anembo	Ballalaba	8	4	12	4.0	3.3	7.3	88 0 0	0 14 9	7 10 0	6 0 0	102 4 9
Jingera	Ballalaba	4	11	15	3.5	7.2	10.7					
Arable	Cooma	9	8	17	6.9	4.3	11.2	113 0 0	6 6 5	7 0 10	8 17 6	135 4 9
Coolringdon	Cooma	9	6	15	7.7	4.5	12.2					

APPENDIX IX—continued.

Name of School.	Post Town.	Number of Children on Rolls			Average Weekly Attendance.			Expenditure from Public Funds.																
		Boys.	Girls	Total	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Garage	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c	Total												
							£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.						
Ardell .....	Cumnock .....	8	7	15	6.3	6.2	12.5																	
Dilga .....	Cumnock .....	7	4	11	5.4	2.5	7.9	53	4	4	1	4	8	5	0	0	.....	59	9	0				
Argyle .....	Bunnan .....	3	6	9	2.9	5.8	8.7	108	17	6	6	16	10	6	5	0	.....	121	19	4				
Bunnan .....	Bunnan .....	10	11	21	6.6	6.0	12.6										.....							
Argyle, East .....	Marulan .....	10	3	13	6.6	2.0	8.6	88	0	0	3	16	6	7	10	0	0	10	0	99	16	6		
Eden Forest .....	Marulan .....	9	5	14	7.3	3.8	11.1																	
Back Yamma .....	Forbes .....	15	6	21	12.3	4.1	16.4	71	13	4	6	9	8	3	6	8	14	6	10	95	16	6		
Eurow .....	Forbes .....	10	17	27	7.6	13.1	20.7																	
Ballmore .....	Murrungundy ..	9	11	20	4.5	2.4	9.9	88	0	0	5	12	11	7	10	0	.....			101	2	11		
Elong Elong .....	Murrungundy ..	6	4	10	4.0	3.1	7.1																	
Barnes' Creek .....	Tharwa .....	18	8	26	11.2	4.4	15.6																	
Church Rock Valley	Tharwa ..	7	6	13	5.5	5.1	10.6	111	12	4	4	10	4	6	16	8	1	16	3	124	15	7		
Naas* .....	.....	4	5	9	1.9	2.3	4.2																	
Barrington (Abor.)..	Barrington ..	6	9	15	4.8	9.0	13.8	49	15	1	4	3	5	3	15	0	0	10	0	58	3	6		
Gloucester .....	Barrington ..	8	7	15	5.4	3.7	9.1																	
Barwang .....	Barwang ..	3	9	12	2.2	5.8	8.0	113	0	0	2	4	1	7	10	0	0	7	6	123	1	7		
Collingrove .....	Barwang ..	7	7	14	6.9	5.9	12.8																	
Belanglo .....	Berrima .....	10	13	23	7.9	10.6	18.5	136	0	0	5	17	1	7	1	5	0	10	0	149	8	6		
Cross Roads .....	Berrima .....	13	7	20	10.5	6.2	16.7																	
Bell Flat .....	Guy Fawkes ..	5	7	12	3.9	5.3	9.2	93	0	9	2	15	8	7	9	7	0	15	0	104	1	0		
Guy Fawkes .....	Guy Fawkes ..	10	13	23	7.0	9.1	16.1																	
Ben Lomond .....	Ben Lomond ..	4	4	8	2.9	2.2	5.1	135	8	4	5	5	6	14	14	0	14	7	7	169	15	5		
Tubbamurra .....	Ben Lomond ..	12	7	19	6.6	4.6	11.2																	
Berebangalo .....	Gunning .....	6	6	12	5.4	4.9	10.3	135	8	4	6	8	10	7	10	0	13	10	0	162	17	2		
Waggallalah .....	Gunning ..	16	9	25	12.4	7.2	19.6																	
Bereen .....	Cobbadah ..	8	4	12	6.1	3.1	9.2	135	8	4	5	4	6	7	10	0	0	10	0	148	12	10		
Horton River, Upper	Cobbadah ..	13	8	21	7.6	4.5	12.1																	
Berkeley .....	Wollongong ..	7	4	11	4.9	3.0	7.9	113	0	0	4	15	0	7	10	0	1	0	0	126	5	0		
Port Kembla .....	Wollongong ..	11	6	17	9.9	5.5	15.4																	
Berrigal Creek .....	Narrabri ..	9	6	13	3.8	4.4	8.2	113	0	0	1	5	7	7	10	0	1	15	0	123	10	7		
Couialle Park .....	Narrabri ..	6	6	12	3.4	4.4	7.8																	
Berima Colchery ..	Moss Vale ..	6	7	13	4.8	6.3	11.1	198	8	4	7	6	1				8	18	0	214	12	5		
Mandemar .....	Moss Vale ..	9	10	19	7.7	8.8	16.5																	
Berry Jerry, North	Coolamon ..	7	9	16	4.9	6.2	11.1	128	16	8	2	14	10	7	10	0	0	17	6	139	19	0		
Pine Leet .....	Coolamon ..	7	9	16	2.5	3.5	6.0																	
Big Creek .....	Trevallyn ..	9	7	16	5.8	4.7	10.5	160	10	0	3	2	3	7	10	0	.....			171	2	3		
Campsie .....	Trevallyn ..	13	4	17	9.7	3.0	12.7																	
Bigga .....	Binda .....	12	9	21	8.6	7.0	15.6	130	8	4	5	10	3	7	10	0	74	19	2	218	7	9		
Memundie .....	Binda .....	6	8	14	4.0	4.8	8.8																	
Big Meadow .....	Laggan .....	8	9	17	7.0	8.0	15.0	123	8	4	4	19	8	7	10	0	10	10	0	146	8	0		
Limerick .....	Laggan .....	8	11	19	6.8	9.6	16.4																	
Big Ridge .....	Uralla .....	10	4	14	4.7	1.4	6.1	135	8	4	3	18	1	8	6	8	0	15	0	148	8	1		
Gostwyck .....	Uralla .....	14	10	24	8.1	4.5	12.6																	
Bumbijong† .....	Twelve mile ..	1	5	6	0.9	3.9	4.8	57	0	0	2	1	0	3	15	0	6	5	0	69	1	0		
Bimlow .....	Burraborang ..	6	9	15	4.9	7.0	11.9	135	8	4	4	0	10	7	10	0	3	5	0	150	4	2		
Malumbi .....	Burraborang ..	7	6	13	3.7	4.7	8.4																	
Bingara, Upper .....	Bingara .....	7	8	15	4.2	7.3	11.5	81	6	8	9	5	9	1	16	8	0	10	0	92	19	1		
Cooringoora .....	Bingara .....	9	15	24	6.9	11.8	18.7																	
Birriwa .....	Gulgong .....	6	11	17	4.9	9.6	14.5	56	10	0	4	16	11	4	10	1	0	3	3	66	0	3		
Denisontown .....	Gulgong .....	3	2	5	2.2	1.2	3.4																	
Blackbird Flat .....	Comara .....	10	4	14	6.7	2.7	9.4	88	0	0	3	3	9	7	10	0	6	0	0	104	13	9		
Brook's Flat .....	Comara .....	5	6	11	4.2	5.6	9.8																	
Black Creek .....	Molonglo .....	8	5	13	7.1	4.4	11.5	13	10	0	4	11	0	0	16	8	.....			18	17	8		
Thornhurst .....	Molonglo .....	5	9	14	4.5	7.3	11.8																	
Bobby Whintlow Crk.	Bingara .....	7	9	16	4.8	8.2	13.0	123	8	4	7	19	3	7	10	0	17	15	2	156	12	9		
Molroy .....	Bingara .....	5	6	11	4.1	4.5	8.6																	
Bocoble .....	Gulgamree ..	9	6	15	7.9	4.9	12.8	72	0	0	6	13	2	7	1	5	1	0	0	86	14	7		
Meroo, Upper .....	Gulgamree ..	6	5	11	4.5	3.8	8.3																	
Bolton Vale .....	O'Connell ..	8	3	11	5.1	2.1	7.2	88	0	0	4	7	9	7	10	0	0	10	0	100	7	9		
Reynville .....	O'Connell ..	2	10	12	1.8	8.4	10.2																	
Bombay .....	Braidwood ..	5	9	14	3.8	8.6	12.4	115	11	8	7	8	3	6	6	11	1	15	0	131	1	10		
Clift Hills .....	Braidwood ..	9	15	24	5.8	8.3	14.1																	
Bona Vista .....	Somerton ..	14	8	22	11.8	5.4	17.2	113	0	0	6	11	8	7	10	0	.....			127	1	8		
Keepit .....	Somerton ..	9	5	14	6.2	3.2	9.4																	
Bookham .....	Bookham .....	8	7	15	5.7	5.7	11.4	100	10	0	5	11	11	8	9	1	0	15	0	115	6	0		
Talmo .....	Bookham .....	4	9	13	3.1	8.1	11.7																	
Boolambayte .....	Bulahdelah ..	7	6	13	4.8	3.8	8.6	93	15	0	6	1	10	9	11	8	2	19	6	112	8	0		
Bungaree .....	Bulahdelah ..	10	10	20	7.9	7.9	15.8																	
Boro .....	Tarago .....	5	8	13	3.2	6.5	9.7	135	8	4	6	9	10	7	10	0	4	16	8	154	4	10		

## APPENDIX IX—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.																		
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.														
								£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.														
Browmuir	Ellalong	7	5	12	5.8	4.3	10.1																			
Sawyer's Gully	Ellalong	5	10	15	4.5	7.4	11.9	78	15	5	3	4	4	7	16	1	12	18	0	102	13	10				
Brown's Camp	Delegate	10	10	20	7.4	7.4	14.8																			
Woodglen	Delegate	10	10	16	5.5	3.7	9.2	88	0	0	3	0	3	7	10	0			3	4	0	101	14	3		
Buccarumbi	South Grafton	8	4	12	6.0	3.2	9.2																			
Cowandooy	South Grafton	4	9	13	3.6	8.3	11.9	113	0	0	5	19	5	7	10	0	24	15	0			151	4	5		
Buckenbour	Nelligen	6	4	10	6.8	8.9	15.7																			
Runnymede	Nelligen	7	9	16	5.4	3.6	9.0	78	16	8	6	5	11	...	...			0	18	6			86	1	1	
Bullawa Creek	Narrabri	6	6	12	4.9	4.3	9.2																			
Tipperreenah	Narrabri	9	4	13	7.0	2.0	9.0	155	3	4	6	5	6	10	6	2			8	6	8			180	1	8
Boheenah Creek*	Narrabri	3	0	3	3.0	0.0	3.0																			
Bullengong	Molonglo	8	2	10	5.7	1.3	7.0																			
Carwoola	Molonglo	13	11	24	9.9	6.9	16.8	148	0	0	4	17	10	7	4	1	14	15	0			174	16	11		
Burgoon†	Cumnock	1	2	3	1.0	2.0	3.0																			
Eurimbat†	Cumnock	5	5	10	4.3	3.2	7.5	104	11	8	0	18	10	7	10	0	...	...	...	...	...	113	0	6		
Burra	Queanbeyan	8	4	12	6.1	3.6	9.7																			
Urila	Queanbeyan	3	10	13	2.3	8.4	10.7	135	8	4	5	16	9	7	10	0			7	0	0			155	15	1
Burra Lake	Taralga	6	7	13	4.9	6.1	11.0																			
Yalbraith	Taralga	4	6	10	2.9	5.0	7.9	113	0	0	8	9	0	7	0	4			8	16	3			137	5	7
Burrembrook	Bombala	8	4	12	6.0	2.5	8.5																			
Maharatta	Bombala	10	5	15	8.6	3.9	12.5	113	0	0	5	14	0	7	10	0	...	...	...	...	...	126	4	0		
Burrendong	Stuart Town	13	8	21	11.0	6.2	17.2																			
Mookerawa	Stuart Town	9	4	13	7.2	2.7	10.1	96	1	8	6	1	11	9	18	8			8	0	0			120	2	3
Burrill Lake	Milton	7	9	16	6.8	8.6	15.4																			
Little Forest	Milton	6	8	14	5.6	7.4	13.0	57	9	8	6	17	11	6	17	4			9	0	8			80	5	7
Burrumbuttock, East	Jindera	2	10	12	1.5	5.7	9.0																			
Glen Ellen	Jindera	13	5	18	5.4	2.0	7.4	88	0	0	3	8	11	7	10	0			0	7	6			99	6	5
Burry	Tomakin	7	7	14	5.4	5.2	10.6																			
Mosquito Bay	Tomakin	7	5	12	5.9	3.7	9.6	125	0	0	5	1	6	7	10	0	48	11	0			186	2	6		
Burtundy	Wentworth	6	8	14	3.7	4.9	8.6																			
Connorgie	Wentworth	9	13	22	5.9	8.7	14.6	157	0	0	1	19	2	7	10	0			0	15	0			167	4	2
Bute	Cootamundra	10	10	20	7.5	8.1	15.6																			
Dudauman	Cootamundra	14	2	16	11.4	1.6	13.0	118	15	0	2	1	4	7	10	0			7	1	6			135	7	10
Byangum	Murwillumbah	9	14	23	6.9	10.1	17.0																			
Rowland's Creek	Murwillumbah	10	5	15	9.1	4.4	13.5	124	10	0	3	2	3	7	10	0	...	...	...	...	...	135	2	3		
Caffrey's Flat	Knorrit Flat	13	7	20	11.8	5.9	17.7																			
Callaghan's Creek	Knorrit Flat	7	9	16	6.3	7.4	13.7	113	0	0	5	13	2	7	10	0			1	0	0			127	3	2
Calabash	Marengo	4	6	10	3.4	4.9	8.3																			
Marina	Marengo	9	4	13	7.2	3.0	10.2	58	13	4	6	13	5	3	19	0			0	3	0			69	8	9
Campbell's Creek	Goorangoola	9	6	15	8.3	5.7	14.0																			
Glencoe	Goorangoola	7	5	12	6.6	4.5	11.1	57	9	8	8	17	0	7	0	8	...	...	...	...	...	73	7	4		
Campfield	Neville	6	6	12	2.3	3.7	6.0																			
Hanover	Neville	4	4	8	2.0	2.8	4.8	132	8	4	6	4	6	7	10	0			7	0	0			153	2	10
Canangles	Cargo	2	5	7	2.0	4.7	6.7																			
Edinboro	Cargo	8	7	15	7.2	5.9	13.1	113	0	0	6	5	11	9	14	3			0	15	0			129	15	2
Cardington	Cundumbul	17	7	24	11.9	5.4	17.3																			
Cundumbul	Cundumbul	12	14	26	8.5	10.3	18.8	130	15	0	5	0	10	14	3	6	...	...	...	...	...	149	19	4		
Cardungle	Trundle	3	4	7	2.8	3.9	6.7																			
Rosewood	Trundle	10	6	16	8.1	4.6	12.7	14	13	4	7	13	8	...	...			10	0	0			32	7	0	
Carrick	Carrick	11	8	19	8.1	6.5	14.6																			
New Country Flats	Carrick	11	12	23	8.6	9.2	17.8	115	4	8	5	13	11	6	5	1			1	11	0			128	14	8
Carrow Brook	Singleton	6	7	13	4.5	5.5	10.0																			
Tea-tree	Singleton	9	5	14	6.6	4.3	10.9	80	13	4	0	7	8	9	7	11	...	...	...	...	...	90	8	11		
Cattle Creek	Cassilis	4	1	5	3.5	0.9	4.4																			
Cooba Bulga	Cassilis	6	6	12	5.0	4.1	9.1	113	0	0	0	14	9	7	10	0			1	0	0			122	4	9
Celey's Creek	Whinstone Valley	8	7	15	6.0	3.4	9.4																			
Jerangle	Whinstone Valley	11	7	18	7.7	3.5	11.2	135	8	4	0	17	3	7	10	0	13	10	0			157	5	7		
Chandler	Wollomombi	7	7	14	5.7	3.9	9.6																			
Wollomombi	Wollomombi	8	6	14	6.9	4.4	11.3	135	8	4	2	17	6	14	4	2			7	18	0			160	8	0
Charley's Hill	Oberon	10	5	15	7.2	2.7	9.9																			
Norway	Oberon	7	8	15	5.8	6.6	12.4	148	0	0	2	18	8	7	10	0	24	0	10			182	9	6		
Chatham Valley	Oberon	4	11	15	2.7	7.6	10.3																			
Shooter's Hill	Oberon	5	5	10	2.8	2.2	5.0	88	0	0	1	8	9	7	10	0			4	9	0			101	7	9
Chaucer ‡	Walli	8	8	16	2.2	4.1	6.3																			
Wattle Grove ‡	Walli	5	3	8	4.3	1.5	5.8	113	0	0	4	7	4	7	10	0			0	15	0			125	12	4
Clairwood	Singleton	9	6	15	6.1	4.5	10.6																			
Gindigah	Singleton	5	7	12	4.3	5.9	10.2	88	0	0	1	2	6	7	10	0			9	5	0			105	17	6
Clandulla	Brogan's Creek	13	10	23	10.7	9.4	20.1																			
McDonald's Hole	Brogan's Creek	5	4	9	3.2	3.0	6.2	136	0	0	3	10	9	7	10	0	23	0	0			170	0	9		
Clearmont	Adelong	7	9	16	4.7	6.7	11.4																			
Darlow's Creek	Adelong	3	8	11	2.8	7.8	10.6	113	0	0	1	2	11	9	3	4			11	17	6			135	3	9
Cockatoo Flat	Walcha	15	9	24	11.3	5.6	16.9																			
Vintner Fair	Walcha	11	7	18	9.1	6.2	15.3	150	10	0	6	9	1	7	10	0	13	15	0			178	4	1		
Cocomingla	Cowra	8	2	10	5.6	0.8	6.4																			
Mount Collins	Cowra	6	6	12	2.4	2.6	5.0	125	0	0	5	0	4	7	10	0	...	...	...	...	...	137	10	4		
Collaroy	Merriwa	6	5	11	4.2	3.7	7.9																			
Munmurra, Lower.	Merriwa	10	5	15	6.7	3.7	10.4	114	11	8	4	1	2	8	6	8	11	8	4			138	7	10		
Colly Blue	Colly Blue	6	9	15	5.3	6.8	12.1																			
Trinkey	Colly Blue	12	14	26	9.3	9.8	19.1	136	0	0	6	7	6	7	10	0			5	2	2			154	19	8
Colo, Middle	Upper Colo	10	14	24	7.4	8.6	16.0																			
Colo, Upper	Upper Colo	11	9	20	8.2	6.4	14.6	151	15	0	2	2	1	7	10	0	10	0	0			171	7	1		
Combo	Wollar	10	4	14	8.7	3.7	12.4																			
Wilpingong	Wollar	9	18	27	7.1	12.5	19.6	139	0	0	3	12		7	10	0			1	0	0			151	2	7
Conjola	Conjola	14	8	22	8.9	5.6	14.5																			
Jannung	Conjola	12	4	16	5.1	1.7	6.8	125	0	0	7	10	7	7	10	0	50	7	6			190	8	1		

\* Closed, 31st August

† Closed, 31st October.

‡ Closed, 31st December.

## APPENDIX IX—continued.

Name of School	Post Town	Number of Children on Rolls			Average Weekly Attendance			Expenditure from Public Funds											
		Boys	Girls	Total	Boys	Girls	Total	Salaries	Books, Clocks, Apparatus, Packing and Carriage	Travelling Expenses and Forage	Buildings, Rent, Furniture, Cleaning Allowance Fuel &c	Total							
													£	s	d	£	s	d	£
Coolagolite	Cobargo	8	4	12	5.9	3.1	9.0	113	0	0	4	14	9	7	10	0	125	4	9
Tanto	Cobargo	7	7	14	4.2	5.4	9.6												
Coolah Road	Leadville	8	3	11	5.8	2.5	8.3	135	8	4	2	7	3	7	10	0	9	15	0
Tarrabran	Leauville	7	8	15	5.9	6.5	12.4												
Countegany	Countegany	8	5	13	6.2	4.8	11.0	92	16	8	0	7	0	6	12	3	1	0	0
Peak View	Countegany	4	4	8	3.5	3.5	7.0												
Cranbury	Cranbury	14	9	23	10.3	7.7	18.0	148	10	0	4	12	5	7	10	0	0	15	0
Toogong	Cranbury	9	6	15	5.4	3.6	9.0												
Crielton	Geurie	11	5	16	9.4	3.8	13.2	135	3	4	4	13	3	7	0	0	56	15	0
Windora	Geurie	7	12	19	4.8	7.7	12.5												
Crookwell River	Binda	7	4	11	5.8	1.8	7.6	26	13	4	5	1	0						
Five mile Tree	Binda	7	6	13	6.5	4.9	11.4												
Cuan	Scone	5	3	8	4.3	1.9	6.2	105	2	6	3	14	11	6	5	0	1	0	0
Sparkes Creek	Scone	2	6	8	1.6	5.5	7.1												
Cullendulla	Batemans Bay	7	8	15	6.3	5.1	11.4	84	0	0	4	3	7	9	2	0	1	0	0
Durras Lake	Batemans Bay	3	4	7	2.3	3.7	6.0												
Cullula	Windellama	12	5	17	6.6	1.9	8.5	112	0	0	3	12	2	7	10	0	0	10	0
Windellama	Windellama	11	1	12	7.4	0.8	8.2												
Currabungla	Laggan	8	10	18	5.1	6.6	11.7	98	17	6	8	1	1	6	5	0	1	10	0
Mery Vale	Laggan	9	7	16	7.3	5.4	12.7												
Cunookbilly	Mongarlowe	10	9	19	7.4	6.7	14.1	136	0	0	5	9	5	7	10	0	105	1	2
Meroo Flat	Mongarlowe	9	10	19	6.2	7.7	13.9												
Currowan	Nelhgen	8	9	17	3.9	5.6	9.5	113	0	0	2	15	3	7	10	0	7	15	0
Shallow Crossing	Nelhgen	7	5	12	3.9	3.7	7.6												
Curry Flat	Nimtybelle	4	5	9	2.9	3.7	6.6	88	0	0	4	17	11	7	10	0	1	0	0
Glenbog	Nimtybelle	7	3	10	4.0	1.8	5.8												
Cuttagee	Bermgu	6	5	11	2.8	3.3	6.1	119	0	0	3	17	7	8	15	0	5	10	6
Murrah	Bermgu	9	6	15	8.1	5.5	13.6												
Dairy Arm	Laguna	7	7	14	4.8	5.3	10.1	135	8	4	4	7	7	7	10	0	40	6	3
Wattagon	Laguna	4	8	12	3.4	7.2	10.6												
Derawang	Condobolin	8	5	13	3.9	4.3	8.2	70	3	4	6	17	8	4	15	2	0	15	0
Ellacar	Condobolin	7	6	13	6.6	5.0	11.6												
Deua River	Moruya	5	4	9	4.5	3.9	8.4	69	8	4	3	7	10	9	14	2			
Snaphook	Moruya	7	7	14	6.9	5.5	12.4												
Diamond	Binda	7	4	11	4.1	2.0	6.1	113	0	0	5	16	2	7	10	0	0	10	0
Greenettle	Binda	7	10	17	4.2	6.1	10.3												
Diamond Valley	Hobby's Yards	10	5	15	7.2	4.5	11.7	80	13	4	3	3	4	7	3	8	0	10	0
Long Swamp	Hobby's Yards	5	8	13	2.9	5.3	8.2												
Doyle's Creek	Jerry's Plains	12	7	19	9.9	5.8	15.7	146	18	4	4	16	3	7	10	0	16	15	0
Redman Vale	Jerry's Plains	10	11	21	7.8	7.9	15.7												
Duckmaloi	Duckmaloi	6	5	11	4.2	4.4	8.6	88	0	0	5	19	10	7	10	0	19	6	0
Hazelgrove	Duckmaloi	10	7	17	6.0	4.2	10.2												
Dullberry	Wattle Flat	10	12	22	5.8	7.1	12.9	122	0	0	5	10	4	7	10	0	2	2	0
Limekilns	Wattle Flat	8	10	18	5.8	6.7	12.5												
Duamana	Duamana	12	14	26	8.5	10.4	18.9	148	0	0	6	12	3	7	10	0	5	5	7
Mount Ranken	Duamana	13	6	19	9.2	5.2	14.4												
Eastview	Dundee	6	8	14	5.1	7.1	12.2	113	0	0	4	7	0	7	10	0	1	0	0
Severn	Dundee	7	2	9	6.3	2.0	8.3												
Edgerton	Yass	7	10	17	4.4	8.4	12.8	125	0	0	2	16	1	7	10	0	0	15	0
Lizabelfield	Yass	7	7	14	5.8	5.7	11.5												
Emu Creek	Walcha	4	12	16	3.3	10.8	14.1	113	0	0	6	12	9	7	10	0	0	10	0
Moona	Walcha	3	3	6	2.5	2.6	5.1												
Essington	Essington	7	8	15	5.1	4.4	9.5	118	16	8	4	15	2	7	18	4	8	6	0
Swallow's Nest	Essington	4	2	6	3.4	1.8	5.2												
Encumbene	Adamnaby	10	4	14	5.4	1.6	7.0	72	0	0	2	7	2	7	0	10	1	0	0
Hemsby	Adamnaby	6	12	18	4.8	8.9	13.7												
Euromedah	Dubbo	8	6	14	7.3	5.1	12.4	82	5	0	8	2	9	3	6	3	4	0	0
Minore	Dubbo	5	7	12	2.4	3.4	5.8												
Fern Glen	Copmanhurst	8	5	13	6.3	3.2	9.5	80	13	4	2	14	2	7	10	0	1	0	0
Winegrove*	Copmanhurst	5	4	9	3.9	2.7	6.6												
Fernlawn	Rouchell Brook	10	8	18	8.2	5.6	13.8	113	0	0	6	2	0	7	0	10	26	19	0
Segenhoe	Rouchell Brook	15	9	24	12.4	7.2	19.6												
Fernmount, South	Bellingen	10	10	20	5.0	7.6	12.6	88	0	0	5	18	4	7	10	0	10	7	0
Spickett's Creek	Bellingen	7	4	11	3.1	2.0	5.1												
Fern Ridge	Lansdowne	9	10	19	5.1	7.4	12.4	135	8	4	1	17	9	7	10	0	1	0	0
Lansdowne	Lansdowne	6	11	17	3.7	7.3	11.0												
Fieldside	Kangaroo Camp	12	9	21	6.7	5.1	11.8	65	18	4	5	19	5	4	0	3	0	10	0
Querra	Kangaroo Camp	11	4	15	7.6	3.5	11.1												
Fitzgerald's Valley	George's Plains	7	4	11	6.6	4.2	10.8	136	0	0	1	16	9	6	8	9	1	7	6
George's Plains	George's Plains	10	5	15	4.5	3.6	8.1												
Forbes River	Yarras	10	12	22	7.2	9.9	17.1	113	0	0	3	16	3	7	9	1			
Hastings, Upper	Yarras	4	6	10	3.4	5.3	8.7												
Forster (Abor)	Forster	6	7	13	5.1	5.0	10.1	113	0	0	4	3	6	7	1	5	6	9	3
Wallingut	Forster	7	8	15	6.1	6.1	12.2												
Gadara	Adelong	10	4	14	9.5	4.0	13.5	57	5	0	2	7	5	3	15	0	3	5	8
Gafield†	Adelong							20	16	8	0	11	5	1	15	0			
Ginninderra	Ginninderra	15	9	24	12.0	7.8	19.8	135	13	4	7	4	2	7	10	0	10	11	4
Gungahleen	Ginninderra	4	9	13	3.8	7.3	11.1												
Glanmire	Glanmire	12	8	20	8.5	5.4	13.4	125	0	0	3	17	3	7	10	0	1	12	6
Hollybrook	Glanmire	7	8	15	4.3	5.4	9.7												
Glen Allan	Nimtybelle	7	5	12	4.5	4.0	8.5	88	0	0	5	4	11	7	10	0			
Jettaba	Nimtybelle	12	12	24	4.5	4.9	9.4												

Closed, 31st December

† Closed, 31st March

APPENDIX IX—continued.

Name of School	Post Town	Number of Children on Rolls			Average Weekly Attendance			Expenditure from Public Funds				
		Boys	Girls	Total	Boys	Girls	Total	Salaries	Books, Clocks, Apparatus, Packin, and Carriage	Travelling Expenses and Forage	Buildings, Rent Furniture, Cleaning Allowance, Fuel &c	Total
							£ s d	£ s d	£ s d	£ s d	£ s d	
Glencardie } Suntop }	Ponto, <i>via</i> Wel } ington }	17 5	9 9	26 14	8 8 2 7	3 5 6 2	12 3 8 9	141 17 0	2 10 6	3 15 0	1 12 5	149 14 11
Glenora	Nabiac	6	7	13	5 7	6 2	11 9					
Wong Wauk	Nabiac	5	8	13	4 5	7 5	12 0	113 0 0	3 9 10	7 10 0	2 0 0	125 19 10
Googong	Queanbeyan	7	4	11	5 9	3 6	9 5					
Malcolm Vale	Queanbeyan	7	3	10	6 5	2 8	9 3	113 0 0	2 12 10	10 0 0	0 10 0	126 2 10
Goonigal	Goolagong	8	5	13	6 8	4 3	11 1					
Kangaroo Creek	Goolagong	6	0	6	5 4	0 5	5 4	85 6 8	0 12 8	7 10 0	5 7 2	98 16 6
Gullengutta	Wallangra	3	4	7	2 7	2 6	5 3					
Gundaroo, Upper	Gundaroo	10	6	16	6 6	5 1	11 7	125 0 0	5 9 4	7 10 0	0 14 6	138 13 10
Mugwill	Gundaroo	3	7	10	2 3	5 0	7 3					
Harold's Cross	Major's Creek	4	5	9	3 3	4 5	7 8	129 8 4	5 17 1	7 10 0	4 3 6	146 18 11
Nithsdale	Major's Creek	6	9	15	5 1	6 6	11 7					
Harparary	Boggabri	15	7	22	11 0	5 0	16 0	113 0 0	4 10 3	7 10 0	3 15 0	128 15 3
Therribri †	Boggabri	4	4	8	3 4	3 0	6 4					
Hawarden	Manilla	7	7	14	4 9	6 1	11 0	72 0 0	6 2 2	8 3 4		86 5 6
Spring Creek	Manilla	6	4	10	4 8	2 8	7 6					
Howe's Valley	Howe's Valley	3	7	10	1 10	4 5	5 5	111 6 8	0 19 9	7 10 0	8 19 0	128 15 5
Springfield	Howe's Valley	2	6	8	1 3	4 3	5 6					
Humula, South	Humula	5	8	13	3 6	4 2	7 8	88 0 0	0 16 8	7 10 0		96 6 8
Mount Arry	Humula	10	3	13	7 3	2 1	9 4					
Inneschiff	Picton	8	11	19	6 2	7 5	13 7	100 10 0	3 7 0	9 0 6	4 10 0	117 7 6
Razorback	Picton	10	5	15	6 7	4 2	10 9					
Island Flat	Mangrove Creek	5	6	11	3 8	5 1	8 9	88 0 0	1 19 7	7 10 0		97 9 7
Korce	Mangrove Creek	5	7	12	3 4	5 4	8 8					
Inverary	Bungonia	8	9	17	3 7	6 1	9 8	116 5 9	4 5 5	7 10 0	4 16 8	133 7 10
Strawberry Creek	Bungonia	7	7	14	4 9	4 2	9 1					
Irishtown	Laggan	10	11	21	7 9	9 0	16 9	136 0 0	4 15 10	7 10 0	3 10 0	151 15 10
Marmont's Ford	Laggan	12	6	18	8 9	5 1	14 0					
Ivor	Junee	8	11	19	5 7	8 5	14 2	126 8 4	6 5 2	7 10 0		140 3 6
Pikedale	Junee	13	8	21	7 1	5 4	12 5					
Jellingroo	Adelong Crossing	1	1	2	0 4	1 0	1 4	94 3 4	5 3 6	8 12 9	19 3 6	127 3 1
Mundarlo	Adelong Crossing	10	9	19	7 0	6 4	13 4					
Jerralong	Nadgingomar	8	4	12	6 7	3 2	9 9	88 0 0	4 7 0	7 10 0	5 10 0	105 7 0
Spring Creek	Nadgingomar	13	4	17	8 3	1 5	9 8					
Jinglemony	Braidwood	6	6	12	5 1	5 3	10 4	113 0 0	5 14 1	7 10 0	7 0 0	133 4 1
Modbury Creek	Braidwood	7	7	14	5 4	3 5	8 9					
Junction Point	Binda	14	5	19	13 2	4 9	18 1	130 5 0	4 14 1	7 10 0	0 10 0	142 19 1
Meglo	Binda	9	6	15	5 8	4 8	10 6					
Kadina	Parkes	8	9	17	6 1	6 7	12 7	116 18 4	6 7 6	7 15 11	2 2 6	133 4 3
Ten mile Ridges	Parkes	6	3	9	5 2	2 0	7 2					
Kalkite ‡	Rocky Plain	4	5	9	3 3	3 5	6 8	50 0 0		3 6 8		53 6 8
Rocky Plain ‡	Rocky Plain	1	6	7	1 0	6 0	7 0					
Kanthi	Cundle Flat	4	6	10	3 1	4 6	7 7	88 0 0	4 9 3	6 19 5	1 0 0	100 8 8
Tigrah	Cundle Flat	2	7	9	1 0	6 2	7 2					
Kareela	Bundanoon	7	4	11	5 6	2 9	8 5	94 3 4	8 12 3	5 15 6	4 12 0	113 3 1
Ringwood	Bundanoon	7	6	13	6 7	5 3	12 0					
Kellick	Merriwa	12	14	26	7 5	9 1	16 6	148 10 0	2 18 10	7 10 0	16 0 0	174 18 10
Redwell	Merriwa	8	5	13	4 5	3 0	7 5					
Kingsmill Peak	Currabubula	8	8	16	7 2	6 7	13 9	90 0 0	6 2 7	6 2 7		102 5 2
Woodlands	Currabubula	5	2	7	3 6	1 7	5 3					
Kingstown	Uralla	12	8	20	7 5	10 4	17 9	105 10 0	5 19 0	7 10 0	0 15 0	119 14 0
Toryburn	Uralla	8	9	17	6 7	8 3	15 0					
Krawarree	Krawarree	11	6	17	7 2	4 5	11 7	123 8 4	3 2 11	7 10 0	13 10 0	147 11 3
Snowball	Krawarree	13	7	20	8 3	4 3	12 6					
Lalaly	Berrigan	12	8	20	7 6	6 4	14 0	160 10 0	6 16 5	7 10 0	30 4 6	205 0 11
Lemston	Berrigan	12	8	20	9 8	6 8	16 6					
Ledgerton	Ledgerton	8	6	14	5 0	2 9	7 9	100 10 0	5 8 9	8 12 6	0 15 0	115 6 3
Umarra	Ledgerton	6	7	13	3 6	4 5	8 1					
Leighwood§	Crookwell	6	5	11	3 6	4 1	7 7	55 11 8	2 9 11	3 6 8	2 7 3	63 15 6
Little Gundary	Goulburn	8	11	19	4 7	6 3	11 0					
Rose Vale	Goulburn	7	4	11	5 2	2 3	7 3	113 0 0	4 18 11	8 12 6	7 10 0	134 1 5
Lomolong	Bungendore	4	13	17	3 3	9 5	12 8					
Neil's Creek	Bungendore	5	2	7	4 2	1 8	6 8	113 0 0	2 17 11	8 5 5	0 10 0	124 13 4
Lynwood	Balnald	9	5	14	3 4	3 2	6 6					
Paika	Balnald	3	10	13	1 9	8 1	10 0	123 8 4	3 15 2	7 10 0	9 15 0	144 8 6
McDonald, Higher	Upper McDonald	7	2	9	6 0	1 7	7 7					
Ormonde	Upper McDonald	5	5	10	4 4	4 4	8 8	113 0 0	4 15 2	7 10 0		125 5 2
McDonald, Lower	Wiseman's Ferry	6	1	7	5 1	0 9	6 0					
Webb's Creek	Wiseman's Ferry	13	5	18	12 8	3 8	15 8	94 13 1	7 14 2	25 19 11		128 7 2
McLaughlin River	Timbery Range	8	7	15	6 7	6 2	12 9					
Timbery Range	Timbery Range	8	5	13	6 4	3 6	10 0	94 3 4	7 7 7	9 9 6	1 0 0	112 0 5
Malvern	Weismantels	5	13	18	3 9	9 2	13 1					
Weismantels	Weismantels	11	4	15	9 6	3 1	12 7	70 13 4	10 4 9	7 10 0	8 17 9	97 5 10
Manar	Manar	8	5	13	7 0	4 7	11 7					
Virginia	Manar	2	2	4	1 8	1 3	3 1	113 0 0	2 17 7	7 10 0	1 10 0	124 17 7
Marlow	Marlow	7	15	22	5 3	11 4	16 7					
Uridux	Marlow	8	7	15	7 0	6 7	13 7	125 0 0	6 1 2	7 10 0	47 5 2	185 16 4
Durren Durra		5	5	10	2 6	3 2	5 8					
Maybole	Ben Lomond	6	7	13	4 4	6 1	10 5	103 11 8	2 16 0	6 13 4	1 15 0	114 16 0
Moredu	Ben Lomond	7	4	11	5 3	3 2	8 5					
Merricumbene	Araluen	6	6	12	4 2	3 7	7 9	113 0 0	1 6 9	7 10 0	3 10 0	125 6 9
Mudmelong	Araluen	12	4	16	8 9	3 5	12 4					

\* Closed, 30th September

† Closed, 31st December

‡ Closed 18th April

§ Closed, 31st August



## APPENDIX IX—continued.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.																
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.												
							£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.													
Meryla*	Moss Vale	6	5	11	5.5	4.3	9.8																	
Meryla Valley*	Moss Vale	2	1	3	1.8	0.9	2.7	74	6	8	4	12	2	7	18	1	0	10	0	87	6	11		
Micalo Island	Palmer's Island	13	4	17	11.1	3.8	14.9																	
Nanegai	Palmer's Island	5	5	10	3.5	4.4	7.9	125	6	6	2	12	3	5	9	6				133	8	3		
Mill Creek	Wiseman's Ferry	5	1	6	4.3	0.9	5.2																	
Olive Mount	Wiseman's Ferry	11	4	15	9.3	3.3	12.6	88	0	0	3	15	9	7	10	0			0	16	0	100	1	9
Milparinka	Milparinka	10	13	23	7.0	9.0	16.0																	
Mount Browne †	Milparinka	9	4	13	6.2	0.8	7.0	109	0	0	4	14	8	13	8	6			0	15	0	127	18	2
Mimosa Dell	Black Springs	7	2	9	4.5	1.3	5.8																	
Walbrook	Black Springs	8	5	13	5.5	4.3	9.8	94	8	4	4	1	11	16	13	11			1	10	0	116	14	2
Mount Stromboli	O'Connell	2	2	4	1.2	1.7	2.9																	
Tanner's Mount	O'Connell	7	8	15	4.9	6.1	11.0	100	10	0	1	1	1	7	10	0			5	10	0	114	11	1
Mount Terrell	Kar's Springs	6	8	14	3.8	5.6	9.4																	
Wybong, Upper	Kar's Springs	7	8	15	3.6	4.7	8.3	113	0	0	4	7	9	7	10	0								
Mount Vale	Bendemeer	7	4	11	5.2	2.9	8.1																	
Rimbanda	Bendemeer	10	6	16	6.8	3.6	10.4	88	0	0	6	7	5	7	10	0			10	15	0	112	12	5
Mundowey	Manilla	13	4	17	9.6	3.6	13.2																	
Ukolan	Manilla	11	9	20	5.5	5.7	11.2	113	0	0	5	19	3	10	15	3			0	10	0	130	4	6
Murrumbidgee	Ulan	8	6	14	7.3	5.7	13.0																	
Ulan	Ulan	13	11	24	11.0	10.0	21.0	160	10	0	3	9	10	7	10	0			16	0	0	187	9	10
Nandabah	Casino	5	14	19	4.1	11.5	15.6																	
Woorooloolgan	Casino	5	2	7	3.8	1.6	5.4	113	0	0	1	2	3	7	10	0								
Narraburra	Young	7	6	13	4.1	4.3	8.4																	
Willundry	Young	9	13	22	5.8	9.0	14.8	64	10	9	3	15	8	4	2	8			0	10	0	72	19	1
Nerrabunda	Queanbeyan	6	8	14	4.7	5.3	10.0																	
Yarralumla	Queanbeyan	10	9	19	6.4	6.4	12.8	141	18	4	5	6	2	7	12	4			5	14	8	160	11	6
Numeralla	Numeralla	10	14	24	5.5	9.2	14.7																	
Toll-bar Creek	Numeralla	9	12	21	5.5	7.6	13.1	157	1	8	7	9	9	8	6	8			21	19	0	194	17	1
Clifford †	Numeralla	1	3	4	0.7	2.3	3.0																	
Oakleigh	Currabubula	9	5	14	8.1	3.9	12.0																	
Piallaway	Currabubula	8	8	16	6.9	6.4	13.3	136	0	0	9	3	5	7	10	0								
Oberne	Tarcutta	5	8	13	3.1	6.3	9.4																	
Umbango	Tarcutta	10	3	13	8.3	2.9	11.2	125	0	0	1	1	4	7	10	0			6	5	0	139	16	4
Ollera	Guyra	10	7	17	6.1	5.0	11.1																	
Tenterden	Guyra	8	6	14	4.3	4.3	8.6	113	0	0	6	0	4	7	10	0			3	5	0	129	15	4
Ourimbah Creek	Gosford	7	4	11	6.2	3.1	9.3																	
Somersby	Gosford	4	5	9	3.4	4.8	8.2	123	8	4	2	7	6	7	10	0			13	10	0	146	15	10
Palmer's Oakley	Upper Turon	7	7	14	4.0	5.8	9.8																	
Turon, Upper	Upper Turon	7	8	15	4.6	5.3	9.9	88	0	0	5	12	11	7	10	0			17	16	0	118	18	11
Parrabel	Kempsey	6	6	12	5.5	5.3	10.8																	
Temagogue	Kempsey	8	8	16	7.1	7.4	14.5	113	0	0	0	10	3	7	10	0								
Paupong	Boloko	8	8	16	6.8	6.1	12.9																	
Pleasant View	Boloko	4	6	10	3.3	5.3	8.6	100	10	0	4	10	9	7	10	0			1	15	0	114	5	9
Peabody	Molong	4	2	6	3.4	1.8	5.2																	
Sandy Creek	Molong	6	5	11	5.1	3.7	8.8	103	11	8	0	18	0	6	7	11								
Piambong, Lower	Two-mile Flat	4	5	9	4.0	4.0	8.0																	
Yambil	Two-mile Flat	8	7	15	2.3	3.0	5.3	125	0	0	1	6	9	7	10	0			13	10	0	147	6	9
Pian Creek	Wee Waa	9	4	13	5.3	3.2	8.5																	
Weeta Waa	Wee Waa	7	9	16	5.1	7.2	12.3	103	10	0	2	7	7	11	8	6								
Pinch Flat	Armidale	7	5	12	4.2	3.9	8.1																	
Puddledock	Armidale	6	9	15	4.8	7.7	12.5	128	19	3	2	16	6	7	10	0			0	15	0	140	0	9
Piney Range	Grenfell	5	12	17	3.7	7.1	10.8																	
Wheogo	Grenfell	6	7	13	3.3	4.4	7.7	113	0	0	1	2	8	7	10	0			10	5	8	131	18	4
Plain Creeks	Dubbo	4	1	5	2.9	1.0	3.9	14	13	4	1	12	3	1	13	4			0	5	0	18	3	11
Red Hill	Reid's Flat	8	8	16	5.8	4.7	10.5																	
Reid's Flat	Reid's Flat	7	5	12	4.7	3.6	8.3	115	17	6	1	8	3	8	1	10			6	15	0	132	2	7
Richlands	Taralga	6	20	26	4.1	16.3	20.4	153	10	0	5	2	10	7	10	0			13	0	0	179	2	10
Yorkborough	Taralga	9	8	17	7.7	6.2	13.9																	
Rollands' Plains	Rollands' Plains	4	10	14	3.6	8.9	12.5																	
Wauchope	Rollands' Plains	6	3	9	5.4	2.4	7.8	76	7	0	2	11	2	7	10	0								
Shellgrove	Cooma	7	2	9	4.0	0.6	4.6																	
Thubergal Lake	Cooma	6	4	10	3.3	3.3	6.6	88	0	0	3	12	0	7	10	0			1	0	0	100	2	0
Silverdale	Camden	8	4	12	6.2	2.3	8.5																	
Wallace	Camden	6	8	14	3.4	5.6	9.0	88	0	0	2	9	6	7	10	0			0	10	0	98	9	6
St. Helena	Yarraman	7	3	10	5.2	2.0	7.2																	
Yarraman	Yarraman	5	6	11	4.2	4.9	9.1	88	0	0	3	5	9	6	13	4								
Stewart's River	Moorland	16	12	28	10.4	8.2	18.6																	
Stewart's River, Upper	Moorland	3	7	10	2.8	5.9	8.7	148	10	0	3	8	6	7	10	0			5	4	0	164	12	6
Surveyor's Creek	Walcha Road	8	8	16	6.7	7.0	13.7																	
Ugly Range	Walcha Road	11	9	20	8.6	7.0	15.6	113	0	0	4	1	7	7	10	0			0	15	0	125	6	7
Talawadja	South Grafton	11	4	15	10.2	3.8	14.0																	
Towallum	South Grafton	3	7	10	2.4	5.1	7.5	68	1	8	3	14	4	6	3	10								
Tinagroo	Scone	1	6	7	0.9	5.8	6.7																	
Turry	Scone	6	7	13	3.5	3.9	7.4	113	0	0	7	1	7	7	10	0								
Tindery Vale	Williamsdale	2	7	9	2.0	5.7	7.7																	
Waterholes	Williamsdale	5	4	9	4.5	3.0	7.5	51	11	8	3	4	4	7	14	5			0	10	0	63	0	5
Trundle	Trundle	9	4	13	6.5	3.2	9.7																	
Woodview	Trundle	6	7	13	4.1	6.2	10.3	113	0	0	5	8	9	7	10	0			1	4	0	127	2	9
Turill	Turill	14	10	24	9.5	7.2	16.7																	
Wagoribil	Turill	13	9	22	7.7	11.3	19.0	160	10	0	3	16	10	7	10	0			8	12	0	180	8	10

\* Closed, 31st October.

† Closed, 31st December.

‡ Closed, 28th February.

## APPENDIX X.

ATTENDANCE of Children at House-to-house Schools for the Quarter ending 31st December, 1898, or for the last Quarter of that year during which the Schools were in operation.

Name of School.	Post Town.	Number of Children on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
Apple Tree, &c.	Mundooran	9	8	17	8.7	7.4	16.1	£ 76 12 3	£ 1 2 5	£ 7 10 0	£ .....	£ 85 4 8
Bannaby	Bannaby	14	16	20	9.4	11.2	20.6	88 10 0	2 16 0	7 10 0	.....	98 16 0
Baradoc	Never Never	15	13	28	10.0	10.6	20.6	89 2 9	1 7 6	7 10 0	.....	98 0 3
Barrett's Creek	Stockyard Creek	13	8	21	11.1	6.1	17.2	79 0 5	3 4 5	6 18 4	.....	89 3 2
Basin Creek	Wallabadah	12	15	27	9.0	12.8	21.8	71 11 3	3 8 2	6 7 9	.....	81 7 2
Benamberra	Morven	10	10	20	8.0	9.3	17.3	84 18 4	3 4 4	9 3 4	.....	97 6 0
Calamia	Half-way Creek, via South Grafton	10	12	22	9.9	10.8	20.7	87 9 9	2 17 11	7 10 0	.....	97 17 8
Cal Lal	Wentworth	4	13	17	3.8	12.1	15.9	71 8 0	0 17 2	7 10 0	0 15 0	80 10 2
Collendina	Corowa	12	13	25	10.6	12.5	23.1	89 9 6	0 10 3	7 10 0	.....	97 9 9
Curraweela	Curraweela	10	13	23	5.7	11.2	16.9	72 5 3	4 1 11	7 10 0	.....	83 17 2
Diamond Swamp	Crookwell	14	11	25	7.5	6.7	14.2	58 0 0	0 9 10	5 16 8	.....	64 6 6
Digby*	Curlewis	10	11	21	8.3	8.8	17.1	82 10 2	3 19 2	7 10 0	.....	93 10 4
Dingle	Bellingen	16	5	21	13.6	4.5	18.1	82 19 0	2 1 3	7 10 0	.....	92 10 3
Dunsbury	Nevertire	16	9	25	13.1	6.9	20.0	82 10 0	4 12 0	7 10 0	.....	94 12 0
Eualdrie	Genfire	11	7	18	6.6	3.9	10.5	65 5 0	0 219 9	7 10 0	.....	75 14 9
Ganbenang†	Lowther	10	7	17	6.8	4.3	11.1	57 0 9	1 6 3	7 10 0	.....	65 17 0
Garland	Garland	19	6	25	15.0	4.4	19.4	89 14 0	4 4 8	7 10 0	4 7 0	105 15 8
Glen Elgin	Glen Elgin	5	3	8	2.3	2.3	4.6	32 11 9	2 14 1	.....	2 12 6	37 18 4
Goolhi†	Gunnedah	13	12	25	9.1	8.2	17.3	43 2 6	0 5 7	5 0 0	.....	48 8 1
Kilphysic	Carroll	9	12	21	8.5	11.8	20.3	73 9 3	3 16 6	7 10 0	.....	84 15 9
Markdale†	Binda	16	8	24	14.4	5.4	19.8	67 4 9	0 12 2	7 0 0	.....	74 16 11
Merrimce	Whitton	7	12	19	7.0	11.8	18.8	68 5 9	3 6 5	7 10 0	0 15 0	79 17 2
Merrygoen	Mundooran	10	13	23	9.2	11.5	20.7	82 10 0	1 2 9	6 18 4	.....	90 11 1
Milpose	Parkes	11	14	25	8.9	8.5	17.4	85 9 10	1 18 6	7 10 0	.....	94 18 4
Monk's Crossing	Laggan	12	13	25	8.9	9.1	18.0	61 7 0	5 9 5	10 18 11	0 10 0	78 5 4
Moonee Creek	Woolgoolga	14	7	21	12.8	6.3	19.1	81 12 9	3 7 7	7 10 0	4 0 0	96 10 4
Mount Parnell	Quirindi	13	7	20	9.1	6.0	15.1	62 17 5	1 12 4	6 3 10	.....	70 13 7
Nanima	Goolagong	10	11	21	8.2	9.9	18.1	78 2 0	2 10 10	7 10 0	.....	88 2 10
Narani	Bungwall	14	13	27	13.1	11.7	24.8	90 0 0	3 10 7	7 10 0	0 10 0	101 10 7
Nile	Glen Alice	11	8	19	10.9	8.0	18.9	87 13 6	0 10 3	7 10 0	.....	95 13 9
Nowley	Narrabri	11	12	23	9.5	11.6	21.1	87 18 9	2 12 2	7 10 0	.....	98 0 11
Nunnagoyt	Barham	7	10	17	5.3	5.9	11.2	66 0 0	3 11 6	6 0 0	0 15 0	76 6 6
Oak Creek	Hargraves	13	10	23	12.0	8.8	20.8	86 5 0	1 6 0	9 3 4	.....	96 14 4
Phil's Creek	Frogmoor	23	16	39	12.8	9.6	22.4	90 0 0	4 1 9	7 10 0	.....	101 11 9
Sands, The	Trunkey Creek	14	12	26	11.3	10.0	21.3	90 0 0	2 0 3	7 10 0	.....	99 10 3
Warge Rock	Looby's	14	6	20	9.2	3.9	13.1	74 1 3	3 10 6	10 11 6	.....	88 3 3
Wheeo	Wheeo	12	8	20	8.0	5.3	13.3	66 7 8	3 4 9	8 11 11	.....	78 4 4

\* Closed, 31st December.

† Closed, 30th September.

‡ Closed, 30th June.

## APPENDIX XI.

ATTENDANCE of Pupils at Evening Public Schools for the Quarter ending 31st December, 1898, or for the last Quarter of that year during which the Schools were in operation.

Name of School.	Post Town.	Number of Pupils on Rolls.			Average Weekly Attendance.			Expenditure from Public Funds.				
		Males.	Females.	Total.	Males.	Females.	Total.	Salaries.	Books, Clocks, Apparatus, Packing and Carriage.	Travelling Expenses and Forage.	Buildings, Rent, Furniture, Cleaning Allowance, Fuel, &c.	Total.
Annandale	Annandale	54	...	54	29.7	...	29.7	£ 25 3 4	£ .....	£ .....	£ 5 13 0	£ 30 16 4
Ashfield	Ashfield	23	...	23	8.4	...	8.4	15 11 9	.....	.....	.....	15 11 9
Belltrees	Scone	12	...	12	10.0	...	10.0	8 7 6	.....	.....	.....	8 7 6
Bexley	Bexley	16	2	18	6.1	2	6.3	.....	.....	.....	.....	.....
Blackfriars	George-street West	31	...	31	13.3	...	13.3	15 16 8	1 17 5	.....	14 10 5	32 4 6
Bourke	Bourke	26	...	26	9.6	...	9.6	9 10 0	1 8 6	.....	.....	10 18 6
Burnt Yards*	Carcoar	16	...	16	9.9	...	9.9	4 15 0	.....	.....	.....	4 15 0
Burwood	Burwood	25	6	31	11.7	2.7	14.4	17 19 2	0 13 2	.....	.....	18 12 4
Castlereagh-street	Sydney	43	...	43	25.4	...	25.4	28 13 4	0 9 0	.....	4 15 0	33 17 4
Crown-street	Sydney	83	...	83	43.0	...	43.0	36 0 0	.....	.....	25 4 0	61 4 0
Eumore	Newtown	38	...	38	23.2	...	23.2	30 0 0	1 9 11	.....	26 2 0	57 11 11
Erskineville	Erskineville	49	...	49	24.1	...	24.1	27 1 8	.....	.....	11 10 0	38 11 8
Goulburn	Goulburn	23	...	23	12.2	...	12.2	12 16 2	.....	.....	.....	12 16 2
Hamilton	Hamilton	31	...	31	16.0	...	16.0	20 11 8	.....	.....	.....	20 11 8
Inverell	Inverell	27	...	27	11.6	...	11.6	20 0 0	.....	.....	.....	20 0 0
Jesmond	Lambton	7	...	7	5.3	...	5.3	7 12 6	.....	.....	.....	7 12 6
Miller's Forest†	Miller's Forest	34	...	34	23.0	...	23.0	10 0 0	0 5 0	.....	.....	10 5 0
Minmi	Minmi	14	...	14	7.5	...	7.5	15 12 6	.....	.....	.....	15 12 6
Mogilla	Mogilla	15	...	15	9.6	...	9.6	5 5 7	.....	.....	.....	5 5 7
Morpeth	Morpeth	15	...	15	8.4	...	8.4	9 10 0	.....	.....	0 16 0	10 6 0
Mullion Creek	Mullion Creek	15	...	15	8.1	...	8.1	4 15 0	.....	.....	.....	4 15 0
Paddington	Paddington	30	...	30	16.7	...	16.7	23 0 0	0 17 9	.....	7 4 0	31 1 9
Petersham	Petersham	25	...	25	13.6	...	13.6	12 10 0	.....	.....	.....	12 10 0
Pymont	Pymont	33	...	33	17.7	...	17.7	21 10 0	0 18 10	.....	6 17 0	29 5 10
Redfern	Redfern	43	...	43	20.8	...	20.8	13 8 4	1 9 4	.....	4 4 0	19 1 8
Surry Hills, South	Sydney	34	...	34	18.3	...	18.3	25 4 3	0 11 8	.....	5 9 0	31 4 11
Taree	Taree	11	...	11	5.4	...	5.4	2 8 0	.....	.....	.....	2 8 0
Wyalong, West	West Wyalong	20	...	20	14.2	...	14.2	27 0 0	.....	.....	.....	27 0 0
Yalwal*	Yalwal	20	...	20	10.8	...	10.8	2 14 1	.....	.....	.....	2 14 1

\* Closed, 30th June.

† Closed, 31st July.

## APPENDIX XII.

## THE CHIEF INSPECTOR'S REPORT, WITH ITS ANNEXES.

THE year 1898 has been the most unfavourable year for school work in the educational history of the Colony. Epidemics of typhoid, diphtheria, scarlatina, measles, and whooping-cough swept over the country, and in one form or other raged all through the year. In consequence of these diseases, and the enforcement of the Regulations under the Health Act, scores of schools were closed for periods varying from two weeks to three months, hundreds of teachers were absent from duty for weeks and even months, and tens of thousands of children were kept from school for long periods. Notwithstanding this state of things, the statistics furnished in this Report show a healthy growth in our school system. The steady advance in population necessitates an annual increase in the number of schools and teachers, and the work of the Department keeps well abreast of the needs of the Colony. Of the 2,572 schools in operation in 1897, 89 were closed during that year, or were allowed to lapse in December; so that 2,483 were carried on to 1898. These, with 114 new schools, and 2 new departments brought into operation, gave 2,597 schools, representing 2,812 departments, as the record for 1898.

The following is the return of schools for the last five years :—

Year.	Public.	Provisional.	Half-time.	House-to-house.	Evening.	Total.
1894	1,667	302	449	71	14	2,503
1895	1,685	317	483	57	16	2,558
1896	1,698	310	497	44	30	2,569
1897	1,755	294	457	41	25	2,572
1898	1,787	313	431	37	29	2,597

Arranged in classes according to the average attendance at the end of the year, they are :—

Year.	Class I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	Small Unclassified.	Total.
1894	38	36	23	64	116	209	206	311	762	209	529	2,503
1895	39	36	27	64	124	198	214	370	796	165	525	2,558
1896	40	36	26	62	127	198	185	335	860	193	507	2,569
1897	43	38	29	59	124	226	202	362	862	141	486	2,572
1898	45	39	28	62	121	233	227	365	840	133	504	2,597

This return shows, not only a net increase of 25 schools, but also a steady improvement in the grading.

*Buildings.*

The funds derived from the Church and School lands have enabled the Department to erect new buildings, and to effect long-needed repairs, enlargements, and improvements. The new buildings are of excellent design, and contain all modern improvements. It would be difficult to improve upon the building for girls recently erected at Armidale. The more liberal grants to Provisional Schools have put it in the power of the Inspectors to build a larger and better type of school-room than that hitherto in vogue, and teachers and pupils are much more comfortable than in former years. These improvements could not be carried out without increasing the expenditure; but such increase is more than justified. Every precaution is taken to keep down expense; and with this view, the Under Secretary, the Chief Inspector, and several Inspectors, who have had large experience in building matters, met the Chief Clerk of Works and several of his officers in conference during the recent Christmas vacation. Uniform plans and specifications for the smaller classes of schools, sufficiently elastic to admit of being adapted to the circumstances of each district, were agreed upon. These will be printed and supplied to each Inspector. It is expected that in this way the Inspectors will be relieved of a great deal of clerical work, and a good class of school building erected at a very reasonable cost.

The works carried out during 1898 under the supervision of the Chief Clerk of Works were :—

New school buildings .....	20
Buildings enlarged .....	33
Buildings repaired .....	554
New residences .....	13
Residences enlarged .....	34

The Inspectors have been kept very busy in attending to building matters, as may be seen from the following return :—

New school buildings .....	103
Buildings enlarged .....	31
Buildings repaired .....	993
New residences .....	8
Residences enlarged or repaired .....	252

The cost of these works exceeded £30,000.

As explained in previous Reports, the works under the Chief Clerk of Works are in the Metropolitan District and the principal country towns, the Inspectors taking charge of those in the remote or out-of-the-way places.

*Accommodation.*

At the end of 1897, the schools provided places for 245,283 scholars. During 1898, after making good the loss of 8,018 caused by closing schools and abandoning old buildings, 7,508 additional places were provided, raising the number of places to 252,791.

The following table shows the accommodation in each district :—

District.	Number of places at end of 1898, reckoned at 8 square feet for each child.	Number of places at end of 1898, reckoned at 100 cubic feet of air space for each child.
Armidale .....	20,804	19,213
Bathurst .....	17,274	17,171
Bowral .....	20,129	19,584
Goulburn .....	20,337	18,060
Grafton .....	20,173	20,037
Maitland .....	26,277	27,826
Metropolitan .....	59,855	72,289
Sub-metropolitan .....	18,379	17,321
Wagga Wagga .....	26,219	25,806
Wellington .....	15,378	15,484
Totals .....	244,825	252,791

As the highest quarterly enrolment was 205,881, it is evident that the accommodation, taken as a whole, is ample. There are, however, some cases of overcrowding, especially in the Metropolitan District, but these are remedied as speedily as practicable.

The

*Water Supply.*

The serious drought that prevailed during the latter half of the year placed many teachers in great difficulties from want of water-tanks and wells dried up, and water had to be carted from a great distance. In every instance authority was given for the purchase of water at the expense of the Department.

*Enrolment and Attendance.*

The gross enrolment of pupils at all schools in 1898 was 253,592.

Deducting 12 per cent. for multiple enrolments, the number of individual pupils on the books of the schools was 227,561.

The following table gives the enrolment and average attendance for each quarter of 1898, together with the rates of increase and decrease :—

Quarter.	Enrolment in 1897.	Enrolment in 1898.	Increase for 1898.	Average daily attendance for 1897.	Average daily attendance for 1898.	Decrease in average daily attendance for 1898.	Per-centage of increase of enrolment.	Per-centage of decrease of average attendance.
March .....	200,902	203,362	2,460	147,839·4	143,256·2	4,583·2	1·22	3·1
June .....	201,902	205,881	3,979	147,356·3	143,380·2	3,976·1	1·97	2·7
September.....	203,335	204,350	1,015	151,432·3	140,436·5	10,995·8	·49	7·2
December.....	201,652	202,048	396	146,896·2	139,820·1	7,076·1	·19	4·8
Average.....	201,947	203,910	1,963	148,381·0	141,723·2	6,657·8	·97	4·4

The percentage for each quarter was :—

Quarter.	Enrolment.	Average Attendance.	
		Number.	Percentage.
March .....	203,362	143,256·2	70·4
June .....	205,881	143,380·2	69·6
September.....	204,350	140,436·5	68·7
December.....	202,048	139,820·1	69·2
Year's average.....	203,910	141,723·2	69·5

Compared with 1897, there is an increase in the gross enrolment of 1,596, and in the average quarterly enrolment of 1,963, and a decrease on the average daily attendance of 6,657.

The decrease in the average daily attendance is satisfactorily explained by the prevalence of epidemics. The regularity of the pupils has been wonderfully good, considering the amount of sickness.

*Compulsion.*

Of the children who failed to attend school for the 70 days each half-year, as prescribed by law, it was found necessary in the first half year to caution the parents or guardians of 3,860, and in the second half-year those of 2,641. Prosecutions on account of 1,570 defaulting children were authorised. In carrying out the compulsory provisions of the Public Instruction Act, the Department has received the earnest and loyal co-operation of the police, who have done all in their power to make compulsion a reality; but in many cases the magistrate adjudicating shows that his sympathies are with the defaulting parents. The flimsiest of excuses, such as "I teach my child at home," "I send my boy to a night-school," "My girl was sick," are accepted without inquiry, while the Department and the police officers, who are endeavouring to carry out the law, are treated as though they were the culprits. Even when no excuse is offered, the nominal fines inflicted are so paltry that parents are practically encouraged to go on violating the law by utilising children of a tender age as wage-earners. The Act regulating labour and industry has, however, effected some improvement in this respect.

*School Fees.*

The total amount of school fees collected and paid into the Consolidated Revenue was £73,093 5s. 4d. Cautions to pay were issued during the year to 1,193 debtors, and it was found necessary to prosecute in 453 cases, with the result that the sum of £230 10s. 3d. was recovered. Free education was granted to 30,385 pupils, as against 31,200 in 1897. In addition to the grants for free education, the sum of £2,541 1s. 4d., arrears of fees, was cancelled. In all these cases full inquiry was made, and concessions were granted as the circumstances warranted.

The collection of school fees is one of the most trying of a teacher's duties, and more frequently than any other brings him into conflict with the parents.

The Public School at St. Ives has a very honorable record in the matter of fees. It was established ten years ago, and during its whole existence it has not had one free pupil nor lost one penny as unpaid fees. I do not suppose this is the only case; but it is the only one that has come under my notice. I shall be glad to learn of others.

*Inspection.*

The following changes in the inspectoral arrangements were made during the year :—Mr. Baillie, who had been in charge of the Dubbo district for several years, was removed to Braidwood; and Mr. Hunt, Acting Inspector, was stationed at Dubbo. Mr. T. Walker, Head Master of the Stanmore Superior Public School, was selected to fill the vacancy caused by the retirement of Mr. Inspector Pitt. Mr. Walker entered the service as pupil-teacher, and steadily worked his way up to a I A classification and the charge of a First-class Superior School. Mr. Walker's eminently successful career as a teacher marked him out as one well qualified for the office of Inspector, and his efficiency in that office has fully realised expectations. Mr. Walker has been employed principally in the Metropolitan and Mudgee districts, where the illness of Messrs. Thompson and Rooney rendered special help necessary.

The number of schools inspected was 2,793, an increase of 30 on the work of 1897; but the number of pupils examined was only 152,459, a decrease of 7,726 from the previous year, and the smallest number examined since 1894. The prevalence of epidemics fully accounts for the decrease.

The uninspected schools numbered 19, 6 of them Evening. The non-inspection was caused by the collapse of the school before the Inspector could arrange to visit.

The following are the details of inspection :—

Year.	No. of schools.	No. of schools inspected.	No. of schools not inspected.	No. of pupils examined.	No. of Inspectors.
1896	2,780	2,763	17	154,868	33
1897	2,785	2,763	22	160,183	33
1898	2,812	2,793	19	152,457	33

The particulars for each district stand thus :—

District.	No. of Inspectors.	No. of schools.	No. of schools inspected.	No. of schools not inspected.	No. of pupils examined.
Armidale .....	4	354	353	1	12,148
Bathurst .....	3	255	254	1	9,744
Bowral .....	3	258	255	3	10,542
Goulburn .....	4	396	390	6	10,772
Grafton .....	3	324	324	...	12,290
Maitland .....	3	253	248	5	17,041
Metropolitan .....	4	212	212	...	46,080
Sub-Metropolitan .....	2	161	161	...	11,819
Wagga Wagga .....	4	339	336	3	13,619
Wellington .....	3	260	260	...	8,902
Totals .....	33	2,812	2,793	19	152,457

The inspected and uninspected schools were :—

	Public.	Provisional.	Half-time.	House-to-house.	Evening.	Total.
Inspected .....	1,997	313	426	36	23	2,795
Uninspected .....	3	3	5	1	6	18
Totals .....	2,000	316	431	37	29	2,813

Of the 2,793 schools inspected, 2,665 reached the standard, or exceeded it, while only 129 were below the requirements.

The following tables show the proficiency of all schools inspected :—

	Below Standard.	Up to Standard.	Above Standard.	Total.
Public—				
1. In operation a full year at time of inspection.....	29	67	1,878	1,974
2. Not do do do .....	5	1	19	25
Provisional—				
1. In operation a full year at time of inspection.....	21	22	201	244
2. Not do do do .....	26	4	36	66
Half-time—				
1. In operation a full year at time of inspection.....	28	20	351	399
2. Not do do do .....	12	1	13	26
House-to-house—				
1. In operation a full year at time of inspection.....	7	2	25	34
2. Not do do do .....	1	.....	1	2
Evening—				
1. In operation a full year at time of inspection.....	.....	.....	10	10
2. Not do do do .....	.....	4	9	13
Totals—				
1. In operation a full year at time of inspection.....	85	111	2,465	2,661
2. Not do do do .....	44	10	78	132
Totals .....	129	121	2,543	2,793

Or summarised—

Class of School.	Above Standard.	Up to Standard.	Below Standard.	Total.	Percentage up to Standard in 1898.	Percentage up to Standard in 1897.
Public .....	1,896	68	33	1,997	98	98
Provisional .....	238	27	48	313	84	92
Half-time .....	365	21	40	426	90	91
House-to-house .....	26	2	8	36	77	77
Evening .....	19	4	...	23	100	95
Totals .....	2,544	122	129	2,795	95	96

Many of the schools above the standard maintain a very high degree of efficiency. No fewer than thirty were awarded the mark "excellent" for general efficiency.

The organisation of our schools steadily improves. Defects in records and lesson guides are pointed out to the teacher by the Inspector, and, with very few exceptions, are remedied at once. At every vacation a few teachers, generally ladies, cause much trouble, and delay the compilation of the departmental statistics, either by inaccurate compilation of the necessary returns, or by neglecting to post them punctually.

The appearance of some of the school buildings and grounds could, by the exercise of a little taste and industry, be much improved, though, taken as a whole, teachers are good tenants. A matter calling for special notice is the conspicuousness of the water-closets. It would not be difficult to plant trees round these structures, and thus make them less in evidence to passers-by. A case where the teacher deserves "honorable mention" for making his school remarkably attractive and useful, the Hillgrove Public School, is fully described by District-Inspector Bradley. Mr. Bradley's report is well worthy of perusal. Several instances of highly meritorious work by teachers in improving school-grounds have come under my own observation—notably South Goulburn, Blayney, and Elsmore, though none approaches Hillgrove in all-round excellence.

The disciplinary condition of our schools is deservedly rated high. As a rule, the pupils are very clean and tidy. All the school operations are carried out with order and decorum. The government, without being unduly harsh, is strict and effective, and secures quietness, obedience, and sustained attention. Complaints are sometimes made that the good behaviour of children is confined to the school premises. There is, doubtless, some ground for such complaints; but, though his influence should be, and very often is, sufficiently thorough and far-reaching to secure orderly conduct on the way

way to and from school, the authority of the teacher does not go beyond the school boundaries. Too frequently Public School pupils are blamed for offences committed by children who go to other schools, or by those who are old enough to know better. Further, it is too much to expect that the restraining power of school for five hours a day will counteract the bad influences of the street and the home.

*Attainments of Pupils.*

The following table gives the number of pupils examined in each subject, and the number and percentage of passes :—

Subjects.	Estimated Proficiency.		
	Total number examined.	Number passed.	Percentage up to or above Standard.
Reading—			
Alphabet .....	8,837	6,441	72
Monosyllables .....	34,087	27,557	80
Easy narrative .....	47,475	40,562	85
Ordinary prose.....	62,058	54,750	88
Totals.....	152,457	129,310	84
Writing—			
On slates .....	56,585	48,022	84
In copy books and on paper .....	95,679	81,623	85
Totals.....	152,264	129,645	85
Dictation .....	123,596	100,024	80
Arithmetic—			
Simple rules .....	88,741	68,459	77
Compound rules .....	38,277	27,234	71
Higher rules.....	23,300	16,626	71
Totals.....	150,318	112,319	74
Grammar—			
Elementary .....	32,465	24,359	75
Advanced .....	29,946	21,675	72
Totals.....	62,411	46,034	73
Geography—			
Elementary .....	30,416	23,134	76
Advanced .....	32,140	24,584	76
Totals.....	62,556	47,718	76
History—			
English .....	62,076	44,554	71
Australian .....	11,694	8,436	72
Scripture and moral lessons .....	147,728	112,957	76
Object lessons .....	144,099	114,708	79
Drawing.....	147,455	121,741	82
Music.....	141,410	114,621	81
French .....	1,855	1,331	70
Euclid .....	7,865	5,892	74
Algebra .....	1,999	1,530	76
Mensuration .....	5,165	3,564	69
Latin .....	1,958	1,430	73
Trigonometry .....	46	35	76
Needle-work.....	53,806	48,602	90
Drill .....	146,104	115,975	79
Natural science .....	7,934	6,238	78

The results disclosed in the above table are in the highest degree creditable to our teachers, inasmuch as they shown not only superior teaching ability, but most careful and painstaking work. A clever teacher, by working at high-pressure for a short time just before the examination, may succeed in gaining good marks for what are known as the oral subjects; but only well-sustained industry, and skilful teaching from day to day, can gain high results in reading, writing, dictation and arithmetic.

Reading is steadily improving as regards fluency and expression, though undue rapidity and wrongly placed emphasis are occasionally met with. The Colonial drawl and twang, though still in evidence on the roads, are not often met with in the school-room.

The new Reading Books came into use during the year, and have been welcomed by both teachers and pupils. They are brighter, more varied, and better graded than those formerly in use, and will doubtless be the means of improving the quality of the reading.

Writing comes out well in the results. The Inspectors report that it is carefully taught. Several series of Copy Books have been authorised, but those apparently most in favour are the Australian, the New Graphic, and Jackson's Upright. The teachers in remote country places experience great difficulty in procuring approved Copy Books for the pupils.

Some pupils write very well in Copy Books where they have a model to imitate, but fail in writing rapidly on ordinary paper. With the view of remedying this defect, it is provided in the new standards that writing from dictation shall carry 50 marks.

I am pleased to find that in several schools paper is used instead of slates in working arithmetic. I shall be glad when this is generally done. Slates, even with the utmost care, are not clean things to use, and may sometimes be the means of spreading disease. Out of school they are rarely used, and their banishment from the school-room will be attended with many advantages.

Arithmetic is perhaps the most difficult subject in the school curriculum, as success depends so largely upon the co-operation of the pupils. It is well taught as far as mechanical processes go, but the sums generally are worked too slowly. This is specially the case in the lower classes, and in working out the sums given in connection with the examination for exemption certificates. If greater care were taken to aim at quickness, there would be less of the pernicious habit of counting upon the fingers, a habit that is too common in the second-class, and is sometimes seen even in the third. The weak part of the instruction in the middle and upper classes is that it is not sufficiently practical and business-like. For example, I have found a third class able to work correctly all the calculations of a Bill of Parcels, but not one able to put the bill in proper form.

Attention to mental arithmetic is increasing, but rapidity is too little cultivated, and explanation of method and principles is neglected. Many teachers restrict their teaching of mental arithmetic to the application of certain mechanical rules, as prices of dozens and scores. Price of a dozen at 1s. 7½d. each is promptly answered, but the price of 7 at 6½d. is regarded as too difficult. The



The practice of examining all pupils of the fourth and fifth classes, and those who had completed two years' attendance in the third class for certificates of exemption was continued. 19,916 pupils were so examined, and 13,649, or 68 per cent., passed. This is a considerable advance upon last year's work.

Some Inspectors complain that the issue of these certificates leads to the withdrawal of children from school at too early an age. I do not think there is much force in this, as in all probability such children would be taken from school as soon as an opening for their employment presented.

It is somewhat remarkable that in Great Britain the complaint is that children attain the age at which they can legally leave school before they can pass standard for exemption.

The directions that in the lessons on Physiology and Hygiene, special reference should be made to alcohol is generally observed. These lessons cannot fail to produce good results as they are of a practical character. Many of our teachers have gained "Ambulance" certificates, and in a number of schools "First Aid" and "Life Saving" classes have been formed. •

#### Superior Schools.

Two schools, Neutral Bay and Wingham, were raised to superior rank, bringing up the total of Superior Schools to 101. These schools, distributed all over the country, bring within the reach of a large proportion of the juvenile population the means of qualifying for the Public Service or the University Examinations. From these schools, 183 pupils passed the Junior Examination of 1898. The Junior certificate, which is no longer a passport to the Public Service, or a qualification for promotion in it, has lost much of its value, and hence the number examined each year is decreasing. I shall be sorry to see these examinations discontinued, or altered in such a way that Public School pupils will cease to take part in them, because, in my opinion, they furnish a reliable and independent test of the efficiency of our schools. It is with regret, therefore, that I notice a disposition on the part of the Head-masters and Head-mistresses of the Superior Schools to discourage entrances for the Junior. The schools attaining distinction at the University examinations were :—

Fort-street .....	52 Junior, 4 Senior, 17 Matriculation.
Grafton .....	17 passes.
Petersham .....	9 "
Cleveland-street .....	8 "
Leichhardt .....	7 "
Stanmore.....	7 "

Cleveland-street succeeded in obtaining the high honor of one of its pupils winning the University prize for General Proficiency.

The Model Public School at Fort-street again secured the greatest number of passes of all schools.

Full information as to the schools at which the successful applicants for the Public Service were prepared is not at hand; but the results periodically published show that the schools under the Department more than hold their own in the competitions.

#### Infant Schools.

Infant Schools deserve unstinted praise. The teachers understand and sympathise with child nature. The instruction is solid, but made pleasant by being varied with Kindergarten occupations, musical drill, and physical exercises suitable for young children.

#### High Schools.

The High Schools in operation in 1897 were continued through 1898; but that at Bathurst was finally closed at the end of the year. That school, though always very efficiently conducted, never received the public support it merited, and for several years has had very few pupils beyond scholars and bursars, who, of course, paid no fees. By the closing of this school, the Department has lost the services of a highly-accomplished and able teacher, Mrs. S. C. Boyd. District-Inspector McCredie, in his annual report, pays a well-deserved tribute to Mrs. Boyd's efficiency.

The following is the return of the attendance :—

School.	Total enrolment.	Average quarterly enrolment.	Average daily attendance.	Fees received.
Sydney (Boys).....	162	130	119.3	£ s. d. 832 13 0
" (Girls).....	187	147	126.7	1,031 12 6
Maitland (Boys).....	104	83	77.1	431 11 0
" (Girls).....	61	48	42.9	154 7 0
Bathurst (Girls).....	13	12	10.3	12 12 0
Total .....	527	420	376.3	2,462 15 6
The figures for 1897 were .....	516	399	370.2	2,139 18 0

*Scholars and Bursars.*—The number of Scholars and Bursars in attendance at each High School during December quarter is given below :—

School.	Scholars.	Bursars.
Sydney (Boys) .....	37	29
" (Girls) .....	37	20
Maitland (Boys).....	23	26
" (Girls) .....	25	11
Bathurst (Girls).....	10	2
Totals.....	132	88

The schools were well represented at the University Examinations. The following table shows the number of passes :—

School.	Junior.	Senior.	Matriculation.
Sydney (Boys).....	18	5	24*
" (Girls).....	19	4	9†
East Maitland (Boys).....	14	2	8‡
West Maitland (Girls) .....	6	1	2
Total .....	57	12	43

\* Of these 12 matriculated at the Junior, and 5 at the Senior Examination.

† Of these 1 " " 1 " "

‡ Of these 3 " " 2 " "

*Teachers.*

### Teachers.

The number of teachers employed in the Department's service on the 31st December, 1898, was 4,759, an increase of 133 during the year.

The Inspectors concur in reporting, that with very few exceptions, they are exemplary in character, devoted to their work, and thoroughly efficient. The position of many a teacher is trying, and in some cases involves great hardship; but it has some compensations. It is safe so long as the teacher does his duty, no one can interfere with him, his work is honorable, and to the earnest highly interesting. His chief visitors are those who sympathise with his work and desire to recognise his merit. It is a matter for regret that more than half of our schools are below the eighth class, and consequently carry very low salaries. Most of the teachers of these small schools are eligible by classification for better positions; but as vacancies are very few, and claimants for promotion very many, a weary waiting for such promotion too often results.

The pupil-teachers numbering 1,020 form an inexpensive and effective portion of the teaching staff. I am aware that the employment of pupil-teachers has been unsparingly condemned by educational authorities in England and elsewhere; but as the result of a very large experience, I am convinced that not only do we get our best teachers from the ranks of pupil-teachers, but that these young persons are much more useful than those taken on at a more advanced age would be. The judicious selection from the number of applicants offering, and the careful supervision of the teachers under whom pupil-teachers are placed, make them efficient in a very short time. I shall be glad when matters can be so arranged that every pupil-teacher will be allowed a portion of each day for private study.

The great demand for schools in sparsely settled districts rendered it necessary to bring into the Service a number of young men as teachers of small schools. The plan suggested was approved by the Public Service Board, and applications were invited in the usual way. Over 100 applicants presented themselves for examination. Most of them were of superior attainments and excellent reputation. The forty-five who obtained the highest marks were declared eligible, and after a short period of training placed in charge of small schools at a salary of £72 per annum. From the number of inquiries made it would appear that there will be no difficulty in procuring as many teachers of this class as may be needed.

#### TOTAL Number of Teachers employed on 31st December, 1898.

	I A.		I B.		II A.		II B.		III A.		III B.		III C.		Unclassified.		Totals.		Grand Totals.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.			
Principal Teachers.....	49	1	72	1	305	6	155	6	696	146	173	82	74	53	246	251	1,770	546	2,316		
Mistresses of Departments..	0	32	0	39	0	137	0	3	0	2	0	0	0	0	0	1	214	214	214		
Assistants .....	0	0	24	1	137	130	91	128	61	343	6	68	1	18	5	69	325	757	1,082		
Students in Training School	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	25	41		
Totals.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,111	1,642	3,653		
	Class I.		Class II.		Class III.		Class IV.		Probationers.												
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.											
Pupil-teachers .....	26	102	60	109	89	127	161	259	30	57							366	654	1,020		
Work-mistresses .....																	..	62	62		
High School Teachers .....																	..	14	10	24	
Total Teachers of all ranks .....																	2,491	2,268	4,759		

### Training Schools.

The arrangements of the Training Schools at Fort-street and Hurlstone were in no way changed. Sixteen students attended Fort-street, and 25 at Hurlstone. In consequence of a block in the appointment of pupil-teachers in 1892 and 1893, there were comparatively few candidates for scholarships and half-scholarships, and hence the accepted students were not equal in attainments to those of former years. They proved, however, to be well-conducted and diligent, and very promising teachers.

Details of the work in the respective Colleges, and the results of the examinations, will be found in the reports of the two Principals, who, with the assistant lecturers, have discharged their duty with marked industry, zeal, and ability.

### School Libraries.

The importance of these valuable educational agencies is year by year more fully recognised, and their number is steadily increasing. Libraries are now found in all the school districts. The necessary funds are generally raised by means of school concerts and local subscriptions, but hitherto no aid has been granted by the State. As I pointed out in a former Report, School Libraries were originated as far back as 1854, but the cost of working proved an insuperable obstacle to their general adoption. Now that books are cheaper and better, and so many teachers enthusiastically support them, I look upon School Libraries as a permanent feature of our schools.

### Manual Training and Science Teaching.

Workshops for Manual Training have been erected in Sydney at the following schools:—Crown-street, Blackfriars, and Sussex-street, each serving for the pupils of these particular schools; and Fort-street, where one workshop is used for the students in training and for the pupils of the Model Public School and North Sydney Superior School. In Sydney, also, pupils of the Boys' High School and of Cleveland-street Superior School attend for manual instruction and theoretical chemistry at the Technical College. In the country the workshops at Bathurst, West Maitland, and Newcastle Technical Colleges serve for the schools in the district; while there is a special workshop attached to the Boys' High School at East Maitland. The pupils from seven of the schools at Newcastle, from six schools at West Maitland, and from four of the schools in the Goulburn district attend for manual instruction given in the workshops.

### Art and Science Teaching at Country Schools.

Art teaching is given at the Maitland High Schools by the Resident Master of the Technical School, and courses of lessons, with demonstrations, have been given by the Resident Masters at Goulburn, Bathurst, and Newcastle, in Physics, Physiography, and Chemistry, respectively, to the pupils of the different Public Schools.

### Cookery.

The number of Cookery Schools in operation during the year was 10, a decrease of 2 on the number for 1897, due to the fact that the cookery centres established at the beginning of 1898 continued in operation throughout the year, as they served enough surrounding schools for two terms of instruction each. New Cookery Schools were opened at Ashfield, Goulburn, West Redfern, and West Maitland,

Matland, in place of those at Parramatta Bathurst, Liverpool, and Tenterfield Eight hundred and sixty four girls attended the Cookery Classes ; of these 736 were examined at the end of a term of instruction, and 715 passed the applied tests The examining Committees were composed, as before, of ladies, who gave their services voluntarily and gratuitously, for which they were thanked by the Department

The number of teachers of Cookery was the same as previously, namely, 8. There were no alterations in the staff, who worked successfully and well

The following is a list of the schools in operation during the year —

Place	Remarks	Place	Remarks
Hurlstone Training College	Open all the year.	Ashfield	Open all the year.
Parramatta Industrial School	„ „	West Redfern	„ „
Fort street . . .	„ „	Newcastle	„ „
Petersham	„ „	West Matland	„ „
Paddington	„ „	Goulburn ..	„ „

#### Cadets.

The Cadet Force has been well managed by Colonel Paul and his colleagues, and is in healthy condition The chief obstacle in the way of a large increase in the membership is the cost of uniform ; but it is probable that arrangements will be made at an early date that will partially remove this.

The Cadet Staff superintend the drill in the Metropolitan, Newcastle, and Matland schools, and give model lessons for the benefit of the teachers

In order to secure something like uniformity, as well as thoroughness in the teaching of Drill and Physical exercises, the recognised Drill Book has been supplied to every school, and the prescribed sections clearly indicated in the Standards of Proficiency

Instruction classes for teachers and pupil teachers are held in Sydney and Newcastle, and are largely availed of

The results of the widespread drill and physical training are manifest in the improved physique and bearing of our youth, and in the very attractive displays of calsthenic exercises at the meetings of the various Public Schools Athletic Associations

#### Technical Education

The work of the Technical Education Branch continues to be carried on with ability, zeal, and success ; but in Sydney want of proper accommodation is a serious impediment in the way of progress. The class rooms at the Sydney Technical College have been extended so as to utilise all available space, extra lessons have been arranged for, the times and places of lessons have been remodelled with the view of meeting the demands for positions in the various classes, and still in many classes, notably Mechanical Drawing, Fitting and Turning, Electrical Engineering, Plumbing, and Sheep and Wool-trading, scores of students have to be refused admission

The most noteworthy events of the year are the completion and occupation of the new College buildings at Bathurst, the decision to establish a branch Technical College at Albury, and the distinguished success that has attended the re-arrangement of the Chemistry and Geology Classes in Sydney

The Technological Museum continues to do excellent work, particularly in the way of original research Very great attention has been devoted to products of the different species of eucalypti, and important discoveries have been made Teachers of Public Schools have been brought into touch with this Museum and its branches, and have received much useful information as well as aided in procuring suitable specimens for object lessons

The following summary of statistics will give some idea of the work done by this branch ; but fuller information will be found in the Superintendent's Report.

#### Enrolment of Students.

	1897	1898
Sydney Technical College, Technical Classes	3,462	3,723
„ „ Classes, on fees only	216	329
Suburban Technical Classes	3,678	4,052
„ „ on fees only	280	302
Country Technical Classes	446	384
„ „ on fees only	2,027	2,021
Classes connected with Public Schools	315	315
	912	1,444
	7,658	8,518

#### Fees.

	1897	1898
<i>Fees received from Students—</i>		
Sydney Technical College	£ 3,230 17 6	£ 3,666 12 6
Branch Technical Schools	1,388 0 2	1,664 19 3
	4,618 17 8	5,331 11 9

#### Examinations.

In 1897 there were 2,702 examined, of which 1,923 passed.

In 1898 there were 2,956 examined, of which 2,246 passed.

	Increase, 1898	254	Increase, 1898	323	
Number of visitors to Technological Museum, Sydney .					106,179
Number of visitors to Branch Museums in Country Towns					132,613
Appended are the reports of—					
District Inspectors and Inspectors					
Superintendents of Music, Drawing, and Needlework					
Principals of the Training Schools.					
Officer Commanding the Cadet Force.					

F. BRIDGES,  
Chief Inspector.

ANNEX

## ANNEX A.

## INSPECTOR DAWSON'S REPORT.

DURING the year 1898 I had under my supervision 12 Superior Public Schools, 6 Public Schools, and 6 Evening Public Schools—in all, 52 schools and departments.

The Evening School at Leichhardt did not resume work this year owing to paucity of attendance. The evening school at Surry Hills South was reopened after an interval of two years. A new department (Girls') was formed at Neutral Bay.

The quarterly enrolments and average attendance were as follows:—March quarter, 16,152 and 12,084; June quarter, 16,060 and 11,336; September quarter, 15,955 and 10,535; December quarter, 15,727 and 11,240. The falling-off in the two last quarters is attributable to wide-spread sickness amongst the pupils.

The schools mentioned accommodate 15,525 pupils, allowing each 8 square feet; so that, as a whole, they provide ample accommodation for the average attendance.

A very commodious new Girls' School was opened at Leichhardt, and additional class-rooms were built at Mosman, Manly, and Petersham. Extensive repairs and improvements were made at Crown-street, including an additional exit for the pupils taught in the upper part of the school buildings. In all schools minor repairs were promptly made when found necessary. Generally speaking, the material condition of the schools has improved considerably. In most of the schools the water supply has been improved so as to provide better drinking water, and readier access to it.

All schools were regularly inspected once during the year. A regular inspection involves a close scrutiny into all matters connected with a school, the details of organisation, the system of discipline, and the methods and results of instruction, and in large schools occupies considerable time. A school of three departments of the first-class takes fully a fortnight to inspect; some take longer. These regular inspections occupied the whole of the year, and left but little time for other valuable modes of inspection.

The total number of pupils presented for examination was 12,062. The percentage of passes in the important subjects was:—Reading, 80 per cent.; writing, 81 per cent.; dictation, 84 per cent.; arithmetic, 72 per cent.

Out of 2,193 pupils tested for certificates of proficiency, 1,591 satisfied the test—a percentage of 72.

The schools are well organised, and the discipline maintained is effective. Under examination the pupils are ready, prompt, and obedient.

The teachers, 321 of all ranks, are, with few exceptions, skilful, energetic, and laborious.

J. DAWSON,  
Inspector.

31st December, 1898.

## ANNEX B.

## INSPECTOR THOMPSON'S REPORT.

DURING the year 1898, in my section of the Metropolitan District, 26 schools were in operation, viz., 22 Public Schools and 4 Evening Public Schools, comprising 52 departments, one Evening Public School, at Ashfield, being added to those previously under my supervision.

*Accommodation.*

At Gardener's-road an Infants' Department is in course of erection, and separate accommodation for girls is also contemplated in this locality. At St. Leonard's Public School the accommodation has been expanded, and it is probable that further addition will shortly be necessary.

Generally speaking, the accommodation provided may be deemed adequate to the requirements of the several localities.

*Attendance.*

The gross enrolment of pupils for the year was 20,149; the multiple enrolment, 3,564; the actual enrolment, 16,585.

*Inspection.*

All the schools and departments received regular inspection during the year. With one exception, the proficiency of the schools in my section of the district was well above the pass-standard of 50 per cent. None fell below this standard. The general proficiency of the pupils may, therefore, be regarded as thoroughly satisfactory, notwithstanding the epidemics which, during one part of the year, were so prevalent; and no little credit is due to the teachers for their earnest and generally successful efforts to combat against circumstances so detrimental to the proficiency of their several departments.

The total staff of teachers of all ranks in this section of the district amounted to 296, viz., 104 males, 182 females, and 10 work-mistresses. The teaching, as a whole, has been earnest and effective, and the general organisation and discipline well sustained.

W. F. THOMPSON,  
Inspector.

28th January, 1899.

## ANNEX C.

## INSPECTOR WILLIS'S REPORT.

At the commencement of the year there were under my supervision 19 Public Schools, 1 Evening School, and the "Sobraon" School. These are still in operation, and to them have been added the Annandale Evening School and the Nareburn Infant's Department; so that now I have 23 schools in my section, and these comprise 52 departments.

The school buildings are kept in good repair by the Chief Clerk of Works. They afford, in the aggregate, ample accommodation for the pupils in attendance, but in particular localities the buildings are too small for existing requirements.

During the year a new Infant's School has been erected at Newtown North, and arrangements are being made, with the sanction of the Minister, for the provision of new buildings at Darling-road, Marrickville, and Woollahra.

The gross enrolment in the schools of this section numbered 21,813 pupils, the actual enrolment 18,116, and the average attendance for the year was 11,377.4. This average is less than that recorded for 1897 by nearly a thousand—a reduction brought about, no doubt, during the past six months by the prevalence of measles and scarlet fever among the children of Sydney.

Of the 52 departments fully inspected, 2 reached the standard of proficiency, and the remaining 50 exceeded it.

The schools are liberally provided with the necessary books and apparatus; the pupils are, with few exceptions, judiciously classified; the government is mild, but firm and effective; and the general management of all but one of the schools was found to be satisfactory. The number of pupils present at examination reached the total of 13,390. All of these were examined in the four most important branches, the passes being:—Reading, 81 per cent.; writing, 81 per cent.; dictation, 85 per cent.; arithmetic, 65 per cent.; whilst in the following branches the worst results were obtained, viz., Mensuration, 50 per cent.; Latin, 60 per cent.; and Elementary Geography, 60 per cent.

There are 313 teachers of all classes employed in the schools of this section, viz., 21 principal teachers, 30 mistresses, 144 assistants, 107 pupil-teachers, and 11 work-mistresses. These, one and all, have endeavoured to perform their several duties to the best of their ability, and their efforts have, for the most part, been productive of results, creditable to the teachers themselves, gratifying to this Department, and beneficial to the public on whose behalf the services were performed.

With

With the year now opening, the revised standards of proficiency come into operation, and under this new and improved condition of things, the teachers will, no doubt, be able to achieve in the future even greater success than their efforts have been rewarded with in the past.

All the statistics on which this report is based were forwarded to Head Office under separate cover some days ago.

6th January, 1899.

M. WILLIS,  
Inspector.

ANNEX D.

INSPECTOR SKILLMAN'S REPORT.

At the beginning of 1898 I had under my supervision 29 schools (55 departments).

During the year, Evening Public Schools have been opened at Bexley and Burwood.

Additional accommodation has been provided at Kogarah, and new schoolrooms are in course of erection at Hurlstone, Hurstville, and Sandringham.

The quarterly enrolments and average attendances were:—March quarter, 13,096 and 9,612; June quarter, 13,190 and 9,056; September quarter, 12,807 and 8,130; December quarter, 12,641 and 8,725 respectively.

The diminution in the attendances during the last two quarters of the year was due to the prevalence of measles and whooping-cough.

All the schools were fully inspected. No school was found to be below standard, 2 satisfied it, and 55 were above it.

The percentages of passes in the important subjects were:—Reading, 84; writing, 79; dictation, 78; and arithmetic, 69.

In 1897, 10,991 children were present at inspection. This year, owing to the epidemic of measles, only 9,527 were examined.

Two hundred and fifty-two teachers of all ranks were employed in this section during the year. They have done their work well, in spite of serious obstacles, arising from illness among both teachers and pupils, and even better results may be expected in 1899.

29th December, 1898.

H. SKILLMAN,  
Inspector.

ANNEX E.

DISTRICT INSPECTOR W. DWYER'S REPORT.

THE number of schools in operation during the year 1898 was 128, containing 162 departments. Of these, 144 are Public, 6 Provisional, and 12 Half-time. All were examined in accordance with the standards, and the general results may be briefly stated as follow:—156 were found to be above the standard, 4 were up to the requirements of the standard, and 2 were below the standard.

The number of places available at the close of the year was:—Floor space, 18,379; air space, 17,321; and the enrolment of pupils last quarter was 15,104. The accommodation, therefore, appears to be abundant, and evenly distributed. A new Evening School was authorised to be opened at Catherine Hill Bay, but it lapsed, the requisite number of pupils having failed to attend.

The number of pupils examined was 11,349. The tabulated returns already furnished show the estimated proficiency of these in actual numbers, and in centesimal proportions; and the estimates so tabulated are, throughout, highly satisfactory.

The entire teaching staff comprises 340 individuals, of whom 142 are principal teachers, 15 mistresses of departments, 88 assistants, 90 pupil-teachers, and 5 work-mistresses.

Taking the experience of past years as a reasonable and practical test, the general progress and prospects of schools for the current year give promise of satisfactory development and efficiency.

16th January, 1899.

WM. DWYER,  
District Inspector.

ANNEX F.

INSPECTOR DETTMANN'S REPORT.

IN the Parramatta section of the Sub-Metropolitan District there were 90 schools or departments in operation during 1898, consisting of 5 Superior Public Schools (14 departments), 1 Industrial School for Girls, 3 Provisional Schools, 10 Half-time Schools, and the rest ordinary Public Schools.

The establishment of 2 Evening Public Schools (Arcadia and Wilberforce) was sanctioned towards the close of the year, but these were not opened.

All the schools in operation were fully inspected, and with two exceptions (Half-time Schools), were found to be above the standard—a very gratifying result.

One hundred and sixty-six teachers are employed in these schools, which had 8,875 pupils on the books for the year.

The school accommodation provided was in excess of requirements, being an increase of nearly 500 seats for the year. This was brought about by the erection of new buildings (5), new class-rooms (2), and the extension of existing buildings (3). Not only are there more seats provided, in the aggregate, than there are pupils enrolled in the school, but there is also a very fair distribution of the seats; and therefore in no instance can reasonable complaint be made that schoolrooms are overcrowded.

Two new schools were established during the year, and another approved—McGrath's Hill (Pitt-town Road)—which will be in operation in 1899.

The district is now well provided with schools, which are centrally situated.

In addition to new buildings being provided in certain cases, many existing buildings have been improved and repaired; and while the need for further improvement and repairs exists, the schools are, on the whole, in good condition, and are well cared for by the teachers, who, in most instances, take a pride in keeping their school premises in a clean and tidy condition, and in making them as attractive as possible.

In other matters connected with the organisation of their schools the teachers are equally careful, and appear to fully recognise their responsibility, not only in this direction, but also in all other duties connected with their office.

That these duties are properly attended to is apparent from the following considerations:—Nearly 98 per cent. of their schools are above the standard; no teachers have been censured during the year for neglect of duty; they are liked by their pupils, whose parents appear to be well satisfied with their efforts in school; and they are favourably regarded by the public generally.

They are well qualified for the positions they hold, and are in most instances striving for advancement in the service. Of those in charge of schools only ten are without classification, which does not necessarily imply that they are inexperienced,—as with two exceptions they are ex-pupil-teachers who have had several years' experience of teaching in large schools, and are only awaiting an opportunity under Departmental rules to obtain classification. Some of them are capital teachers.

The district is indeed fortunate as regards the teaching staff, and most of the teachers are, in addition to being capable, earnest workers in the cause of primary education, and are doing their best for their pupils and the Department they serve. The proportion of high-grade teachers in the district is large.

The discipline maintained in the schools is very satisfactory. It is generally mild and kind in its application, and while, like the organisation, it is used as a means to successful teaching results, it is made to contribute to the formation of orderly and industrious habits in the pupils. It is an uncommon thing to find a school in which the forming of the character of the pupils is overlooked; and hence the pupils are in most cases considerate towards their fellows, respectful to their elders, cheerfully obedient in school, and generally industrious and well behaved.

Corporal

Corporal punishment does not, as a rule, appear to be resorted to, except in extreme cases, and in many cases it is seldom or never used.

I have been particularly struck with the cleanliness of the pupils, and with their neat and tidy appearance, not only in those from well-to-do neighbourhoods, but also those coming from reputedly poor homes; and I cannot help the conclusion that many of the mothers owe their ability to dress their little ones so neatly and even tastefully, to the instruction in sewing which many of them received in our Public Schools.

The discipline of our schools is undoubtedly a factor in the training of the children.

The teaching results for the year have been very satisfactory, and a distinct advance has been made in the education of the children of the district.

In most of the schools the prescribed course of instruction has been followed, and lesson-guides carefully and skilfully prepared and closely adhered to.

The new standards of proficiency which will come into force at the beginning of 1899 have in several instances been anticipated. Teachers generally express themselves as being highly pleased with these standards, which they will I am sure properly interpret and diligently apply, to the advantage of all concerned.

The teachers report very few cases indeed in the district in which children are not being educated.

The largest number of the children of the district are of course attending our schools, which had a gross enrolment for the year of 8,875 pupils.

From the foregoing it will be seen that the Parramatta District is well supplied with the means of primary education, in that it is provided with a sufficient number of suitable schools, properly distributed and centrally situated, and equipped with all necessary appliances for efficient teaching. Moreover, the schools are well staffed with efficient teachers.

Existing conditions are very favourable to the continued progress of primary education in the district.

The usual statistics for the year have been furnished.

JOHN DETTMANN,  
Inspector.

#### ANNEX G.

##### DISTRICT INSPECTOR BRADLEY'S REPORT.

In my report for 1897 I stated that no marked increase or diminution in the number of schools in the district was, for some time to come, probable, and the experience of the year just closed goes to confirm such opinion. Many changes have taken place in the *distribution* of the smaller schools, mainly as the result of fluctuation, not increase, of settlement. Under the Regulations made for the establishment of Provisional, Half-time, and the smaller Public Schools, it frequently happens that the removal of a couple of families from one locality to another leads to the disrating or extinction of one such school, and either the establishment of a new school, or the revival of one that had been temporarily closed. While this condition of things creates a good deal of work for Inspectors in connection with inquiries as to the educational needs of the several localities concerned, and in a small way doubles expenditure for buildings, &c., it is at the same time unavoidable in the remoter parts of the Colony, where population is, and for some time will be, meagre and shifting. The worst phase of the matter, however, is that as affecting the salaries of the more poorly paid teachers. It is simply impossible to effect removals to fit in with capricious variations of attendance; but upon such attendance, under the strict letter of the Regulations, the rate of salary primarily depends. Under the exercise of discriminate and lenient treatment at the hands of the Department, the teachers of these smaller schools are spared, as far as possible, from the disadvantageous incidence of a fluctuating attendance for which they are not responsible; but, notwithstanding, anomalies present themselves, and cases of hardship occur, which often for some considerable time are irremediable.

During 1897, 352 schools were in operation for the whole or part of the year. Of this number, 13—all small schools—remained closed during the whole of 1898, but 15 others of similar character were established, 11 of the number being new schools, and 4 of them schools that had, from paucity of attendance, been closed for longer or shorter periods. The net increase is thus 2, and the 354 schools of 1898 are classified as follows:—Public, 216; Provisional, 57; Half-time, 72; House-to-house, 7; Evening Public, 2.

In building work, the most important item of the year has been the completion of a new and substantial brick building for the girls' department at Armidale. This, with contingent alterations and improvements, has cost about £2,300. The school-house at Nundle has been enlarged, and new class-rooms have been erected at Murrurundi, Narrabri, and Scone. New residences for teachers have been provided at Bundarra and Wallabadah, the former costing over £900. All of the foregoing have been carried out under the Chief Clerk of Works. The erection of a new Infant School at Tamworth, and of school buildings at Gunnedah, Narrabri West, and Carroll, have also been authorised by the Minister, and the carrying out of these works at the earliest possible date is very desirable.

With ampler funds at disposal, the minor works effected throughout the district by the Inspectors have passed the record of any previous year. Thirteen (13) small school houses and 2 teachers' residences have been built at a cost of £1,135; 3 buildings have been enlarged at a cost of £120; and over £2,100 has been spent on improvements to 110 schoolrooms and 25 residences. Four other schoolrooms approaching completion, and repairs in progress in connection with eight others, will cost over £400 more; so that, in all, the expenditure involved upon work planned, and, in the main, supervised by the staff of Inspectors, reaches the substantial amount of nearly £3,800. Personally, I have to acknowledge my indebtedness to the local Clerk of Works, Mr Porter, for willing help afforded by him as opportunity offered, and this obligation applies not only to the work of the past year, but to that of previous years.

With the improvements effected during the year, and the completion of others in progress and authorised, the accommodation provided will be ample for all requirements, and the condition of the school buildings generally will leave little to be desired.

At the end of 1897 the schools of the entire district afforded seating accommodation for 19,825 pupils, allowing 8 square feet of floor-space per child, and for 18,162 at the rate of 100 cubic feet of air space. A net increase of 979 seats and 1,051 places has been arranged for during the year, and the totals now stand at 20,804 and 19,213 respectively. This is liberal provision for the needs of the district, and, on the whole, it is pretty evenly distributed, although there are still a few cases of overcrowding, and of others where there is too much room to spare.

All schools in the district but one, Yarrawitch Public, received full inspection, and, in addition, 13 ordinary inspections were made. Yarrawitch, the unsuspected school, was burnt down prior to the date fixed for the Inspector's visit, and, although new buildings were erected with as little delay as possible, the school was not again brought into operation before the end of the year. Of the 353 schools examined, 322 (91 per cent.) exceeded standard requirements, 9 (3 per cent.) just met them, and 22 (6 per cent.) failed to reach them. These results are almost exactly on a par with those of last year, and are by no means unsatisfactory, when allowance is made for interruption to attendance caused by the prevalence of epidemic sickness during many months of the year.

Out of 1,428 pupils who were subjected to the examination test for exemption certificates, 1,061, or 74 per cent., passed satisfactorily. In 1897, 66 per cent. was the record reached; and in 1896 only 60 per cent. The improvement has thus been steady, and is indicative of increasing care and thoroughness in the teaching of the three main subjects—Reading, Writing, and Arithmetic.



In the sectional reports appended the several Inspectors make special reference to the schools that have passed with the greatest degree of credit at the annual examinations, and it is unnecessary, therefore, for me to repeat their remarks. In the portion of the district that comes under my own immediate supervision, Armidale Superior Boys', Armidale Superior Girls', Hillgrove, Rocky River, and Guyra stand first, and are named in the order of merit. The examination of the upper section of the boy's department at Armidale was conducted by the Chief Inspector, and, as the result, the principal teacher received promotion to IA, and the assistant teacher to IB grades, for which they had already qualified under examination in attainments. The mark awarded for the general efficiency of the school was "Excellent." In the case of Hillgrove, the general efficiency gained the mark "Very Good"; but, so far as the principal teacher is accountable for it, the organisation in this school ranks first in this district. Apart from, and beyond the mere matter of skilful construction of Time Tables, Programmes, &c., in no other instance has such zealous, constant, and intelligent effort been bestowed in improving the school in its surroundings and educational accessories. A garden of considerable size, that, under favourable conditions, forms the beauty-spot of the town, has been formed, though nothing more promising than raw sand and granite boulders constituted the basis of operations at the start. A set of gymnastic apparatus, complete in all essentials, has been obtained for the use of the boys; wands, Indian clubs, dumb-bells, and other calisthenic appliances, for the girls. The school museum contains, within suitable cases, well arranged and neatly labelled exhibits of animal, mineral, and vegetable products, readily accessible, and almost in daily use in the ordinary school work. A good library of 550 volumes, is in active operation; and an unpretentious but instructive picture-gallery, comprising excellent reprints of good photographs, with descriptive letter-press, in real oak frames, extends the full length of hat-rooms and lavatories; while, to finish up with, an American organ of attractive appearance and good quality forms much more than a pleasant feature in each of the two main schoolrooms. Not a penny towards this equipment has been asked or received from the Department, nor is it the outcome of any begging canvass of the town; teachers and children have simply wrought for and *earned the means* by concerts, entertainments, and exhibitions of work, that have both gratified the people, and impressed them with the educative value of a school of which they are deservedly proud. These facts are cited, in the first place, to give prominent and emphatic recognition of the services of a good man; and, secondly, in the hope that what he has accomplished may stimulate others to go and do likewise,—at any rate, in such greater or less degree as may be possible in their circumstances and surroundings. Brains, inclination, and energy are all that are needed; and, in comparison with school-life under such healthy, bright, and beneficial influences, the bald, perfunctory 9-to-4-o'clock discharge of duty will sink into well merited contempt. Guyra, Rocky River, Saumarez, Rose Hill, and Wollun are schools in which efforts more or less praiseworthy have been made in this right direction.

Very successful meetings of branches of the Public Schools Athletic Association have been held during the year at Armidale, Glen Innes, Inverell, and Tamworth, and these gatherings are without doubt increasing in popularity and usefulness.

The teaching strength of the district, both as regards numbers and distribution, is practically unaltered. Out of a roll of 414, 85 are unclassified; but most of these are ex-pupil teachers, whose practical skill and literary attainments are such as should enable them with but little difficulty to gain classification at the expiration of their terms of probation. Without exception, the Inspectors report in terms of commendation when speaking of the character, conduct, and efficiency of the teachers under their charge. The year just ended appears to have been exceptionally free from complaint or cause of complaint, and my own experience I am pleased to say in the main coincides therewith.

J. D. BRADLEY,  
District Inspector.

#### ANNEX H.

##### INSPECTOR BLUMER'S REPORT.

THREE (3) schools (Wombramurra Public, and Woodlawn and Wooloban Half-time) that were in operation during the last quarter of 1897, did not reopen this year. During the present year Moor Creek Waterworks Public was closed, and four (4) schools were established, viz., Hillside, Medgun Creek, Mount Drummond (Provisional), and Cooringoora (Half-time). An application for a Public School on the Moree-road, near Bingara, was also favourably entertained, and the school will probably open early next year. The following requests for new schools were declined:—Eulo, Timbri, Moor Creek, Spring Farm, Upper Nemingha (Provisional), Binnequy, Terry-hie-hie, Upper Berrigal (Half-time). At present there are in operation eighty-nine (89) schools, comprising 56 Public, 15 Provisional, 18 Half-time. These fairly meet the requirements of the district.

Ninety (90) schools were open during the whole or some portion of the year. All but one were fully inspected, and the most important four received second or ordinary inspections. The uninspected school was Yarrowitch Public. Before the proposed date of inspection, this schoolroom was burnt down, and it was found impracticable to erect new buildings and reopen the school before the end of the year.

As a rule, the schools are conveniently situated, afford adequate accommodation, and are well equipped. In some instances, however, additions are urgently required. Where such is the case, the necessary steps have been taken to remedy the defect. With this object, the Chief Clerk of Works has been instructed to arrange for an Infants' Schoolroom at Tamworth, and for extensive additions at Mungindi and Walcha. During the year the schoolroom at Nundle Public was enlarged by the Chief Clerk of Works, and that at Big Leather by the Inspector. The extra accommodation provided by erection of new premises, and by enlargement of existing ones, is as follows:—

School.	Done by—	Cost.	Additional Accommodation at—		Nature of Work.
			8 sq. ft.	100 c. feet.	
		£ s. d.			
Big Leather Public...	Inspector	26 10 0	14	10	Additions.
Crow Mount Public...	"	118 16 0	10	11	To replace old building.
Nundle Public .....	Clk. of Wks.	192 14 3	26	21	Additions.
Yarrowitch Public ...	Inspector	115 0 0	5	7	To replace buildings burnt down.
Hillside Prov. ....	"	55 0 0	30	24	A new school.
Medgun Creek Prov..	"	5 0 0	21	15	A new school.
Upper Moor Ck. Prov..	"	67 11 0	13	6	To replace old building.
Total...		580 11 3	119	94	

A new brick residence was erected at Bundarra by the Chief Clerk of Works, at a cost of £918 10s., and a wooden one at Duri, by the Inspector, for £247 16s. The further sum of £267 5s. 3d. was expended by the Inspector on repairs and improvements to buildings; and similar works, involving an outlay of £182 4s., are now in progress. A tender has also been accepted for erection of school buildings on Moree-road, at a cost of £79 14s., the contract to be executed under the supervision of the Inspector. Numerous and more or less extensive repairs and improvements have likewise been effected

effected by the Clerk of Works. Year by year it is found that an increased amount of time has to be devoted to the preparation of plans and specifications, and to the supervision of repairs to and erection of buildings. Much valuable assistance is cheerfully rendered by teachers; but it is to be feared that, despite all precautions, work of inferior quality is often passed off by unprincipled contractors, especially where a very low tender is accepted, and the work is not sufficiently extensive to warrant the expense of a special visit to a remote place.

During the present severe drought the question of water supply has been a most difficult one to deal with. In many places, where existing provisions were deemed liberal, the tanks, and what were regarded as permanent streams, have run dry.

So far as the teachers are responsible, the organisation of the schools is very satisfactory. In nearly all cases the buildings and premises are well kept, the records and returns punctually and carefully compiled, and the necessary lesson guides intelligently and neatly prepared. Much might be done, however, with little trouble to teachers and pupils, in the way of rendering the interior of schoolrooms more attractive.

School Savings Banks cannot be regarded as flourishing, the depositors being comparatively few, and the deposits small and irregular. Cadet Corps exist in two schools only—Tamworth and West Tamworth—and these would long since have become defunct were it not for the annual trips to Sydney in connection with the shooting contests. Arboriculture has been little better than a failure this year, on account of the long and severe drought. School Libraries are met with in several of the more important and in a few of the smaller schools. They are much appreciated by the pupils, and speak well for the disinterested zeal of the teachers concerned.

As in former years, the discipline of the schools is a particularly pleasing feature. Rarely are pupils otherwise than orderly and diligent. In some places, however, notably in dairying localities, children are often detained to assist on the farms. At Terry-hie-hie several children have been withdrawn from school, and are said to be taught at home, on account of the reasonable objection of the parents to the association of their children with those from a local blacks' camp. The good results of the competitions in drill held in connection with the annual school sports are plainly evident. A spirit of emulation is thereby excited in the case of the larger schools, and untrained teachers of smaller ones eagerly avail themselves of the opportunity of witnessing practical demonstrations of the instructions contained in the text-books. These reunions, furthermore, cannot fail to bring teachers and scholars into more sympathetic touch, and to develop *esprit de corps* amongst the pupils themselves.

Of the eighty-nine (89) schools fully inspected, 91 per cent. were up to or above standard, as against 94.5 per cent. for the preceding year. This falling off is more apparent than real, inasmuch as five (5) of those reported "Below Standard" had to be so regarded solely on account of unavoidable circumstances precluding the formation of a third or a higher class. The general prevalence of scarlatina and measles during the greater portion of the year also seriously retarded school work.

The results in the several subjects of instruction are compared hereunder with those for 1897:—

Subjects.	Number of Children examined.	Percentage up to or above Standard.		Increase (+) or Decrease (-) for 1898.
		1898.	1897.	
Reading .....	3,199	92	90	+ 2
Writing .....	3,199	94	93	+ 1
Dictation .....	2,467	83	78	+ 5
Arithmetic .....	3,199	78	79	- 1
Grammar .....	1,157	79	79	=
Geography .....	1,165	80	78	+ 2
History—English .....	1,165	75	76	- 1
History—Australian .....	302	88	77	+11
Scripture or Moral Lessons .....	2,972	80	82	- 2
Object-lessons .....	3,114	81	82	- 1
Drawing .....	3,121	85	85	=
Music .....	2,810	71	73	- 2
French .....	19	89	93	- 4
Euclid .....	74	59	73	-14
Algebra .....	12	92	94	- 2
Mensuration .....	31	61	65	- 4
Latin .....	12	100	93	+ 7
Needlework .....	1,128	90	82	+ 8
Drill .....	2,852	77	74	+ 3
Natural Science .....	156	81	91	-10

During 1897, 59 per cent. of pupils who had completed four half-years in third class passed the standard required for award of certificates. The percentage for 1898 is 75.3. This substantial increase (16.3 per cent.) is an indisputable proof of improvement in the elementary instruction.

Tamworth Girls', Tamworth Boys', and Barraba Public are the three schools most deserving of special mention in point of general efficiency, but eight (8) others closely approach them.

Without exception the teachers in this section of the district continue to merit the confidence and respect of the community. Ex-pupil-teachers in charge of small schools discharge their duties with exemplary zeal and success. Transferred from town schools and comfortable homes to more or less remote places, where the only available accommodation is often rough and the food coarse, they patiently labour and endeavour to render themselves eligible for better positions. It is to be regretted that many deserving young men are debarred from marrying by the inability of the Department to remove them to schools where residences are available.

In conclusion:—Schools are well distributed throughout this district, and afford, with few exceptions, adequate accommodation. Notwithstanding irregularity of attendance, consequent on epidemic sickness, the results for 1898 compare very favourably with those of any previous year. A still greater measure of success may be confidently expected for the ensuing year.

L. BLUMER,

Inspector.

28th December, 1898.

#### ANNEX I.

##### INSPECTOR BEAVIS'S REPORT.

EIGHTY-NINE schools which were in operation in this section at the close of last year recommenced work in January. In February, the Provisional School at Dundee Railway Station was re-opened; and, subsequently, by the establishment of 3 new schools, viz., Hawthorne Provisional, Trelawney Provisional, and Querra Half-time, and the reopening of Fieldside as Half-time in conjunction with the last named, the total number of schools for the year reached 94. Bukkulla School (Provisional) has been promoted to Public, and Coolootai (which up to September was worked as Half-time with Gullengutta), is now classed as Provisional. Thus, the 94 schools which have been in operation, include 69 Public, 18 Provisional, 5 Half-time, 1 House-to-House, and 1 Evening.

Three schools have been closed, viz., Blair Hill Provisional, Clearbank Provisional, and Gullengutta Half-time; the Bear Hill Provisional School cannot be longer maintained. It is often difficult to

forecast

forecast the prospects of settlement, and to locate schools advantageously. Several schools in this section, which at one time accommodated a considerable population, are now poorly attended; and a few, including some with residences, threaten to close. Nearly 90 schools, however, are still effective, and 10 new ones are in prospect. It has already been decided to establish schools at Acacia Creek Bridge, Clifton, Ten-mile, Homestead (Tenterfield), Wellington Vale, Chain of Ponds, and Auburn Vale, and to reopen the school at Airie Brake; other localities where some provision is required, are Ferndale near Inverell, and Glen Creek and Gulf, near Emmaville. The easier conditions under which a school may now be established will probably result in a further material increase in the number of schools.

The accommodation in the schools is generally satisfactory, though in several of the smaller schools somewhat meagre. Where, as often happens, the permanence of a school is doubtful, or its life can be estimated at a few years, only a small expenditure in buildings is warranted; meagre accommodation is then wise economy. In a sparsely-settled district such as this, small school-buildings are necessarily the most numerous. The work of erecting these and keeping them in repair falls usually on the Inspector, and makes a substantial addition to his already onerous duties.

The inspection work of the year embraced every school, but was practically confined to a single visit. Eighty-seven schools (93 per cent. nearly) satisfied the standard in respect of general efficiency, and 7 were below it. These results differ very little from those of last year. 3,348 pupils were examined; last year there were 3,460. The reduced numbers may be accounted for by the unusual prevalence of sickness throughout the year. The proficiency of the schools did not materially suffer, the results being similar to those of 1897. Of 418 pupils who underwent the examination test for exemption certificates, 329 passed (79 per cent.). The examination this year included those who had previously gained certificates; 192 fresh certificates were issued.

The new series of reading-books introduced in June is generally recognised to be, for teaching purposes, an improvement on the old. Teachers, however, complain that the books are weakly bound.

Athletics still command a fair share of attention. School sports at Inverell and Glen Innes, were, this year, very successful. Recently a new departure has been made by the formation of swimming classes of pupils from Glen Innes and neighbouring schools. Considerable interest has been shown by parents, who evidently consider that best preventive of drowning is to learn to swim. Lessons, drawn from information supplied by the Board of Health, on the treatment of the apparently drowned, are given as object lessons in the schools; as also, are lessons on snake-bite, hydatids, and heat-stroke. The value of such lessons cannot be questioned. A case recently came under my notice where a boy bitten by a snake saved his life by his prompt application, while alone in the bush, of lessons taught at school.

The teachers of the district command in a special degree the confidence and esteem of the people among whom they labour. With a high sense of duty they combine a degree of earnestness in their work, which, considering their sometimes discouraging surroundings, is very commendable. Unfortunately, too, promotion comes but slowly to the teacher of a small school. The advent of an additional family may give him a chance promotion; otherwise he waits long for any pecuniary reward.

#### Summary.

1898 is to be recorded as another year of sound work without exceptional features. Probably next year will be marked by considerable expansion in the number of schools.

29th December, 1898.

W. BEAVIS,  
Inspector.

#### ANNEX J.

##### INSPECTOR PARKINSON'S REPORT.

At the beginning of this year there were 96 schools in this section, and 5 more have since been opened; so that during 1898 I have had charge of 101 schools. The new schools opened were, Wingen Public, Coochooona and Cherson Provisional, Argyle Half-time, and Belltree's Evening Public. The following have been closed:—Weetalaba Public, Bando Provisional, Brigalow Creek, Cuttabri, Boheena Creek, and Therribri Half-time, Digby House-to-house, and Belltrees Evening Public. There are, therefore, now on the list 94 schools. The following new schools have been granted, and are expected to open early next year:—Ellerston and Dartbrook Provisional, both near Scone; Kelvin and The Hamlet Half-time, near Gunnedah; Gurley House-to-house, near Narrabri; and Cuttabri House-to-house, near Wee Waa. I anticipate that the number of schools in operation next year will slightly exceed that for 1898.

Last December the buildings provided accommodation for 4,718 pupils, and during the year they have been so increased as now to provide for 5,098. The aggregate enrolment is below 4,500, so that there is more than sufficient room for the attendance. Last year I stated that new buildings were required at Gunnedah, West Narrabri, Stewart's Brook, and Braefield. At the last-named place the school-room has been erected, and at the others buildings have been authorised. A new building is also to be erected at Carroll, near Gunnedah. The new class-rooms at Narrabri were opened at the beginning of the year, and others have since been completed at Scone and Murrurundi. These, with the erection of a teacher's residence at Wallabadah, have been the principal improvements carried out by the Chief Clerk of Works. Under my own supervision three small schoolrooms have been erected, and 30 schoolrooms and 9 residences improved and repaired, at a total cost of upwards of £900. A large part of this sum has been expended in adding verandahs to schools and kitchens to residences, thereby greatly increasing the comfort of scholars and teachers.

All the schools in operation received a regular inspection, and 9 ordinary inspections were made at schools to which I was called on special business. The Chief Inspector visited the district in June. He made regular inspections at Gunnedah, Narrabri Boys', and Quirindi, ordinary inspections at West Narrabri and Narrabri Girls', and incidental inspections at Somerton and Murrurundi. At Gunnedah and Narrabri he was assisted by Mr. Blumer, of Tamworth. Mr. Bridges' visit has been productive of much good. It has given the teachers and myself an opportunity of comparing our standards and methods with those approved of by the Inspectoral head of the Department, and the words of encouragement and advice given have not been without effect. Of the 101 schools examined, 96 were either up to or above standard. The 5 schools below standard were all very small—2 Provisional and 3 Half-time; and 3 of these were only a short time in operation when inspected. These results exactly coincide with those for last year. The older and more important schools, however, give higher results than for any previous year. The Superior Schools at Quirindi and Gunnedah each obtained upwards of 80 per cent. of marks, and secured from Mr. Bridges the mark "Excellent," for efficiency. Eleven (11) schools—West Narrabri, Boggabri, Curlewis, Narrabri Boys', Rotherfield, Kilphysic, Werris Creek, Scone, Parkville, Blandford, and Sparkes' Creek,—gained marks ranging from 70 to 80 per cent.; 53 schools were between 60 and 70 per cent., and 30 were from 50 to 60 per cent. Thus, 66 schools were up to or above the efficiency of 60 per cent., as compared with 59 schools last year.

At the regular inspections there were 3,216 pupils present, and these were all examined in Reading, Writing, and Arithmetic. Ten (10) subjects secured 90 per cent. or upwards of passes, viz., Reading, Writing, Scripture, Object Lessons, Drawing, French, Latin, Needlework, Drill, and Natural Science. The following nine subjects had from 80 to 90 per cent. of passes:—Arithmetic, Grammar, Geography, English and Australian History, Music, Euclid, Algebra, and Mensuration. In Dictation the passes were 77 per cent. These results are fully equal to those shown for last year. The subject in which the greatest improvement has been made is Mensuration, which has advanced about 20 per cent.

For exemption certificates 477 pupils were examined, and 347 (72 per cent.) passed. Of these, however, 164 passed the examination the previous year; so that only 183 new certificates were issued.

Many

Many teachers complain that the granting of these certificates has an injurious effect on their attendance; but it appears that in this district, about 50 per cent. of successful pupils have remained at school for several months after they were legally qualified to leave.

At the close of this year there are under my supervision 81 principal teachers, 12 assistants, and 18 pupil-teachers. One teacher holds a first-class certificate, 15 are in second class, 52 in third class, and 25 are unclassified. Of the last named, 14 have been pupil-teachers. Most of the 18 pupil-teachers employed are girls, and the 5 boys are in the lowest class. Owing to the more liberal Regulations recently passed for the establishment of small schools, the larger schools are drained of the male pupil-teachers as soon as they reach the age of 18 years. The conduct of the teachers has been exemplary. Few complaints have been made against them, and no case of serious misconduct has come under my notice.

Both teachers and pupils continue to take a lively interest in school libraries. The number of schools that have these attached is now 81, and there are upwards of 5,000 volumes in circulation. In their quarterly reports the teachers are still almost unanimous in asserting that the libraries are proving most serviceable.

This report shows—(1) That during 1898, 101 schools have been in operation; all were inspected, and 95 per cent. were found to be either up to or above standard.

(2) A substantial increase has been made in the accommodation provided, and much has been done to make existing schoolrooms and residences more comfortable for both pupils and teachers.

(3) The more liberal Regulations regarding the establishment of schools is likely to cause an increase in the number of schools and the work of inspection during 1899.

H. PARKINSON,  
Inspector.

26th December, 1898.

#### ANNEX K.

##### DISTRICT INSPECTOR MCCREDIE'S REPORT.

DURING the year just ended there were 255 schools and departments in operation in the Bathurst district. Of these, 4 have been closed, leaving 251 existing schools at the end of the year.

Besides the changes referred to in the reports upon the Eastern and Western sections of the district, there were a few in the central section, the most important being the closing of Flyer's Creek Half-time early in January, and the conversion of the Half-time School at Ingliswold into Provisional, and of the Provisional School at Winburndale into Public.

Towards the close of the year applications were received for the establishment of Public Schools at Bloomfield, Spring Terrace, and Shadforth; Provisional Schools at Wimbleton and Summer Hill Creek; and an Evening Public School at Meadow Flat.

The applications from Bloomfield and Meadow Flat have been granted. The other applications have not yet been reported upon, but will receive early attention.

The educational wants of the district are fairly met by existing schools. The sites are, with few exceptions, suitable and central, and the buildings are large enough for present requirements, and are well furnished and equipped.

Generally speaking, the material condition of the buildings is satisfactory. Substantial additions and improvements were carried out under the supervision of the Chief Clerk of Works, and 14 new schools were erected, 3 enlarged, and 112 old buildings and 26 residences repaired by the staff of Inspectors at a total cost of £2,625 10s. 3d. A few other works of a similar nature are in progress under these officers, and will be completed early in the present year.

New schoolrooms, to replace old ones at Winburndale and Dark Corner, have been sanctioned, and also new residences at Blayne and Lower Forest.

At the end of 1897 the schools of the district provided accommodation for 16,898 pupils, at 8 square feet of floor-space for each, and for 16,814 pupils, at 100 cubic feet of air-space for each. Now the numbers are 17,274 and 17,171 respectively.

Particulars of the attendance and fees for the last two years are exhibited in the following table:—

Year.	Total enrolment— no pupil being counted twice.	Average attendance.	Percentage of average attend- ance in relation to enrolment.	Fees received.	Fees in arrear.
1897 .....	15,523	10,399·9	67	£ s. d. 5,215 10 0	£ s. d. 155 17 3
1898 .....	15,631	9,399·	61	4,995 5 3	141 6 9

These figures show an increase of 108 pupils in the enrolment for last year, and a decrease of 1,000 pupils in the average attendance, and of £220 in the fees received. The falling off in the average attendance was caused chiefly by sickness in nearly every part of the district.

Except the Evening Public School at Burnt-yards, which existed for a few weeks only, all schools were regularly inspected, and 36 received a second inspection, the total number of inspections for the year being 290.

Of the schools regularly inspected, 15 were below, 3 up to, and the remainder above the standard in general efficiency. Ninety-four per cent. met or exceeded standard requirements. In the previous year the percentage was 95. The number of pupils examined was 9,744, being 1,014 less than in 1897. The decrease occurred principally in schools visited during the last half of the year, and was due to epidemics of measles and scarlet fever, which in some cases necessitated the temporary closing of schools.

Seven hundred and ninety-six pupils, or nearly 72 per cent. of 1,108 examined for exemption certificates, passed the prescribed tests satisfactorily. In 1897 the percentage of successful candidates was only 60.

The results of examination in the several subjects of instruction compare favourably with those of the previous year. In five of the subjects—Australian History, Scripture, Music, Algebra, and Needlework—the percentages of passes are slightly lower; in Dictation and French they are equal; and in all remaining subjects they are higher.

Successful sports meetings of the Bathurst and Lithgow branches of the Public Schools Amateur Athletic Association were held during the year.

Classes of the older boys in Bathurst, Milltown, and Kelso Public Schools, for manual training, under Mr. Felix Coles, of the Bathurst Technical College, were formed in Bathurst in September last. No difficulty was experienced in obtaining the necessary number of pupils for the classes, although each lad had to purchase tools for the work.

At the recent competition in Sydney for the Schools Challenge Shield, the cadets of Orange and Bathurst again secured first and second places in the contest. This makes the ninth successive victory for the Orange cadets. As in 1897, the Bathurst cadets were again a good second.

The Bathurst High School for Girls was permanently closed at the end of the year. At the time of closing there were 13 pupils enrolled, and only one of these paid school fees, the others being holders of scholarships or bursaries. The pupils who attended the schools received an excellent education

education and training, and the institution, from first to last, maintained its reputation as one of the best of its kind in the Colony. Mrs Boyd, the mistress of the school, has left the Service, and by her retirement the Department loses one of its most efficient and successful teachers.

The total number of teachers employed in all schools is 339. Of these, 218 are principal teachers, 8 mistresses of departments, 57 assistant teachers, 54 pupil teachers, and 2 work mistresses. The majority of the principal teachers are attentive to their duties, willing to carry out any suggestions and instructions given them, and anxious to maintain a satisfactory standard of efficiency in their respective schools and departments. The assistants, pupil teachers, and work mistresses are valuable helps in the schools where they are employed.

W MCCREDIE,  
District Inspector.

#### ANNEX L

##### INSPECTOR THOMAS'S REPORT.

THE year commenced with 83 schools in operation in my section of the Bathurst District. Two of these, Duroobalg and Public and Wattle Grove Half time, were closed during the year (the latter having been burnt down), and 6 new schools were opened, so that the year ends with 87 schools on my list. This number will be further increased, early in the coming year, by the opening of new schools at Wowingragong, Beargamil, Corridgery, and Gilgies, and the re-opening of the Warroo Provisional School.

The following applications for the establishment of new schools were received and dealt with during the year —

Gospel Oak	Provisional	Declined
Cardungle	} Half time	Granted, and now in operation
Rosewood		
Gilgies	House to house	Granted, to open in January
Beargamil	Provisional	do do.
Wowingragong	Public	do do.
Corridgery	Provisional	Granted
Daisy Park	do	do
East Parkes	Public	Declined

When the schools whose establishment has been sanctioned are opened, the educational requirements of this portion of the Colony will be fully met.

Every school under my supervision was fully inspected during the year, and one was reinspected. Of 89 such schools, 10 were found to be below the required standard, but it is only fair to point out that 4 of these were newly established schools under three months in operation, and 4 others were small schools without a 3rd class. Thus, out of 10 schools below standard, only 2 should, on their merits, be so classed. Making this allowance, the results compare very favourably with those of previous years.

The total number of pupils examined was 3,009, a decrease of 49 on last year's figures. In the more important subjects, the results were —

Reading	3,009 of whom	2,696 passed, or	89 per cent.
Writing	2,990	2,755	93
Arithmetic	2,891	2,346	81
Dictation	2,479	1,989	80
Grammar	981	774	79
Geography	981	776	79
History	969	701	72

On the whole, the percentages of passes are slightly higher than those for 1897, but the differences are very trifling. The premier position in point of efficiency falls, this year, to Forbes Superior Boys School, with Parkes Public and Forbes Superior Girls' next in order. Of Public Schools under one teacher, Yalgogrin Public stands first, while Boree Cabonne Provisional carries off the honours among the smaller schools.

The instruction is, in general, given on modern and approved methods, and is assisted by reasonably complete organisation, judicious classification, and firm and effective discipline.

During the year, considerable care and attention have been bestowed upon the condition of the Department's properties in the district, and no reasonable request for additions or repairs to school rooms or residences has been refused.

Under my own supervision 8 new school buildings have been erected, 2 schoolrooms have been enlarged, and repairs and improvements have been effected at 37 schools, the total amount so expended being £933 9s 5d. Works of similar character, and involving an outlay of £266 10s, are in various stages of progress.

Under the superintendence of the Chief Clerk of Works, several of the larger school buildings and residences have been enlarged, improved, and put in thorough repair, and when all contracts now in hand are completed, the general condition of the Department's vested premises in the district may be regarded as highly satisfactory.

There are 106 teachers of all grades employed in the district, 79 of whom are heads of departments, 16 are assistants, and 11 are pupil teachers. Of the 94 teachers and assistants, 24 are unclassified, but 16 of these are ex-pupil teachers.

During 1898, the sitting accommodation, on the basis of floor space, has increased from 5,301 to 5,554, and on the basis of air space, from 5,050 to 5,272. These numbers are considerably in excess of the gross enrolment.

##### Summary

Number of schools in operation during 1898	89
"    "    fully inspected	89
"    "    fully up to standard	79
"    pupils examined	3,009
Enrolment for December quarter, 1898	4,151
Average attendance	2,699
Accommodation provided (floor space)	5,554
No of teachers and pupil teachers	106
Total amount of school fees paid	£1,512 5s 9d
"    "    in arrear	£61 15s 3d
Number of free pupils, December quarter	454

The usual statistics, upon which this report is based, have already been furnished.

1st January, 1899

W GEO THOMAS,  
Inspector

## ANNEX M.

## INSPECTOR MCKENZIE'S REPORT.

THE schools in this section of the Bathurst District are sufficient in number, well distributed, and satisfactorily meet the requirements of the residents.

During the year 1898, there were in all 97 schools in operation. Of these, 2 have now been closed, leaving 95 schools on the register at the end of the year.

New schools were opened at Gilmandyke and Thompson's Creek; and an evening school was in operation for a few weeks at Burnt Yards. Megalong School was reopened, and everything is in readiness for the opening of schools at North Springwood and Mount David.

A school has been promised at Piper's Flat; applications from Eusdale Creek and Jenolan Caves are now under consideration; and an application from Malagrove has been declined.

Under the Inspector's supervision 6 small school buildings were erected, and repairs were carried out in 50 schools and 19 residences, at a total cost of £1,490. One small school building is in course of erection, and repairs are being effected in 8 schools and 4 residences at a further cost of £198.

Extensive repairs and improvements were also carried out in a number of schools and residences under the supervision of the Chief Clerk of Works.

Existing schools provide seats for 5,461 pupils, and statute accommodation for 5,255. This is in excess of requirements, as the gross enrolment for the year was 5,759; and the average attendance only 3,093, as compared with 3,459 in 1897, the decrease being due to sickness.

Ninety-six schools received a regular inspection, and 32 an ordinary inspection. As the result of the regular inspections, 92 schools were found up to or above standard, and 4 below, which is an improvement on the record for 1897 when 8 schools were below standard.

The schools taking highest rank in efficiency were Lithgow, Blackheath, Katoomba, Lawson, and Mount Victoria.

In all, there were 3,362 pupils examined, and of these 335 sat for exemption certificates, and 232 passed.

Considering the irregularity in attendance caused by sickness, the teachers are to be congratulated on the progress made. Many, however, would do well to devote increased attention, not only to the three main subjects, but also to Composition, Word Meanings, Mental Arithmetic, and Drill.

The organisation and discipline of the schools are improved; the material condition, as a rule, is good; and carelessly constructed time-tables and "sketchy" programmes are now very rarely seen.

All the more important schools possess Savings Banks, most of the schools have suitable libraries, and arboriculture receives a fair amount of attention.

The local branch of the Public Schools Athletic Association has received very satisfactory support, and the second Annual Meeting was a decided success, financially and otherwise.

The total number of teachers of all ranks employed in this section at the end of the year was 119, and, with very few exceptions, they have been diligent and conscientious in the discharge of their duties, and are deservedly esteemed in their respective localities.

A. D. MCKENZIE,  
Inspector.

3rd January, 1899.

## ANNEX N.

## DISTRICT INSPECTOR JOHNSTON'S REPORT.

THERE were 258 schools in operation in this district this year, 92 of which were in the Wollongong section, under Mr. Inspector McLelland; 72 in the Crookwell section, under Mr. Inspector Smith; and 94 in the Bowral section, under my own direct supervision. Four small schools in the Crookwell section, and one in the Wollongong section, were closed during the year in consequence of the attendance having fallen so low as not to warrant their being continued in operation; 253 schools, therefore, remained open up to the end of the school year. A public school was established at East Minto, and four small schools that had been for some time closed, were reopened. Of the 253 schools now in the district, 190 are Public, 22 Provisional, 36 Half-time, and 5 House-to-House schools. Twenty-six of the Half-time schools and all the House-to-House schools are in the Crookwell section.

New school buildings were erected at Bowral, Minto East, Colyton, Avondale, Bombo, Burraneer Bay, Otford, The Junction, and Bigga. Those at Bowral are handsome and commodious rooms, and are well fitted up with necessary appliances. They were erected by the Chief Clerk of Works, as were also those at Colyton, Minto East, and Avondale. The others were erected under the supervision of the Inspectors. A new schoolroom is being erected at Middle Arm.

Repairs and improvements were effected to 87 schoolrooms, and 20 teachers' residences by the Inspectors, at a total cost of £961 15s. 7d. Several others were repaired and otherwise improved by the Chief Clerk of Works. The condition of the school buildings of the district is now very satisfactory, and in marked contrast to that of a few years ago. Both schoolrooms and teachers' residences are more commodious, and in every way more comfortable.

With the exception of two small schools in the Crookwell section, and an evening school in the Wollongong section, all the schools of the district were fully inspected once during the year, and 7 were inspected a second time. Six of these latter inspections were made by the Chief Inspector, who also inspected Hoxton Park Public, Mittagong Primary, Moss Vale Public, and Sutton Forest Public. The 3 schools not inspected were closed before the Inspectors had an opportunity of visiting them. In point of efficiency, 233 schools exceeded the standard, 5 reached it, and 17 were below that mark. Of these last, 7 are House-to-house schools, 4 Half-time, 4 Provisional, and 2 small Public schools.

1,200 pupils were examined for exemption certificates, and 696 of these were successful. Many pupils possessing a good knowledge of the more advanced rules in arithmetic, failed in ordinary questions in the compound rules.

The pupils in attendance at the various schools of the district are provided with ample sitting accommodation, and their comfort has been carefully attended to.

There are 334 teachers of all grades employed in this district, viz., 224 in charge of schools, 10 mistresses of departments, 51 assistants, and 69 pupil-teachers. They are, as a body, highly respectable and conscientious in the performance of their duties. A few of the old-time teachers are still employed in this district; but their number is rapidly being diminished by retirement from the Service, and shortly the men and women who did such good service in the past, in spite of difficulties and discomforts which, happily, the present generation of teachers know nothing of, and without the appliances and conveniences now considered absolutely indispensable, will have wholly disappeared from the Service.

With few exceptions, the schools of the district were found to be in a satisfactory condition as regards efficiency, discipline, and organisation, and there is promise that next year's work will at least equal that of 1898.

W. H. JOHNSON,  
District Inspector.

## ANNEX O.

## INSPECTOR McLELLAND'S REPORT.

At the end of last year there were 90 schools in operation in the Wollongong section. During the present year, Budgong Vale Public was closed; Tongarra Provisional was raised to the rank of a Public School, and a new Provisional School was opened at Budgong Gap a few weeks ago. An Evening School was also opened at Yalwal in the winter; but it collapsed suddenly a short time after its establishment.



establishment. Thus, at the end of the year there are still 90 schools open, classified as follows:—Public, 80; Provisional, 8; Half-time, 2; total, 90. New buildings have been erected at Avondale, Bombo, Burraneer Bay, and Otford, the last three under my own supervision. The schoolroom at Kangaroo Valley has been enlarged, and additions are about to be made at Unandera and Wollongong. A new residence has been completed at Meroo, and another is to be erected at Yalwal. Extensive repairs and improvements have been made at various schools by the Chief Clerk of Works, and miscellaneous minor works under my own supervision have been effected at 41 schools and 6 residences, at a cost of £247 19s. 7d. The buildings generally are in good repair, and where further improvements are required the necessary action has already been taken.

Of the 92 schools open during the whole or any part of the year, all except Yalwal Evening School, were fully inspected. I have to thank Mr. Walker for the assistance he gave me during my absence from duty on account of illness. Besides dealing with correspondence, Mr. Walker inspected 11 schools, including Kiama and Woonona. Only 3 schools fell below the minimum standard required, viz., "tolerable." But the Department expects teachers to obtain, under reasonable conditions, results much higher than "tolerable" implies, a fact of which several teachers have been forcibly reminded.

Of 677 pupils examined for exemption certificates 402 were successful—that is, about 60 per cent. There is no special reason why this percentage should not be higher. In a select minority of schools the passes range from 80 to 95 per cent., a result due to sound and practical teaching.

The failures occur chiefly in Arithmetic and Dictation; but though comparatively few pupils fail to pass the test in writing, the number of really good writers is smaller than it should be. Too often it happens that the writing in copy-books is good, and on ordinary paper or on slates decidedly bad. This peculiarity arises from the fact that some teachers, while insisting upon careful work in the copy-books, allow any sort of scrawl elsewhere—a serious oversight to which attention has been called repeatedly.

Under the revised standards, some subjects will receive a much greater number of marks than formerly. This is especially the case with Reading, and it is to be hoped that teachers will take advantage of the inducement offered for achieving the best results in a subject of so much importance. Even in the reading of the best pupils there is noticeable a certain hardness, a want of sympathetic modulation of the tones of the voice. Reading is a difficult subject to teach in country schools, where so many of the children speak in a dull monotone characteristic of the class to which they belong. Some teachers, after wrestling bravely with this trouble for a time, at last give up the task as hopeless, and remain satisfied with mere fluency. A word of warning to teachers themselves in regard to the management of their voices may not be out of place here. Where the voice is used so constantly, it is apt to become harsh and strident, if great care is not taken to avoid the tendency to speak in too high a key; and if the teacher becomes insensibly accustomed to a bad voice in himself, he will inevitably cultivate a dull ear for faulty speech in his pupils. Of the remaining subjects, Grammar, Geography, and History may be mentioned as branches requiring more intelligent treatment in some schools. More common sense, less rote, and some imagination in teachers might make these and kindred subjects vastly more interesting to the children.

The condition of the great majority of schools in point of organisation and discipline is highly satisfactory.

The teachers as a body are industrious and well-conducted. Many of them work with an intensity of application that deserves the warmest praise. A few cases have been brought under notice where teachers are not respected by the people among whom they live. This is always the fault of the teacher. A good teacher may be, and sometimes is, unpopular; but no teacher ever failed to command the respect of parents or pupils without reason.

In conclusion, I am able to report that the educational work of this year has been on the whole effective in matters of primary importance, and there are not wanting indications of a better record for the ensuing year.

H. D. McLELLAND,  
Inspector.

26th December, 1898.

#### ANNEX P.

##### INSPECTOR SMITH'S REPORT.

At the end of 1897 there were under my supervision 36 Public, 9 Provisional, 22 Half-time, and 5 House Schools; total, 72 schools. At the beginning of 1898, 11 Public, 1 Provisional, 3 Half-time were exchanged for 3 Public, 1 Provisional, 4 Half-time in the Goulburn District.

Crookwell River Public was made Half-time, and worked with Five-mile Tree (reopened); Kent Grove Provisional and Pejar Provisional were also reopened; Benbengenar Provisional and Yarramoo Provisional were made Public; Hadley Half-time was made Provisional; and Little Narrawa Provisional and Leighwood Half-time, and Meryla and Meryla Valley Half-time were closed; so that my list comprises at the close of the year 29 Public, 9 Provisional, 26 Half-time, 5 House Schools; total, 69 schools.

Two new schoolrooms were erected during the year under my own supervision for £155 0s. 10d.—the Junction Public, to replace a small rented room, and Bigga Half-time, a most dilapidated building. Thirteen schools were repaired and improved for £63 12s. 9d., and one teacher's residence for £18 12s. Two more schools are under repair, but unfinished, to cost £36 6s. 6d.—Mount Costigan Public and Kent Grove Provisional School.

Under the supervision of the Clerk of Works, Kialla Public was repaired for £92; and three weather-sheds were erected—one at Cottawalla and two at Crookwell, for £101 8s. The old school buildings at Crookwell were disposed of to a purchaser in the town for the small sum of £15; but their removal has greatly enhanced the appearance of the playgrounds.

The erection of two small schoolrooms at Hadley and Junction Point have been sanctioned by the Minister, as well as the removal of the schoolroom at the Diamond to Station Hill, a locality considered far more central to a majority of the residents.

In the 70 schools at the present time in operation in the Crookwell section of the Bowral District, there are over 3,000 seats provided, reckoning 8 square feet to each child, and under 2,000 children enrolled; so that the accommodation is quite sufficient. The attendance at some of the long-established schools has shown a little decrease, on account of there being no new scholars to take the places of those grown up, or the old settlers have found it necessary to spread out to fresh fields and pastures new.

Most of the schools are in good condition, and well furnished, as their size and importance warrant, with every convenience for carrying on the good work of education.

Fifty-three candidates for certificates of being educated up to a required standard presented themselves for special examination during 1898, and 27 out of that number were successful.

The discipline and organisation of the schools continue to be satisfactory. Not a charge of any kind was laid against a teacher, nor by teacher against pupil, for misconduct during the past year. The teachers are much respected in their several positions, and the children under their care have made fair progress in every respect.

Seventy schools were examined by me during 1898. Of this number, 13 were below the required standard, viz., 1 Public, 1 Provisional, 4 Half-time, and 7 House Schools; 1 up to and 56 above standard. Jellore Provisional and Leighwood Half-time were not examined, because the opportunity offering for the immediate removal of the teachers to other places being taken, it was impossible to do so; in fact, at the last visit of the teacher to the Leighwood School there were no children at all present, and he found the building and tank riddled with bullets by some miscreants never discovered by the local police.

The

The number of pupils examined in the various subjects and the percentages of passes are shown hereunder :—

Subjects.	Number of pupils examined. 1897.	Passes.	Number of pupils examined. 1898.	Passes.
		per cent.		per cent.
Reading .....	1,584	86	1,316	84
Writing .....	1,584	91	1,316	93
Dictation .....	1,160	71	1,007	76
Arithmetic .....	1,584	82	1,316	80
Grammar .....	481	43	353	56
Geography .....	491	85	353	84
History .....	481	79	352	77
Scripture .....	1,329	96	1,067	91
Object Lessons .....	1,514	87	1,236	90
Drawing .....	1,514	70	1,236	68
Music .....	1,310	67	1,069	73
Euclid .....	14	100	6	100
Needlework .....	488	91	341	95
Drill .....	1,492	73	1,221	61

The number and classification of the teachers employed in this section are :—

Class II A.....	3
„ II B.....	2
„ III A.....	18
„ III B.....	7
„ III C.....	4
	34
Unclassified .....	23
Total .....	57

JOHN LESLIE SMITH,  
Inspector.

#### ANNEX Q.

#### DISTRICT INSPECTOR COOPER'S REPORT.

THERE were 371 schools in operation in the Goulburn District at the close of 1897. Some of these were either not reopened after December of that year, or were closed during 1898, and some were transferred to other districts. The losses thus occasioned were, however, more than compensated for by the establishment of new schools, the reopening of certain schools which had formerly lapsed, and the addition of schools from other districts; so that the list now includes 386 schools, or departments. These are distributed in the four sections of the district as under :—

Section of District.	Schools.	No. of Places, allowing for each Pupil—		Highest Quarterly Enrolment.
		8 square feet.	100 cubic feet.	
Goulburn .....	102	5,701	5,354	4,162
Braidwood .....	90	4,739	4,115	3,174
Bega .....	111	5,852	4,995	4,244
Yass .....	83	4,081	3,621	3,076
Totals .....	386	20,373	18,085	14,656

The existing schools afford sufficient accommodation for the available children, and the cases are now rare in which the rooms are overcrowded. Under the supervision of the Inspectoral Staff, 18 comfortable new schools have been erected, of wood, roofed with iron, and 5 have been enlarged, at a total cost of £1,094. Additional accommodation has thus been provided for 782 pupils, at an expenditure of about £1 8s. per pupil. The average cost was lessened by the fact that a few of the schools were erected by the residents. In the case of 5 schools, accommodating 190 pupils, with which I was personally concerned, the cost was £455, or about £2 8s. per pupil.

Repairs and improvements in connection with 152 schools, and 39 residences, have also been carried out, costing £2,847. A new brick school has been put up at Gundaroo, under the supervision of the Chief Clerk of Works, at a cost, including a weathershed, of £445, or £5 14s. 6d. per pupil.

#### Attendance of Pupils and Payment of Fees.

	Goulburn.	Braidwood.	Bega.	Yass.	Totals.
Mean quarterly enrolment .....	4,096	3,133	4,182	3,040	14,451
Mean average attendance .....	2,844	2,164	2,987	2,049	10,044
Fees received .....	£1,279	£949	£1,486	£942	£4,656

Taking the mean attendances as a guide, the regularity appears as follows :—

	1898.	1897.
Goulburn Section .....	69 per cent.	72 per cent.
Braidwood Section .....	69 „	72 „
Bega Section.....	71 „	74 „
Yass Section.....	67 „	71 „
Whole District.....	69 „	72 „

There has been a marked falling off in the regularity of attendance, caused by the prevalence, throughout the District, of sickness—especially measles, scarlatina, and influenza.

#### Inspection.

Of the 386 schools or departments that were in operation during the whole year, or some part of it, 391 received a regular inspection, and 16 underwent an ordinary inspection. The three very small schools, and the two evening schools, that were not inspected, were closed on account of diminished attendance before they were due for inspection. Two of these were in the Goulburn, two in the Braidwood, and one in the Bega Section.

The Braidwood section has been under the charge of Mr. Baillie during the year, that officer having succeeded Mr. Pitt, who retired from the service in consequence of illness. The Chief Inspector undertook the principal portion of the regular inspections of the Superior Public Schools at Braidwood, Cooma, and Queanbeyan. A special inspection of the Moruya Public School, in the Bega section, was held by me. The details of the inspections are given hereunder :—

Section.	Regular.	Ordinary.	Totals.	Pupils Examined.
Goulburn.....	102	+ 6	= 108	3,150
Braidwood.....	92	+ 4	= 96	2,364
Bega.....	112	+ 5	= 117	3,006
Yass.....	85	+ 1	= 86	2,252
Totals.....	391	+ 16	= 407	10,772

The general efficiency of the schools inspected is shown in the subjoined table :—

Section.	Class of School.	Above Standard.	Up to Standard.	Below Standard.	Totals.	Percentage up to or above Standard.	
						1898.	1897.
Goulburn .....	Public .....	57	...	...	57	100	98
	Provisional .....	7	2	...	9	100	90
	Half-time.....	36	...	...	36	100	94
	Totals.....	100	2	...	102	100	95
Braidwood .....	Public .....	39	...	...	39	100	100
	Provisional .....	8	...	3	11	72	100
	Half-time.....	35	2	5	42	89	100
	Totals.....	82	2	8	92	91	100
Bega .....	Public .....	61	14	...	75	100	100
	Provisional .....	15	...	...	15	100	100
	Half-time.....	22	...	...	22	100	100
	Totals.....	98	14	...	112	100	100
Yass .....	Public .....	53	1	...	54	100	99
	Provisional .....	16	1	1	18	94	100
	Half-time.....	11	2	...	13	100	87
	Totals.....	80	4	1	85	98	96
Grand Totals.....		360	22	9	391	97	98

This table indicates improvement in the Goulburn and Yass sections, sustained efficiency in the Bega section, and a retrogression in the Braidwood section; while the efficiency of the whole of the schools of the district is about equal to the high standard of the previous year.

The proficiency of the pupils in the several subjects of examination is shown below :—

Subject.	Numbers examined in—		Percentage of Passes.				Percentage of Total Passes.	
	1898.	1897.	Goulburn.	Braidwood.	Bega.	Yass.	1898.	1897.
Reading .....	10,772	11,577	94	91	98	81	92	91
Writing—								
On slates .....	3,916	4,247	98	83	97	94	93	94
On paper .....	6,765	7,196	87	96	98	98	94	93
Totals.....	10,681	11,443.	91	91	98	96	94	94
Dictation .....	8,686	9,604	83	67	82	72	77	77
Arithmetic—								
Simple Rules .....	6,261	6,892	96	78	82	89	87	87
Compound Rules .....	2,580	2,897	91	70	74	79	79	76
Higher Rules .....	1,797	1,655	96	73	78	72	82	80
Totals.....	10,638	11,444	95	75	79	84	84	82
Grammar .....	4,333	4,563	94	72	91	57	81	86
Geography.....	4,455	4,581	91	77	93	58	82	86
History—								
English .....	4,419	4,576	82	66	88	56	75	78
Australian.....	966	770	86	86	90	81	76	86
Scripture .....	10,640	11,362	91	78	89	62	81	85
Object Lessons .....	10,730	11,530	96	78	92	89	91	91
Drawing.....	10,674	11,373	93	88	93	88	91	91
Music .....	9,945	10,512	95	67	90	53	78	80
French .....	85	111	100	100	83	100	97	94
Euclid .....	478	444	89	89	90	100	91	93
Algebra .....	122	188	80	100	95	43	81	88
Mensuration.....	372	428	79	70	70	60	75	68
Latin .....	121	162	84	100	83	100	90	93
Needlework .....	3,908	4,097	99	91	99	99	97	99
Drill .....	10,521	10,747	88	91	91	82	88	89
Science .....	158	231	85	100	92	100	89	79

The results in reading and writing, 92 and 94 per cent. respectively, are very satisfactory; while those in arithmetic, 84 per cent., are relatively high, although there is still room for improvement in regard to that important subject. In dictation the proficiency is considerably below the average of the other subjects; but, on the whole, the high proficiency of past years has been well maintained.

*Exemption*

*Exemption Certificates.*

At the regular inspections held after the 19th April last, those pupils who had already gained exemption certificates were, in accordance with Departmental instructions issued on that date, examined with the children due for examination for such certificates. The total number examined in the district was 1,400. Of that number, 954 were successful, and additional certificates were awarded to 531, the remainder having already obtained them. In the Goulburn section, 70 per cent. of those examined for the first time, passed, some improvement being thus manifest, as compared with the result—68 per cent.—for 1897. The data available does not permit of a similar comparison in respect to the other sections of the district. In the schools under my personal supervision, there were 238 children still on the rolls at the dates of inspection, who had previously gained certificates. It is, I think, a healthy sign that so many pupils remained at school, after having passed the exemption examination.

*Cookery Class.*

In January, a cookery class was again organised in Goulburn, and has been carried on successfully under the charge of Miss H. Rankin. The class consists of 60 pupils, each pupil receiving one lesson a week, during the half-year over which the course extends. Provision is thus made for the full instruction of 120 girls in the year. At the end of each term, the pupils were subjected to a practical test of their proficiency, and acquitted themselves admirably, all having obtained very high marks from the examining committee. The class has proved to be, as formerly, very popular, and has done much good. It will be continued after the present vacation.

*Athletic Association and Swimming Club.*

The Public Schools Athletic Association, formed in Goulburn in 1897, held a sports meeting on 4th November, which was well attended, and was, in every sense, a highly successful gathering. Too much praise cannot, I think, be given to those who, with zeal and self-denial, devoted themselves most willingly to the work of organising and carrying out that meeting, not the least pleasing feature of which was the cordial manner in which so many teachers co-operated to promote the interests of the association.

Early in the year, the teachers of Goulburn and its vicinity established a swimming club that has, so far, received good support from the boys and girls attending our schools, and will, I hope, become a permanent and useful institution.

*Teachers.*

At the close of the year, there were 401 teachers of all ranks employed in the district, namely:—

319	Principal Teachers
7	Mistresses of Departments
32	Assistants, and
43	Pupil-teachers.

Of the teachers other than pupil-teachers, 83—i.e. 23 per cent., are unclassified, but most of these have been trained as pupil-teachers.

In respect to personal conduct, attention to duty, and general efficiency, the teachers, as a body, have continued to deserve high commendation.

*Summary.*

Satisfactory work has been done, during the year, in providing additional accommodation, in improving the material organisation of the schools and residences, and in maintaining the efficiency of the instruction; and the prospects of 1899 are encouraging. Reports from inspectors Baillie, Durie, and Sheehy are forwarded herewith.

2nd January, 1898.

D. J. COOPER,  
District Inspector.

## ANNEX R.

## INSPECTOR BAILLIE'S REPORT.

At the close of the year 1898, there were in this section of the Goulburn District, 90 schools in operation, 39 were Public Schools, 11 Provisional, and 40 Half-time.

At the beginning of the year 87 schools were in operation, 4 of which have since been closed through small attendance, viz., Kalkite, Rocky Plain, Durran Durra, and Clifford. Monkitee, Eaglehawk, and Jellamatong were not reopened. Seven new schools were established to meet the growing wants of outlying portions of the district, viz., Bolaira, Burrill Lake, Little Forest, Ingebyra, Durras Lake, Runnymede, and Uradux. A Provisional School will be opened at Norongo immediately after the vacation. New schools to replace old and dilapidated structures have been erected at Corang River, Moonbah, Araluen West, and Currockbilly. The schools at Captain's Flat and Rhine Falls have been enlarged.

Extensive repairs have been carried out at the Braidwood Superior Public School, and a new and substantial residence erected at Burrill, under the supervision of the Clerk of Works.

Considerable improvements have been effected in repairing and renovating the schools in this section of the district during the past year, under Inspectorial supervision (Mr. District Inspector Cooper and myself). Mr. Cooper had made a tour of the district prior to my appointment at the beginning of the year, and had a large number of works on hand when I took charge. Thirty-eight schools were repaired at an outlay of £624 ls. 3d., 5 teachers' residences at a cost of £179 6s. 1d., and 9 new buildings, and an addition to one at an outlay of £437 7s. 6d. Four schoolrooms and 3 teachers' residences are undergoing repairs, which will amount to £112 5s.

The Public School at Captain's Flat, and the Provisional School at Buckenbour, were added to this section; and the Public Schools at Bredbo and Colinton were transferred to the Goulburn section.

The accommodation at the end of 1897 provided floor-space, allowing 8 square feet to each pupil, for 4,562 pupils, and air space, allowing 100 cubic feet to each pupil, for 3,854 pupils. At the end of 1898, the accommodation was 4,739 and 4,115 seats, being an increase of 177 and 261 places respectively.

The schools are well distributed, the accommodation sufficient, and the material condition very fair. The majority of the Public School buildings are respectable and commodious, but several of the Provisional and Half-time School buildings are small, imperfectly ventilated, and of a very primitive character as regards structure.

*Enrolment, Average Attendance, and School Fees.*

The enrolment, average attendance, and the school fees received during the year were:—

	Enrolment.	Average Attendance.	School Fees.
March quarter.....	3,127	2151·5	£201 11s. 3d.
June quarter.....	3,174	2158·9	£257 8s. 4½d.
September quarter	3,137	2164·6	£222 1s. 3d.
December quarter	3,106	2182·9	£267 15s. 9d.

The attendance was greatly reduced on account of sickness and infectious diseases, such as measles, scarlatina, &c. The whole number of pupils enrolled during the year was 3,870. Of these 403 attended more than one school. The school fees received amounted to £948 16s. 7½d., and the fees in arrear to £32 8s. 7½d.

Owing to failures in mining speculations, poor results from farming operations, and want of employment, 685 pupils had free education granted for the year or for some portion of it.

*Inspection,*

*Inspection, Instruction, and Discipline.*

During the year there were 94 schools in operation, all of which, with the exception of Kalkite and Rocky Plain Half-time Schools, closed early in the year through insufficient attendance, received a regular inspection, and 4 an ordinary inspection. Buckenbour was inspected by Mr. Inspector Durie.

Of the 92 schools inspected, 82 were above standard, 2 up to, and 8 below,—5 of the 8 below standard were new schools opened during the year.

Good, sound, and faithful work has been done in the majority of the larger schools, of which Braidwood Superior and Cooma Superior deserve special mention. The Chief Inspector examined the Fourth and Fifth Classes in both these schools, and the District Inspector assisted in the examination at Cooma.

2,364 pupils were examined; of this number 298 were examined for Exemption Certificates, and 190, or 64 per cent., passed the necessary test.

The order, discipline, and management of the schools are very fairly satisfactory; the pupils are docile, wellbehaved, and, as a rule, smart and intelligent.

School libraries have been formed in connection with several of the more important schools.

The Kindergarten System has been introduced into the larger schools, and fair progress has been made at Braidwood Superior, Cooma Superior, Major's Creek, and Milton Public.

Drill has not received the amount of attention that the importance of the subject demands, but I have reason to hope better results will be produced during the ensuing year.

*Classification of Teaching Staff.*

## Teachers and Assistants—

Class I A.....	1
„ I B.....	1
„ II A.....	5
„ II B.....	3
„ III A.....	36
„ III B.....	4
„ III C.....	4
Unclassified.....	24
Total .....	78

## Pupil-teachers—

Class 1.....	...
„ 2.....	3
„ 3.....	2
„ 4.....	4
	9
Total of all grades.....	87

With few exceptions the teachers and pupil-teachers are zealous and assiduous in the performance of their duties, and exemplary in their conduct.

The majority of the unclassified teachers served as pupil-teachers.

The outlook for 1899 is healthy.

J. W. V. BAILLIE,  
Inspector.

31st December, 1898.

## ANNEX S.

## INSPECTOR SHEEHY'S REPORT.

THIS year there were 85 schools under my supervision. The number in operation at the end of 1897 was 84, and in July a new Provisional school was opened at Five-mile Creek, near Gundagai.

The Half-time Schools at Jones' Creek and Yammatee, and the Provisional Schools at Brooklands and Tonal were converted into Public Schools, and the Half-time Schools at Ardnacloch and Bongongolong into Provisional Schools. Owing to paucity of attendance, Lang's Creek Half-time and Tarrabandra Public were discontinued. Hence, at the close of the year, there were 83 schools on my list, viz. :—

Public .....	53
Provisional .....	18
Half-time.....	12
Total .....	83

Applications were received for new schools in four localities. These were inquired into with the result given hereunder :—

Locality.	Kind of School applied for.	Result.
Prince of Wales Mine .....	Public .....	Declined.
Bongongo .....	Provisional .....	„
Wee Jasper .....	„ .....	Granted.
Bondo.....	„ .....	Under consideration.

All schools were regularly inspected. One received an ordinary inspection, and several were visited incidentally in the course of the year. Only 1 school was under the standard (50 per cent. of possible marks), 4 schools reached, and 80 exceeded it. In 38 the marks gained for general efficiency are higher, and in 37 they are lower than those for last year.

In 41 per cent. of the total number of schools the organisation is very fair, in 39 per cent. it is below that mark, and in 20 per cent. above it. The cleanliness and tidiness of the schoolrooms and premises receive, with a few exceptions, careful attention. The classification of the pupils is in general suitable, and the instruction is judiciously regulated. The

The government, as a rule, produces good order. It is, generally speaking, firm, and is rarely of a kind to disturb harmonious relations with the parents. One case of excessive corporal punishment was inquired into, and was suitably dealt with.

During the December half-year the attendance was very much affected through the prevalence of scarlatina, influenza, and measles. Four schools were closed for short periods, and some were for several weeks nearly empty.

*Proficiency.*

The percentage of passes in each subject is given in the following table :—

Subjects.	Number Examined.	Number Passed.	Percentages.	
			1898.	1897.
Reading.....	2,252	1,844	81·8	82·9
Writing.....	2,165	2,094	96·7	94·8
Dictation.....	1,881	1,358	72·1	70·5
Arithmetic.....	2,186	1,848	84·5	87·1
Grammar.....	804	460	57·2	70·9
Geography.....	905	530	58·5	68·5
History—English.....	905	514	56·8	51·9
"    Australian.....	115	94	81·7	100·0
Scripture.....	2,252	1,404	62·3	63·9
Object Lessons.....	2,242	2,011	89·7	88·1
Drawing.....	2,185	1,938	88·7	90·6
Music.....	2,252	1,194	53·0	53·8
French.....	7	7	100·0	100·0
Euclid.....	68	68	100·0	100·0
Algebra.....	16	7	43·7	100·0
Mensuration.....	25	15	60·0	74·2
Latin.....	19	19	100·0	100·0
Needlework.....	855	849	99·3	100·0
Drill.....	2,252	1,866	82·8	86·0
Natural Science.....	10	10	100·0	.....

In 12 subjects the percentage of passes is between 81 and 100 ; in 3 it is between 60 and 72 ; and in 5 it is below 60. Algebra, music, history, grammar, and geography form the latter group.

237 pupils were examined for exemption certificates. Of these 122 satisfied the prescribed test, and 78 passed for the first time.

*Teachers.*

There are 90 teachers of all ranks at present employed in this section, viz. :—77 teachers in charge of schools, 6 assistants, and 7 pupil-teachers.

The teachers as a body are conscientious in the discharge of their duties, and have worked satisfactorily during the year.

*Accommodation.*

The sitting accommodation at the end of 1897, reckoned at 100 cubic feet of air space, consisted of 3,635 places. During the year 64 additional seats were provided by the erection of two new schoolrooms, and 78 were lost by the closing of two schools, and the giving up of one old building. Hence, at the close of the year, the number of seats for pupils was 3,621.

In the subjoined table detailed information is given as to the cost, &c., of the new buildings :—

School.	Cost.	Places at 8 square feet of floor space.	Places at 109 cubic feet of air space.	Supervised by	Remarks.
Ardnaclach Provisional ... ..	£ s. d. 78 10 0	40	32	Inspector...	Erected to replace old schoolroom.
Five-mile Creek ,, .....	78 16 0	40	32	Inspector ...	Erected where no school existed before.

Under my supervision repairs and improvements were effected to 49 schools and 12 teachers' residences at a cost of £409 13s. Repairs to 6 schools are in progress which will cost £41 10s. 3d.

The erection of a school building at Wee Jasper, and of a teacher's residence at Manton, has been sanctioned.

Tenders have been accepted for the following to be carried out under the supervision of the Chief Clerk of Works :—Additions to residence and repairs, &c., to school and residence at Murrumbateman, £335 8s. 6d.; additions to residence and improvements at Jugiong, £294 10s.; additions to residence at Gundagai, £195; improvements and repairs, Murrumburrah, £220; Edwardstown, £125; and Gundagai South, £97.

*Summary.*

All schools have been fully inspected. In 38 there is an improvement in the general efficiency, and in 80 (94 per cent. of the whole) the results are above the standard. One new school was opened during the year, the establishment of another has been sanctioned, and two new buildings to replace old ones have been erected. The educational requirements of the section are well provided for, and the prospects for the ensuing year are encouraging.

31st December, 1898.

P. F. SHEEHY,  
Inspector.

ANNEX T.

INSPECTOR DURIE'S REPORT.

At the close of 1898 there were 111 schools in existence in Bega section of Goulburn district, comprising 75 Public, 14 Provisional, and 22 Half-time schools. An evening Public school was open for a short time during the year, but closed in October. New Provisional schools at Sam's Corner and Bimbimie will be opened in January, 1899, so that the new year will begin with 113 schools, consisting of 75 Public, 16 Provisional, and 22 Half-time.

The



The attendance of pupils in all schools for the year is shown in the following table :—

Quarter.	Enrolment.		Average Attendance.		Percentage.	
	1897.	1898.	1897.	1898.	1897.	1898.
March .....	4,171	4,155	3,049·2	2,928·5	73·1	70·4
June.....	4,137	4,244	3,073·4	3,001·8	74·2	70·7
September .....	4,242	4,175	3,145·9	3,121·0	74·1	74·7
December .....	4,175	4,153	3,121·0	2,898·9	74·7	69·8

The attendance throughout the year has been seriously affected by sickness amongst the pupils. Measles, bronchitis, and scarlatina have been prevalent, the first especially so. This will explain the falling off in attendance in three out of the four quarters of the year, as compared with 1897.

Of the schools in operation during the year, all except Mogilla Evening Public School received a regular inspection. This school was in operation for a little over three months, and closed before I could arrange to inspect it. Four schools received an ordinary inspection. Moruya Public was regularly inspected by the District Inspector. The inspections for the year were thus :—

Regular.....	112
Ordinary .....	5

Total..... 117

The efficiency of the schools as compared with 1897 may be shown as follows :—

Schools.	Below Standard.		Up to Standard.		Above Standard.	
	1897.	1898.	1897.	1898.	1897.	1898.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Public .....	...	...	31	18	69	82
Provisional.....	...	...	...	...	100	100
Half-time .....	...	...	7	...	93	100
All .....	...	...	22	12	78	88

The schools have thus well maintained the high efficiency shown in previous years. Not one school was found to be below standard, while 88 per cent. were above. The pupils examined for exemption certificates numbered 390, and of these 280 passed the test: 165 obtained certificates for the first time. The passes this year were 72 per cent. of those examined.

During the year 5 new school buildings were erected under my supervision, 2 were enlarged, 49 schools and 10 residences were repaired and improved, and 1 weather-shed was erected. The cost of these works amounted to £1,332 10s. Four new schools are now in course of erection, and one is undergoing repair. One school building, Wellesley Public, was unfortunately burnt down in November. At a Coroner's inquiry held to investigate the cause of the fire there was no evidence to show how it originated. A new school is now in course of erection.

At the close of 1898 there were 112 teachers employed in schools under my supervision, viz., 78 males and 34 females.

#### Summary.

1. Owing to various forms of sickness prevailing throughout the year, the attendance was slightly lower than in 1897. The efficiency of all schools, however, has been well maintained.
2. The schools are well distributed, and when those in course of erection are opened they will be ample for the requirements of the district.
3. The outlook for 1899 is encouraging.

P. DURIE,  
Inspector.

29th December, 1898.

#### ANNEX U.

##### DISTRICT INSPECTOR LOBBAN'S REPORT.

At the beginning of 1898 there were 318 schools in operation in the Grafton District. During the year 1 new school was established in the Grafton section, 2 in the Lismore section, and 3 in the Port Macquarie section. The list, therefore, at the close of the year contained 324 schools, viz., Grafton 107, Lismore 100, and Port Macquarie 117. They were graded as follows :—Public 245, Provisional 39, Half-time 34, House-to-house 5, and Evening 1.

School premises at Coraki and Lismore, in the Lismore section, and at Arakoon and Gladstone, in the Port Macquarie section, are in progress under the direction of the Chief Clerk of Works, who also had several buildings repaired in these sections.

The following works were planned and supervised by the Inspectors :—11 new school buildings in the Grafton section, 7 in the Lismore section, and 3 in the Port Macquarie section. Two buildings were enlarged in the Grafton section, 2 in the Lismore section, and 3 in the Port Macquarie section. Forty-two school buildings and 24 residences were repaired and improved in the Grafton section, 54 school buildings and 14 residences in the Lismore section, and 41 school buildings and 14 residences in the Port Macquarie section. One new residence was built in the Lismore section.

Two new residences are nearly completed in the Grafton section, 1 is in progress in the Lismore section, and 2 in the Port Macquarie section. Two school buildings in the Grafton section will be ready for occupation after the vacation, and 4 will be opened in the Lismore section. The expenditure on new buildings and improvements in the Grafton section amounted to £2,515 0s. 8d., in the Lismore section to £1,967 15s. 11d., and in the Port Macquarie section to £1,781 1s. 4d. Works in progress and approaching completion in the Grafton section will cost £1,232 19s. in the Lismore section £985 3s. 6d., and in the Port Macquarie section £2,105 19s. 5d. The total expenditure under the Inspectors was £6,263 17s. 11d., and the amount still due is £4,324 1s. 11d.

At the beginning of the year there was floor space in existing school-buildings for 19,562 pupils, and air space for 19,359. By the erection of commodious new buildings to supersede old and unsuitable ones, by the establishment of new schools, and by additions to school-rooms where the seating was insufficient, the accommodation at the end of the year afforded floor space for 20,173 pupils, and air space for 20,037. Generally speaking, this is ample at present. The school premises are nearly all in good order. Much attention was devoted to the teachers' residences with the view of making them more commodious and comfortable, and a fair degree of success in this direction was achieved.

The

The schools are, as a rule, well found in furniture and apparatus, and a fairly liberal supply of books and other school requisites is usually in stock. Many of the school-houses have been provided with broad verandahs, which serve the double purpose of weather-sheds for the children and a protection to the schoolrooms from the direct heat of the sun. Lighting and ventilation have received due attention, more especially in the buildings recently erected. Iron tanks are placed at nearly all vested schools, and a liberal supply of good water is thus provided. Where the school grounds are enclosed, shade trees are planted and gardens are cultivated. The attention to arboriculture, however, is not nearly so marked now as it was a few years ago. The instructional documents prescribed are generally compiled with much care and fair judgment, and the records are, with very few exceptions, neatly and correctly kept. The returns are furnished with commendable promptness and accuracy by 90 per cent. of the teachers; the rest either make mistakes in the entries or fail to enclose some important document in the packet. If these transgressors could only see the inconvenience and delay which their neglect causes they would certainly be more careful in future.

All the schools received a regular inspection; and in 4 in the Grafton section, and 1 in the Port Macquarie section ordinary inspections were held. There were 12,290 children examined at the regular inspections—27 more than in 1897. Grafton section had 4,084; Lismore section 4,214; and Port Macquarie section 3,992. The results generally were satisfactory. In every case where a fair approach to the Standards was not reached, the result was traceable to indolence or neglect on the part of the teacher. Wherever constant, honest work is done, creditable results follow. The passes in Reading (93 per cent.), Writing (87 per cent.), Dictation (85 per cent.), and Arithmetic (72 per cent.), cannot be regarded as unsatisfactory, although the highest possible results in these subjects should be aimed at. Of the 324 schools inspected, 310 were up to or above the standard, and only 14 were below. Some of these had not been in operation a full year, and others were without a third class.

The general use of the Australian Copy Books in the schools is a decided improvement; and a clear, bold, legible handwriting is being developed. No other books are in use in the Grafton section.

In some schools too little attention is paid to English Grammar, and the teaching of Composition is not always intelligently performed in the earlier stages. The practice of giving a subject on which to write a letter is very objectionable. Instead of inducing an easy, natural style, this method produces crude, laboured, and mechanical compositions.

The excellent map of New South Wales, published by Banks, enables intelligent teachers to make their pupils familiar with the physical features, the towns, and railways of their own country. In a great many schools this is done; but there are still some in which the pupils seem to know more about America or Asia than they do about Australia. In the higher classes mapping is recognised as a valuable aid to the study of Geography.

English History is a popular subject in most schools; and, as a rule, the facts and dates in the text books are well known.

Scripture Lessons are read in all schools, and in many of them the pupils answer well on this subject.

Object Lessons are universally given, but to a large extent they have degenerated from the original plan employed. Too much, it appears to me, is now attempted in connection with these lessons.

Books with suitable copies set for Freehand Drawing would be of great assistance to many teachers in country schools. An "Australian Drawing Book" with Freehand Copies suited to the requirements of the Standards would be universally adopted.

Wherever the Tonic-Sol-Fa system of musical notation is employed, and properly applied, part singing becomes an easy matter. In many of the schools singing is a very pleasing feature.

Needlework is taught with more or less success in all schools where married teachers are in charge, or where lady teachers are employed. The standards are followed, and the results attained are very fair.

Drill is taught in all schools, as required by the Standards. In the Grafton Superior Public School the range is complete, and an efficient corps of 60 cadets, with a drum and fife band, is enrolled.

The examinations for certificates were conducted in the manner prescribed by the Department. In the Grafton section 504 were examined, and 431 passed; in Lismore section 452 were examined and 280 passed; and in Port Macquarie section 496 were examined and 322 passed.

The discipline maintained throughout the District is of a high order. The pupils are invariably clean and nicely dressed, respectful in their demeanour, and fairly self-reliant. Corporal chastisement, as an aid to teaching, is generally discredited; and severity in the matter of punishment is not nearly so common as it was in former years.

Successful branches of the Public Schools Amateur Athletic Association have been established at Grafton, Lismore, and Kempsey. At each centre the movement is popular. Arranging and directing the sports for the pupils entail a great amount of labour on the teachers who undertake these duties, but the successful results, so far, have been most gratifying to them. The Annual Sports Meeting, held on Elizabeth Island, in the Clarence River, was one of the largest and most enthusiastic gatherings of the year. The competitions in foot-racing, swimming, drill, and physical training were well arranged and keenly contested.

There are 19 School-banks in the Grafton section, with 691 depositors, who have £208 16s. 6d. at their credit; 15 in the Lismore section with 483 depositors, and £170 6s. 10d. at their credit; and 18 in the Port Macquarie section, with 493 depositors and £150 4s. 5d. at their credit. The Banks thrive best in the schools where the teachers take a special interest in them.

A comparatively large number of children continue to receive free education. They reside chiefly in the larger towns, where their parents cannot obtain remunerative employment.

Notwithstanding the prevalence of rain in the early part of the year, and the existence of a widespread epidemic of measles later on, a very fair daily average attendance was maintained throughout the year. Very few parents were dealt with under the compulsory clauses of the Public Instruction Act. As a matter of fact, people are anxious to send their children to school, and many parents make sacrifices in order to give their children a fair education.

No instruction in cookery was given in any of the schools during the year, but it is anticipated that classes will be formed in Grafton during 1899.

Special religious instruction was given in only a comparatively few schools of the district in 1898, and in still fewer was it systematically carried out. A decided falling off in this respect, on the work of former years, has to be reported.

The following schools received passes at the University examination in June:—Ballina Superior, 1; Coraki Public, 1; Grafton Superior, 17; Kempsey (East) Public, 1; Kempsey (West) (Superior) 1; Lismore Superior, 2; and Wingham Superior, 3.

The Public School Boards rendered valuable help by cheerfully supervising works in connection with improvements to school premises in their respective sub-districts, and in otherwise, as opportunities offered, efficiently discharging the duties pertaining to their office.

The School Staff comprises 300 teachers, 4 mistresses, 1 work mistress, 29 assistants, and 74 pupil-teachers. With very few exceptions the teachers realise their responsibilities, and conduct themselves in a manner becoming their position. The pupil-teachers are well behaved, dutiful, industrious, and studious.

Comparing

Comparing the district in 1838—the first year it was under my supervision—with its condition now, the following results are shown :—

	1838.	1898.
Schools in operation at close of year .....	233	324
Pupils examined at annual inspection .....	8,898	12,290
Reading :—Percentage of passes .....	85	93
Writing : .....	85	87
Arithmetic : .....	69	72
Teachers, mistresses, and assistants employed .....	239	334
Pupil-teachers employed .....	64	74
Inspectors .....	3	3
Clerk of Works and attendance officers.....	3	...

These figures show that steady progress has been made during the past ten years. The actual advancement is really much greater than the bare figures suggest, and is largely due to the constant settlement and development of new country. The only decrease is in the Departmental Staff. The Clerk of Works and the two attendant officers were retrenched some years ago ; and since then the greater portion of the work which they used to do has been done by the Inspectors, in addition to their regular duties.

Viewing the condition of primary education in the district at present, there is much to afford satisfaction ; and no reason is apparent why the steady progress of the past should not continue in the years to come.

A. LOBBAN,  
District Inspector.

Grafton, 5th January, 1899.

#### ANNEX V.

##### INSPECTOR WRIGHT'S REPORT.

Of the 115 schools in operation at the end of 1897, one (Bungay Public) was not reopened in 1898, so that the year commenced with 114 schools. Three new schools were opened, viz., Taree Evening Public, Mungay Creek Provisional, and Warrell Creek Provisional, the total number of schools open during the year being 117, classified as follows :—82 Public, 1 Evening Public, 14 Provisional, 20 Half-time.

These are all in operation now. A few small schools will probably be needed in parts of the district where the population, now sparse, is increasing ; but, speaking generally, the schools established are sufficient for the requirements.

The quarterly enrolments and average attendances were :—March quarter, 5,078 and 3,549·2 ; June quarter, 5,155 and 3,479·3 ; September quarter, 5,279 and 3,752, and December quarter 5,198 and 3,844·1.

Eight square feet of floor space is now provided for 7,300 pupils, and 100 cubic feet of air space for 7,243—a gain for the year of 180 and 212 places respectively. Ample accommodation is therefore provided in the aggregate, though in a few cases increased room will soon be required. There has been a large expenditure on the school buildings and grounds during the year. Under the Chief Clerk of Works, new brick buildings (school and residence) are in progress at Gladstone, while the erection of a new school building at Port Macquarie, new classrooms, &c., at West Kempsey and Summer Island, and a general overhaul of most of the large buildings have been sanctioned. Under my own supervision, three new school buildings and two classrooms have been erected, one school building has been enlarged, and 41 schools and 14 residences have been repaired at a cost of £1,781 1s. 4d. ; while seven new buildings, two new residences, and repairs, &c., to 12 schools and residences are in progress at a cost of £2,105 19s. 5d., of which instalments amounting to £808 15s. have been paid.

Almost without exception the property of the Department is carefully looked after by the teachers, and in many cases, notably at Oxley Island, Mitchell Island, Euroka, and Cedar-party Creek, the care and attention bestowed upon the grounds by the teachers deserve special commendation.

Every school open during the year received a regular inspection, but time would not permit of more than one ordinary inspection being held. Very few defects are noticeable in either organisation or discipline, and the attainments of the pupils speak well for the earnestness and ability of the teachers. Of the 117 schools inspected, 107 (91·4 per cent.) were above standard requirements and 10 (8·6 per cent.) below.

The results obtained in Reading, in which 84·8 per cent. of the pupils examined were up to or above the standard, and Writing (78·4 per cent.) were lower than those obtained last year by ·4 per cent. and 1 per cent. respectively, while there is a decided improvement of 5·2 per cent. in Dictation (86·5 per cent.) and of 1·1 per cent. in Arithmetic (71 per cent.). Taken collectively this year's results are fully equal to last year's, and it is not reasonable to expect any great improvement.

The teaching staff consists of 133 teachers of all grades, viz. :—105 principal teachers, 8 assistants, and 20 pupil-teachers. Of the principal teachers 20 are unclassified, but nearly all of these have served as pupil-teachers under experienced masters, and are thoroughly conversant with their work. As a body the teachers are earnest and capable, highly respected in the localities in which they reside, and doing good sound educational work. A few complaints were made by parents during the year, none, however, of a serious nature, and on investigation it was found in nearly every case that the teacher was perfectly justified in the action taken.

During the year the sum of £1,916 4s. 4½d. was collected as school fees, and at the end of the year the fees in arrear amounted to £59 13s. In many cases, where it was shown that the parents could not pay the fees owing the arrears were cancelled, and a considerable sum of money was written off in this manner ; and in addition to this, free education was granted to about 700 scholars.

There are School Banks in operation in connection with 18 schools, the total number of depositors being 493, and the amount to their credit £150 4s. 5d.

Successful work has been done during the year, the schools are in good order, the staff efficient, and the prospects for the year 1899 are promising.

S. WRIGHT,  
Inspector.

Port Macquarie, 3rd January, 1899.

#### ANNEX W.

##### INSPECTOR BOARD'S REPORT.

At the end of last year, 98 schools were in operation in this section ; this year closes with 100. Of these, 83 are Public, 13 are Provisional, and 4 are Half-time schools. New Provisional schools have been opened at Bilambil and Goolmangar, and applications for Provisional schools at Jiggi, Crabbe's Creek, Goonengerry, and Pretty Gully have been granted. The necessary buildings for these schools having been erected, they will be brought into operation immediately after the Christmas vacation. Though there are now very few families not provided with the means of education, the steady growth of settlement is likely to render extension necessary during the coming year.

During

During 1898, two new school buildings have been erected to replace old ones, and the enlargement of six others has been found necessary. Existing buildings provide accommodation for 6,160 pupils, while the highest quarterly enrolment for the year was 5,454. With such a small margin of unoccupied accommodation, and a steadily increasing population, several additions to buildings will be needed in the near future.

Except in a few cases, which are to receive attention early next year, the school premises are in good condition. Much has been done during the year towards increasing the accommodation and comfort of teachers' residences. Works have been completed, under the Inspector's supervision, at a cost of £1,967 15s. 11d., and those now in progress involve an expenditure of £985 3s. 6d. more. Under the supervision of the Chief Clerk of Works, contracts have been carried out or are now in hand at a cost of £1,628.

All the schools in this section received a regular inspection; five of them, by means of an interchange of inspections, were inspected by Mr. District Inspector Lobban. In several schools the work of instruction has been hampered during the latter half of the year by irregular attendance, caused by the prevalence of epidemics. The results of inspection show a slight advance in the percentage of passes in Dictation, Arithmetic and History, and a small decrease in Reading, Writing and Grammar. Of 452 pupils submitted to examination for exemption certificates, 280, or 62 per cent., passed. The disciplinary methods employed in the schools are suitable and effective, and the organisation is, on the whole, of a satisfactory character.

The Teaching Staffs of this section comprise 130 teachers of all ranks. They are classified as follows:—Class I., 1; Class II., 25; Class III., 64; Unclassified, 18; Pupil-teachers, 22. The teachers, as a body, are diligent and earnest, and the pupil-teachers are giving satisfaction to all concerned in their training.

27th December, 1898.

P. BOARD,  
Inspector.

#### ANNEX X.

#### DISTRICT INSPECTOR T. DWYER'S REPORT.

At the beginning of 1898, there were in operation in Maitland District 243 schools, which were distributed as follows, viz:—

	Maitland Section.	Newcastle Section.	Dungog Section.	Total.
Public Schools.....	71	60	69	200
Provisional Schools .....	6	.....	12	18
Half-time Schools .....	4	.....	14	18
House-to-House Schools .....	.....	.....	3	3
Evening Public Schools.....	1	2	1	4
Total.....	82	62	99	243

In Maitland section during the year, Black Hill Public was transferred to the section from Newcastle. Brownmuir and Sawyer's Gully were reduced to Half-time rank; and four Provisional Schools were opened, viz., Bureen (new), Castle Rock (reopened), Edinglassie (new), and Marshwood (new).

A new schoolroom was erected (to replace an old non-vested one) and opened at Baerami.

One new Provisional has been just completed at Gungal, and will be opened after the present vacation. Action has been taken to erect a vested Public Schoolroom at Dalwood to replace Marshwood non-vested, and a Provisional School at Stockrington, where no school previously existed. Forty-four schools and 22 residences were improved under my supervision at a cost of £1,028 15s. 2d. In the whole district 109 schools and 34 residences underwent repairs under the Inspectors at an expenditure of £2,100 18s. 10d. The action of J. C. White, Esq., of Edinglassie, near M. Brook, in erecting a commodious schoolroom and out offices at Edinglassie, and handing them over to the Department, at a peppercorn rental for seven years, is a noble one, and is worthy of public recognition. The Half-time School at Rouchell, has been removed to Segenhoe, and re-erected on a more central site. Its attendance of pupils is so increased by that removal as to warrant its advancement to full-time rank.

The number of schools in operation during some portion of 1898 in each section of this district, is as follow, viz:—

Maitland section .....	87
Newcastle section .....	62
Dungog section .....	104
Total.....	253

Nearly all the schools are centrally placed, and they afford more than ample floor space, for the highest aggregate attendance of pupils present on any date during the year. At the end of 1897 the floor space totalled 25,963, and the cubical spaces, 27,570. At the close of 1898 they amounted to respectively 26,387 and 27,826. Tree planting and attention to trees already planted have pretty well died out, except in the case of about 20 teachers mostly in charge of small schools.

Organisation and discipline steadily improve in the schools of this district; and the school work proceeds much more quietly and systematically than in past years.

The work of inspection is shown hereunder.

Number of schools in operation during 1898 .....	253
Number of regular inspections.....	248
Number of ordinary inspections .....	15
Total number of pupils examined at regular inspections .....	17,041

Owing to epidemics of measles, influenza, and typhoid among the children of most parts of the district throughout the whole year, the number of pupils examined for 1898 is less by 608 than for 1897.

Every school in operation in Maitland section had a regular inspection. Every school in Newcastle section but one small Evening Public received regular inspection, and all but 4 small schools out of 104 had regular inspection in Dungog section. The percentage of the inspected schools in Maitland section was 100, in Newcastle 98, and in Dungog 98, being 98 per cent. for the whole district against nearly 98 per cent. for 1897. This is a very high percentage, and speaks effectively for the intelligence, skill and intelligence of all classes of the teachers of this district.

Methods of teaching are improving, and numbers of teachers spend considerable sums of money in procuring good text books for school use.

The Cookery Classes established in West Maitland have been well attended. The work done has been very favourably reported on by the Ladies' Committees selected for that purpose. Miss Kirby has given general satisfaction as teacher of Cookery at West Maitland.

The Athletic Association formed by the teachers around Maitland has been very successful. On 4th November last it gave a public display of its efforts to advance drill and calisthenics among the Public School pupils. The results of that display were most creditable considering the short time the pupils had had practice.

The proficiency of the pupils examined in each subject of instruction, and the percentage of those who satisfied or exceeded the standard, are shown in the following table :—

Subjects.	Number examined.	Percentage	Comparison of results with those for 1897.
Alphabet .....	1,753	75	1 per cent less than for 1897.
Monosyllables .....	3,003	80	1 " " "
Easy Narrative .....	6,059	84	1 " " "
Ordinary Prose .....	6,226	86	4 " " "
Total .....	17,041	83	Same as for 1897.
Writing on Slates .....	5,897	80	3 per cent less than for 1897.
Writing in Books .....	11,143	85	3 " more "
Total .....	17,040	83	1 per cent more than for 1897.
Dictation .....	13,902	83	Omitted for 1897.
Arithmetic, Simple Rules .....	10,366	82	2 per cent more than for 1897.
" Compound Rules .....	3,870	80	2 " less "
" Higher Rules .....	2,689	82	8 " higher "
Total .....	16,925	81	2 per cent higher than for 1897.
Grammar, Elementary .....	4,156	78	1 per cent less than for 1897.
" Advanced .....	3,198	78	1 " higher "
Total .....	7,354	78	Same as for 1897.
Geography, Elementary .....	3,735	79	1 per cent higher than for 1897.
" Advanced .....	3,619	79	1 " " "
Total .....	7,354	78	Same as for 1897.
History, English .....	7,321	78	16 per cent higher than for 1897.
" Australian .....	1,424	75	3 " " "
Scripture .....	16,632	81	Same as for 1897.
Objects .....	16,838	82	2 per cent better than for 1897.
Drawing .....	16,855	82	1 " " "
Music .....	16,441	83	2 " " "
French .....	209	62	23 " worse "
Euclid .....	967	74	13 " " "
Algebra .....	198	85	1 " " "
Mensuration .....	331	86	4 " better "
Latin .....	200	85	Same as for 1897.
Needlework .....	6,531	85	4 per cent better than for 1897.
Drill .....	16,800	84	6 " " "
Natural Science .....	145	90	4 " " "

I cannot account for the falling off in French of 23 per cent. for this year; in Maitland Section for 1898 it was 89 per cent. Neither can I explain the reduction of 14 per cent. in Euclid as compared with the result for that subject in 1897. In my section the percentage for that subject for 1898 is 84 per cent. Of the other subjects of instruction 18 are better than they were for 1897, 5 subjects are equal to the results for that year, and the results in 7 subjects are not quite so good.

The results and percentages of the examinations for Exemption Certificates are shown hereunder :—

	Examined.	Passed	Per cent.
Maitland section .....	756	669	88
Newcastle section .....	1,359	842	62
Dungog section .....	228	173	76
Percentage for district .....			72

The teachers and other employees of the Department have worked successfully during the year. Numbers of the teachers received promotion by examination, and several received a higher grade in their respective classes under Article 103 of the Regulations.

#### Summary.

Eleven new schoolrooms were opened during the year. 109 schools and 34 residences were improved under the Inspectors' supervision at a cost of £2,100 18s. 10d. A class-room was added to the Public School at Bolwarra. Almost every centre of population in the district is supplied with a school. Every school in the district, except five small ones, received regular inspection, and 15 had ordinary inspection. The prospects of the district for 1899 are very encouraging.

T. DWYER,

District Inspector.

East Maitland, 6th January, 1899.

#### ANNEX Y.

##### INSPECTOR FLASHMAN'S REPORT.

In January last the school at Black Hill was removed from my supervision, and an Evening School at Jesmond opened: so that the number of departments in the Newcastle section at present is the same as last year, viz., 62.

The enrolment of pupils was as follows :—

March quarter .....	12,690 pupils.
June quarter .....	12,791 "
September quarter .....	12,935 "
December quarter .....	12,595 "

In consequence of the prevalence of sickness during the last quarter of the year, the attendance at nearly all the schools was considerably reduced. The usual average attendance of 9,500 was diminished by about 750.

During the year the property at New Lambton was much enlarged and improved. The accommodation and appointments at this school are now among the best in the district. Extensive improvements were effected in connection with the schools at Adamstown, Hamilton, Hanbury, Jesmond, West Wallsend, Dudley, Merewether, Newcastle, Plattsburg, Tremarton, Wallsend, and Wickham.

Commodious

Commodious Infant-school buildings are being erected at Newcastle South. These are expected to be available for school purposes early next year.

At Minmi seats for about 75 extra boys will soon be ready for occupation.

It is hoped that during the ensuing year new buildings will be erected at Cook's Hill, where the temporary rooms, built some years ago, have become dilapidated and out of keeping with their surroundings.

It has been decided to replace the old temporary buildings, used as a boys' school at Hamilton, by a handsome two-storied brick structure. This will be a great improvement, as the crowded state of the present building makes it very difficult to conduct school operations in a satisfactory manner.

Nearly all the property of the Department in this section is in good condition. Two or three teachers' residences are defective as regards situation and size. These have occasioned some anxiety, and will, in the near future, either be removed or enlarged.

All the schools were regularly inspected during the year.

Recognising the fact that children are impressed quite as much by what they see as by what they hear, many teachers have much improved the general appearance of their schoolroom. This is particularly the case with several boys' departments, the masters of which have made their school-room walls attractive by adorning them with diagrams and pictures of interesting historical and other events.

The lesson documents are drawn with skill, and carefully followed. The school records are almost invariably correct, complete, and neat. The general organisation shows that the work of the schools is usually conducted with a method and regularity which is highly commendable.

The discipline is still mild and effective; but few cases of unwise or excessive corporal punishment have come under my notice. The practice of the habits of punctuality, regularity, prompt obedience, industry, respect for the wishes of others, self-restraint, self-respect, which are some of the features of a well-disciplined school, must produce a beneficial influence upon the future life of the pupil.

The inspections show that the pupils have been well taught in most primary-school subjects, and that special attention has been given to Reading, Dictation, Writing and Arithmetic.

With Arithmetic considerable advance has been made. More attention has been given to the Simple and Compound Rules, and the pupils have been impressed with the value and necessity of accuracy in their work. The most disappointing results were obtained in the examination for exemption certificates. Some schools were particularly successful; others failed completely. A few teachers appear to be under the impression that it is necessary to prepare their pupils in Arithmetic only, to the neglect of Writing and Dictation; consequently, many who passed in Arithmetic failed in Writing or Dictation.

Of the 1,359 pupils who were examined, 842 passed, but 346 of these possessed certificates.

As most teachers are now fully acquainted with what is required from candidates for this examination, I anticipate for next year more satisfactory results.

The infants' departments have suffered most from the prevailing sickness during the year; many schools were for a considerable time with less than half the usual attendance, and, as a consequence, the results in these departments were not as high as usual.

Nearly 100 boys from schools situated near the Technical College, received at that place regular weekly instruction in Chemistry from the local Science Master. These lectures have been illustrated by simple experiments, which have not only been instructive, but highly entertaining to the pupils. A written examination took place at the termination of the course; the result of which has not yet been made known.

The Manual Training Class, under Mr. Jones, was attended by over 100 boys: this class is exceedingly popular with pupils and parents. There are always numerous applications for every vacancy that occurs. At the close of the year the classes are examined. The results of last year's work were particularly pleasing; every student passed the required tests; 13 obtained honors. No student from any other Manual Training Class in the Colony obtained honors.

The Cookery Classes are still well attended; 120 girls passed through the course this year; about 80 per cent. passed the final examination.

In November, Lieutenant-Colonel Paul, under instruction from the Department, inspected the Drill of the Pupil teachers' classes; these classes are taught by Captain Mulholland. The Colonel's report to the Chief Inspector speaks in flattering terms of the work done by the Pupil Teachers during the year.

The Teachers' Athletic Association is still doing good work in encouraging and fostering athletic sports and amusements among the pupils of the schools. The Minister of Public Instruction, the Chief Inspector, and various Members of Parliament honored the last Annual Festival by their presence, and expressed themselves pleased with the general appearances, exercises and discipline of the pupils.

There are employed in this section:—

34 principal teachers.  
24 mistresses.  
80 assistants.  
7 work-mistresses.  
101 pupil teachers.  
1 drill instructor.  
1 teacher of manual training.  
1 teacher of cookery.

Most of the teachers are loyal, hardworking, conscientious and effective; a few are restless and discontented.

I have been particularly pleased with the work done by many Pupil-teachers. Some of these young people have developed as teachers with more than average rapidity, and are now able to manage well a fairly large class.

The work of the past year has been done with success and considerable enthusiasm.

Newcastle, 30th December, 1898.

C. O. FLASHMAN,  
Inspector.

#### ANNEX Z.

##### INSPECTOR KEVIN'S REPORT.

THERE were 104 schools in operation during the year, and 5 of these were new, viz., New Wharf Provisional, Miller's Forest Evening Public, Glencoe and Campbell's Creek Half-time, and Weismantel's Half-time. It is probable that three more will be added to this number ere long. Some slight changes took place during the year, such as the conversion of three Half-time schools into Provisional and the reopening of others. In all other respects things are as they were last year.

Of the 104 schools on my list, all were regularly inspected except four, the inspection of which lapsed from reasonable causes. No schools were inspected regularly a second time, but 11 received an ordinary inspection, and a considerable number incidental visits.

A large number of schools and residences were repaired or improved during this and last year; so that now it may safely be said that the material condition of the buildings is satisfactory, and the accommodation both adequate and comfortable.

New buildings were erected under my own supervision at Putty and New Wharf, and new premises have been sanctioned at Merannie and Gloucester Upper.

The discipline in the schools continues satisfactory on the whole, and no case of excessive corporal punishment came under my notice during the year. Drill is well taught in some of the larger schools; but, generally speaking, it does not receive the attention it deserves. There



There were 2,607 pupils examined during the year with generally satisfactory results. Sickness, in the shape of blight and diphtheria, was very prevalent in the early part of the year, and this, together with the floods, interfered materially with the work of inspection. In the latter half of the year measles swept over the district, closing some schools (as the teachers' families were affected) and greatly reducing the daily attendance at others.

There were 228 pupils examined for exemption certificates, and of this number 173 passed. I find there were only 11 children evading the compulsory clause of the Act, but in most cases these had valid excuses for their absence.

All the schools were up to or above the required standard of attainments except two. In the more important subjects the percentages were: Reading, 72; Writing, 75; Arithmetic, 72; Dictation, 73. In connection with the first-named subject, I find the pupils generally very deficient in a knowledge of the subject matter of the lessons read, and in Arithmetic sufficient use is not made of the blackboard by way of explanation.

I am pleased to say that the school libraries continue to flourish, and are every day growing more in favour with parents and pupils. Every school in the district has now its library, and the number of books in circulation is upwards of ten thousand. Every school in the district celebrated—as they did last year—the anniversary of its library foundation and added fresh books to its stock. There can be no question now about the stability, permanency, and popularity of these institutions, and, as far as the schools are concerned, I claim for them (and the teachers willingly admit the claim) three distinct and tangible gains—firstly, an improvement in the manners and conduct of the children; secondly, an improvement in the attendance; and thirdly, an improvement in the general knowledge. These are gains to our educational system that are, I consider, worth contending and working for.

There are 104 teachers of all grades under my supervision, and I have to report of them in very satisfactory terms. They are, as a body, steady, attentive to duty, and respected by the community at large. The pupil teachers, also, have given much satisfaction. One, besides gaining a full scholarship, carried off the Jones medal last year.

To summarise. The organization and discipline are satisfactory, and the work of instruction has been marked generally by industry, skill, and care. The schools are sufficient and well distributed, and the accommodation is ample. Generally speaking, things are in a satisfactory state, and I look forward to good work being done in the coming year.

JOHN KEVIN,

Inspector.

December 29th, 1898.

#### ANNEX Z 1.

##### DISTRICT INSPECTOR LAWFORD'S REPORT.

THERE is no change either of the boundaries of the district, or of the officers engaged in the work of inspection.

339 schools have been opened during the year, as against 331 last year.

They are classified as follows :—

Public.....	249
Provisional .....	44
Half-time .....	40
House-to-house .....	6

Sixteen are new schools.

They were fully inspected, excepting three small schools, all in the Hay section.

The schools are distributed as follows :—

Wagga section .....	82
Albury ,, .....	96
Hay ,, .....	69
Young ,, .....	92

There is a slight falling off in efficiency, 91 per cent. of the schools examined being up to or above standard, as against 93 per cent. during the preceding year.

There is plenty of room for all comers, 948 new places having been added.

In the Wagga section the following work has been done under my own supervision :—

		£	s.	d.
Building	9 new schoolrooms.....	1,066	13	8
„	5 new residences.....	2,618	12	0
Enlarging	5 schoolrooms .....	1,058	0	11
Repairing	47 „ and 12 residences .....	1,625	13	4
Total	.....	£6,368	19	11

The following new schools opened during the year :—

Wagga Experimental Farm	Brungle
South Collengullie	Mair Jimmy

New buildings have been completed at :

Brookongia	Mangain
Yarrangobilly	Wilga

At which places schools will be opened on the 16th inst.

Boree, Trickett, and Pine have been closed owing to lack of attendance; but Cuddell, which was closed last year, has been re-opened.

L. E. LAWFORD,

District Inspector.

#### ANNEX Z 2.

##### INSPECTOR FRIEND'S REPORT.

The list of schools in this inspectorate for the year now closing comprises 67 Public, 12 Provisional, 12 Half-time, and one House-to-house; total 92. Two of these lapsed, as a sufficient attendance was not maintained; but one of them will re-open in January, prox. About the same time, new schools will come into operation at Ariah Park, Flixton, Trungley, and Merriganowry; and, later on, one at Combaning South, making a probable total of 96 schools for the first quarter of next year.

The

The following applications for the establishment or re-opening of schools were received and dealt with:—

Locality.	Object.	Result.
Bundawarrah	Establishment	Granted Provisional School (now in operation)
Calabash	Re-opening	Half-time School sanctioned
Bribaree	Establishment	Provisional School granted
Winderahdeen	Re-opening	" " re-opened
Pinkerton	Establishment	Declined
Burrowa Flats	Re-opening as	"
Khalangan	Half-time Schools	"
Sandy Creek	Establishment as	Sanctioned. To open when residents comply with conditions
Warangla	Half-time Schools	
Beaconsfield	Re-opening	Provisional School re-opened
Flixton	Establishment	" " to be opened
Trungley	"	" " "
Ariah Park	"	" " "
Cucumgillica	"	" " granted (now in operation)
Merriganowry	"	" " to be established
Combaming South	"	" " "

For the newly-established schools, vacant buildings were removed from places which could no longer support a school: these buildings were re-erected, repaired, and suitably stocked with the necessary apparatus.

The other works carried out under my supervision may be briefly stated as follows:—

Erection of new school buildings at Ariah Park and Trungley, to accommodate 34 and 43 pupils respectively.

Enlargement of existing buildings at Lintondale and Spring Dale, additional accommodation for 15 and 21 pupils.

49 school rooms repaired.....	Cost £251 6 8
10 residences " .....	" £40 7 10

The Chief Clerk of Works effected repairs, improvements, &c., at some of the schools in my district, notably the following:—Cowra, Young, Temora, Wallendbeen, Wombat, and Monteagle. The Department's property is in very satisfactory repair, and the school buildings, with one or two exceptions (concerning which suitable action is being taken), afford accommodation well in excess of that required by the Regulations. There is floor room for 6044, and air space for 5504 pupils; whereas the highest quarterly enrolment does not quite reach 4400.

Every school on my list at any time during the year received a regular, and four an ordinary, inspection. Of the 92 regularly inspected, 2 were found up to standard (50 per cent. of marks), 84 above, and 6 below. Four of those which failed to satisfy the standard were new schools, or schools re-opened after having been closed for a considerable time. A reference to the return setting forth the estimated proficiency of pupils, will shew that the subjects as a whole have been satisfactorily taught, and that those of primary importance (Reading, Writing, Arithmetic, Dictation and Grammar), have been carefully and intelligently treated; the passes in these latter range from 81 to 95 per cent. of the pupils examined. 440 pupils were subjected to the exemption certificate test, and 325 (or 74 per cent.) were successful: of these, 170 passed for the first time.

The teachers of all ranks at present employed in this inspectorate number 113, and in most instances they are zealous and competent.

To sum up:—

The schools are well distributed, and the teaching staff is sufficient.

The buildings are in good order; and, speaking generally, commodious.

The organisation and discipline continue to be creditable features.

The results of the year's inspection shew that sound work has been done in the bulk of the schools of the district.

The usual statistics have been forwarded.

CHAS. J. W. FRIEND,  
Inspector.

### ANNEX Z 3.

#### INSPECTOR NOLAN'S REPORT.

Of the 69 schools on my list at the close of 1897 one was not re-opened, and one was permanently closed during this year; on the other hand two new schools were established; thus at the close of the current year there are 69 schools in active operation.

Several small schools are likely to be closed at an early date on account of diminished attendance caused by the removal of families; on the other hand a few will be established to meet the demands of fresh settlements.

The existing schools are well distributed, and they reasonably meet the requirements of the district. The gross enrolment for the year was 7932, and the average daily attendance was 4279; seating accommodation is provided for 7180 children. Active steps are being taken to provide more suitable accommodation where required. During the year the sum of £222 was expended under Inspectorial supervision in repairs and improvements to school premises, and two new buildings were erected at a cost of £169 8s. 8d.; the Chief Clerk of Works expended £918 18s.; a tender has been accepted for the provision of an Infants' School building at Burke Ward at a cost of £1,975; the buildings will be ready for occupation early next year.

Of the 69 schools in operation during the year 3—Tarrowingie Public, Strathmore Provisional, and Nunnagoyt House-to-house, were not regularly inspected. Tarrowingie was permanently and Strathmore temporarily closed prior to my visits thereto; I was unable to visit Nunnagoyt. Of the 66 schools inspected 9 were below, 1 was up to, and 56 were above standard requirements; the corresponding numbers for last year, of 68 schools visited, 5 below, 4 up to, and 59 above; a falling off is thus apparent, but the declension is mainly due to the irregularity of pupils caused by long-continued epidemic illness. 4626 pupils underwent examination; the class proficiency in the several subjects is shown in the statistical information supplied on the usual forms. Of the 304 pupils presented for exemption certificates 153 passed,—a result which cannot be regarded as satisfactory, as, with thorough teaching, there should be but few, if any, failures to meet the prescribed test. The introduction of the new standards of proficiency will ensure more satisfactory results in the all important subjects—Reading, Writing, Dictation and Arithmetic. The material conditions of the schools is being gradually improved; so far as the teachers are responsible the organization may be rated at very fair; the disciplinary condition is satisfactory.

The teachers of all ranks employed number 132; generally speaking they, under very trying circumstances, discharge their duties faithfully; some, however, have failed to realize the dignity and importance of their office, and as a consequence they have caused trouble: in a few cases departmental censure has been incurred for unsatisfactory work done. The pupil teachers continue to give satisfaction to all concerned in their training.

W. NOLAN,  
Inspector.  
ANNEX

## ANNEX Z 4.

## INSPECTOR PEARSON'S REPORT.

THE schools in operation during the year were—Public, 63; Provisional, 15; Half-time, 16; House-to house, 2; Total, 96.

The five following schools were established during the year, viz. :—Brocklesby Public, Corowa South Public, Greenbank Public, Dighton Provisional, and Roachdale Provisional. Martindale Public, Little Billabong and Overton Provisionals, and Jellingroo Half-time were closed through diminished attendance.

The following conversions were made—Barooga, Mount Gwynne, and Redland Provisionals to Publics, and Wondalga Half-time to Public. At the close of the year 93 schools remained in operation.

It has been decided to establish schools at Elsindale, Khancoban, and Nangunia South. When these are ready the district will be liberally supplied with schools.

All the 96 schools opened during the year were fully inspected, and in addition two ordinary inspections were made.

Seventy-five schools, or 78 per cent., exceeded standard limits, 8 were below, and 13 just reached it.

Last year the percentage reached 84. The disastrous drought and prevailing epidemics affected materially the regularity of pupils and accounts for slight falling off in the percentage.

Reading, Writing, Arithmetic, Grammar, Geography, History, Object Lessons and Needlework show a slight advance notwithstanding the disadvantageous conditions. Scripture, Music, French, Euclid, Algebra, Mensuration, Latin, and Natural Science indicate retrogression; and the remaining subjects show corresponding results with last year's.

Organization and discipline are satisfactory. Again the results of the test for exemption certificates are unsatisfactory, only 46 per cent. being successful.

The teaching staff consists of 85 principal teachers, 2 mistresses, 7 assistants and 12 pupil teachers, making a total of 106.

With but very few exceptions the teachers are industrious and zealous and command the respect of the public.

School accommodation, allowing 8 square feet per child :

Accommodation existing at commencement of 1898 .. . . .	6050
Additional provided . . . . .	223
Accommodation lost by closing, &c. . . . .	174
Accommodation existing at end of 1898 . . . . .	6099

As the enrolment for the year was only 4660 it will be seen ample accommodation is provided.

The Chief Clerk of Works erected a school and residence at South Corowa, at a cost of £520, affording accommodation for 48 pupils. No school previously existed at South Corowa.

## BUILDINGS ERECTED BY INSPECTOR.

	If New.	Seats.	Cost.
			£ s. d.
Brocklesby . . . . .	New.	33	62 0 0
Mount Gwynne . . . . .	Replace Old.	44	147 0 0
Roachdale . . . . .	New.	42	100 0 0
Total . . . . .		119	£309 0 0

Forty-eight schools have been repaired at a total cost of £526 19s. 0d., and £578 4s. 6d. has been expended in renovating 15 residences.

Repairs to three schoolrooms and one residence are in progress. These will cost £82 8s. 3d.

The results of the year are satisfactory and the prospects are encouraging.

T. PEARSON,  
Inspector.

## ANNEX Z 5.

## DISTRICT INSPECTOR LONG'S REPORT.

The organization of the District in regard to inspection has remained unchanged, except that at the commencement of the year, Mr. Inspector G. H. Hunt was appointed to the charge of the Dubbo Section, in place of Mr. Inspector J. W. E. Baillie, removed to Braidwood.

At the end of the former year the schools in my District numbered 241. Of these 12 were either not re-opened, or lapsed owing to insufficient attendance, while 16 new schools were established. The total number of schools in operation during the year, or some part of it, was 260, and of these the number in existence at the end of the year was 252, of which 77 are in the Dubbo Section, 90 in the Mudgee, and 85 in the Wellington Section.

The buildings in which these schools are conducted suffice for 15,378 pupils, there being an increase of 382 places for the year. The total enrolment for the year was 14,936, including 1,728 pupils returned as enrolled at more than one school, while the average daily attendance was 8150 9. The accommodation provided is therefore, in the aggregate, in excess of requirements.

Under Inspectors' supervision, 8 new schools and 1 weather shed have been erected, 2 schools enlarged, and 85 schools, and 13 residences repaired at a total cost of £1648 12s. 11d. Works of a more extensive nature have been effected under the Chief Clerk of Works.

All the 260 schools in operation during the year received a regular inspection, and ordinary inspections and incidental visits were made as opportunities occurred. Of the 260 regular inspections, 81 were by Mr. Inspector Hunt, 63 by Mr. Inspector Rooney, 28 by Mr. Inspector Walker, who rendered temporary assistance during Mr. Rooney's illness, and 88 by myself.

Two hundred and forty-two schools, that is 93 per cent of the whole number, were found to reach or exceed standard in regard to general efficiency. In the case of most of the remaining 18 schools, whose efficiency was below standard, the unsatisfactory result was found to be due to their having been but recently established, or to some other cause beyond a teacher's control. In a few cases however, it was clearly traceable to the inability or neglect of the teacher, and these have been duly brought under notice.

The number of pupils examined at the inspections of the year was 8,897. The percentage of passes, being over 80 per cent in all the more important subjects, indicates that the teaching generally is of satisfactory efficiency. In ten subjects it is slightly lower than for the former year, but this is doubtless due to the extent to which the attendance has been affected by the visitations of drought and epidemics during the greater portion of the year. To this cause also may be attributed a small decrease of about 3 per cent in the number of schools whose efficiency is returned as reaching or exceeding standard requirements.

The organization and discipline are almost invariably found to merit high commendation, and to indicate proper knowledge of correct methods, and praiseworthy effort to efficiently apply them. The order, attention, and general deportment of pupils are, as a rule, indicative of careful and efficient training, while their uniformly healthy and well dressed appearance certainly suggests that no commercial or industrial depression has affected the general ability to secure a liberal supply of material comforts.

The total number of teachers in the district is 303, including 59 who are unclassified and 34 pupil teachers. The classifications of the remainder, and their positions in the Service, are given in the tabulated statement attached. With few exceptions they are well fitted for the honourable and responsible positions they occupy, and are favourably regarded by those amidst whom they are placed.

The schools in operation, with those whose establishment has been sanctioned or is under consideration, suffice for the present educational requirements of the district. The material condition of the existing schools, and their efficiency, so far as can be indicated in a general statement, are good. The year's work has been attended with success in regard to the objects which the Department is designed to achieve, and affords ground for anticipating satisfactory progress.

I forward with this the reports of the officers associated with me in the charge of the district, together with their and my own statistical returns.

GEORGE ED. LONG,  
District Inspector.

#### ANNEX Z 6.

##### INSPECTOR ROONEY'S REPORT.

At the end of last year there were in operation, in this section of the district, 87 schools, viz., 56 Public, 9 Provisional, 20 Half-time, and 2 House-to-house.

Early in January, the Half-time schools at Dexter Springs and Moolarban were closed, the buildings at the latter place having been burnt down.

The Half-time School at Carwell and the Provisional School at Oakborough were closed in May.

The Provisional School at Sally's Flat was closed in November.

The schools at Bocoble and Upper Meroo were re-opened as Half-time at the beginning of the year.

New Provisional Schools were opened at Bargong, Carwell, and Upper Bolobolar.

Carwell Provisional takes the place of Carwell Half-time and Oakborough Provisional.

A large class-room was added to the Boys' School, Mudgee.

A new Provisional School is almost completed at Piambong.

At the end of 1898 there were in operation in this section 90 schools, viz., 58 Public, 12 Provisional, 18 Half-time, and 2 House-to-house.

Under my supervision, 20 school-rooms and 9 residences, and, under that of the Chief Clerk of Works, 11 school-rooms and 11 residences were repaired. A new residence was completed at Hargraves, and another is in course of erection at Windeyer.

A weather-shed was erected at Burrundulla.

The accommodation at the end of the year was sufficient for 3,967 pupils. The total enrolment of pupils for the year was 4,324, and of this number 476 were returned as having attended more than one school.

Of the enrolment, only 2,016 attended for 140 days. Scarlet fever, measles, and influenza prevailed throughout the year. The average attendance for the year was 2,462.6, being 206 less than for the previous year.

The amount of fees received in 1898 was £1,199 3s. 10½d., being £58 1s. 10½d., less than for the preceding year.

The arrears of fees at the end of the year amounted to £42 11s. 3d.

There were 449 free pupils on the rolls at the end of the year, most of them being the children of miners.

#### Inspection.

All schools in this section received regular inspection.

During my illness, which lasted for more than three months, 28 schools were examined by Mr. Inspector Walker.

Carwell was examined as a Half-time, and afterwards as a Provisional School.

In all, 2,749 pupils were examined. For exemption certificates 341 pupils were examined, 251 passing the required test. Of the number who passed, 160 were for the first time.

As a result of the examinations, 85 schools were classed above the standard, 3 equal to it, and 3 below it.

The proficiency of the pupils was, therefore, very satisfactory. Although the majority of the teachers passed an examination in Music, the results in the subject were very unsatisfactory in the schools.

Under my supervision there were 86 teachers and 11 pupil-teachers.

Only two complaints, both trivial, were made against teachers during the year. As a rule, the teachers are industrious and respectable.

The organisation and discipline of the schools are good.

In conclusion, it may be stated that the present educational requirements of this section of the district are amply met by the existing schools, and the prospects for 1899 are hopeful.

JOHN P. ROONEY,  
Inspector.

#### ANNEX Z 7.

##### INSPECTOR HUNT'S REPORT.

THE number of schools in operation in the Dubbo section of the Wellington District at the close of the year 1898 was :—

Public .....	52
Provisional .....	17
Half-time.....	4
House-to-house .....	3
Evening .....	1
Total .....	77

The following is the increase for the year :—

Public .....	3
Provisional .....	3
Half-time.....	2

During the year the Provisional Schools at Coradgerie and Quambone were changed into Public, and the House-to-house School at Breelong West was converted into a Provisional.

#### New Schools.

During 1898 the following Public Schools were brought into operation :—

McPhail, near Tomingley.  
Quambone, near Warren.  
Sandy Creek, near Dubbo.

During the same period the following Provisional Schools were established and brought into operation :—

Brightling Park, near Coonamble.  
Hyandra Creek, near Dubbo.  
Marthaguy Creek, near Gilgandra.  
Modell, near Coonamble.  
Pera Bore, near Bourke.

The Schools at Euromidah and Plain Creek were re-opened as Half-time.

The



Music—Sutton's Theory of Music ; Part Songs ; Stainer's Harmony ; Voice Training.  
 Drawing—Practical, Plane, and Solid Geometry ; Perspective.  
 Manual Training—Application of Geometry to Mechanical Drawing ; Exercises in the use of common hand-tools for working in wood.  
 Drill—Squad, company, and battalion drill ; manual and firing exercise ; physical drill, with and without rifle.

*Practical Training.*

The students were regularly employed in class-teaching for about a week in each quarter. Specimen, test, and criticism lessons were given every week.

*Staff.*

The staff for 1898 consisted of the Principal ; J. D. St. Clair Maclardy, M.A., Lecturer in Languages and Mathematics ; J. Finney, B.A., Lecturer in English and English History ; Dr. Roth, Lecturer in Physiology ; Hugo Alpen, Lecturer in Music ; F. W. Woodhouse, Drawing Master ; W. Powrie, Teacher of Manual Training ; Q.M.-S. Smith, Teacher of Drill.

*Examinations.*

Written and oral examinations were conducted by the Chief Inspector several times during the year. The examination of the students' practical skill was held in the second week of December, and the final examination for certificates took place in the middle of December. The results are given below :—

II A.	II B.	III A.	Total.
5	4	7	16

*Results of Examination in Manual Training.*

Honours.	First Grade.	Second Grade.	Total.

*Results of Examination in Ambulance Work.*

The examination was conducted by the St. John's Association. Every student succeeded in gaining the "First Aid" Certificate.

*Results of Examination in Drill.*

Instruction was regularly given on Friday morning in each week, and target practice was carried on at Randwick one afternoon in the month. gained certificates.

*Health and Conduct.*

The health of the students was uniformly good throughout the year, and their general conduct most exemplary in every case.

J. W. TURNER,  
Principal.

ANNEX Z 9.

REPORT OF THE PRINCIPAL OF HURLSTONE TRAINING COLLEGE.

THE number of students enrolled during 1898 was 25, namely :—

15 full scholarships.  
10 half scholarships.

*Course of Study.*

Latin—Bradley's Arnold's Composition ; Smith's Latin Grammar ; Livy, Book XXVI.  
 French—Racine's "Athalie" ; Macmillan's Third Year.  
 English—Macbeth (Warwick's Shakespeare) ; Gray's Elegy ; Meiklejohn's Book of English.  
 History—Jose's Growth of the Empire.  
 School Management—Gládmán's School Method ; Kindergarten ; the School Records ; the Regulations ; Theory and Practice of Teaching ; Criticism Lessons and Practical Training in the Practising School.  
 Algebra—Smith's Smaller Algebra.  
 Geometry—Mackay's Euclid.  
 Arithmetic—Loch's Arithmetic ; Theory and Practice of Arithmetic.  
 Music—Sutton's Theory of Music ; Stainer's Harmony ; Voice Training.  
 Drawing—Plane and Solid Geometry ; Model Drawing ; The Art of Teaching Drawing.  
 Needlework—A Finished Garment ; Setting and Cutting out Needlework.  
 Physiology—St. John's Ambulance Course ; First Aid to the Injured.  
 Drill—Free Exercises ; Wand ; Dumb Bell ; Club Exercises ; Marching ; Class Exercises.

*Examinations.*

Periodical examinations were held during the year by the Chief Inspector. Examinations in drill and cookery were held, also a Certificate Examination in St. John's Ambulance. The certificates were presented by Lady Hampden, and the examination conducted by Dr. Vandeleur Kelly.

*Practical Training.*

Each student had four weeks actual teaching and practical training in the Practising School, besides giving criticism lessons in various subjects, and conducting drill, music and drawing lessons, under the respective instructors. All the students attended a course of practical cookery.

*The Teaching Staff.*

J. A. Nicoll, Principal.  
 E. M. Mallarky, B.A., Assistant.  
 Lecturers :—  
 J. D. St. Clair Maclardy, M.A., Latin and Mathematics.  
 Hugo Alpen, Music.  
 Reuter Roth, M.D., Physiology.  
 J. Douglas, Drawing.  
 E. Banks, Kindergarten.  
 A. Paul, Drill.  
 S. Gelding, Cookery.

*General Remarks.*

A new Practising School is in course of erection, and the old building is to be converted into a Cookery School and Recreation Hall. The outside of the College building has been recently painted, and the pathways have been gravelled. The health and conduct of the students have been most satisfactory throughout the year.

J. A. NICOLL.



## APPENDIX XIII.

## REPORT OF SUPERINTENDENT OF DRAWING.

I HAVE the honour to submit my Annual Report on the teaching of Drawing in the Public Schools and Training Colleges, and on the Examination of Teachers of all grades in that subject.

The results of my examination of 90 schools (210 departments) are as follows :—

	Above Standard.	Below Standard.	Total.	Percentage of Passes in 1898.	Percentage of Passes in 1897.	Average Class-mark.
Boys.....	13,138	1,238	14,376	91·4	79·6	7·4
Girls.....	11,391	1,280	12,671	89·9	77·3	7·3
Infants .....	13,375	1,671	15,046	88·9	83·5	7·7
Totals .....	37,904	4,189	42,093	90·0	80·4	7·5

I am glad to note a decided increase in the percentage of passes and some in the average class-mark over last year's results.

*Revised Standard.*

The revised standard, though demanding less than hitherto, should have the effect of raising the quality of the work done. The greater number of subjects taught and the smaller importance attached to this subject than in England make it generally impossible to devote so much time to it as is given there, and it is therefore a distinct gain to have a standard which is not a mere copy of that in force there or elsewhere, but arranged in accordance with what is possible here. The omission of Model Drawing in the Third Class and the making Model Drawing and Practical Geometry alternative subjects in the Fourth and Fifth are the changes now made which were most necessary. Ruler drawing is rarely made so effective a part of the course as it should be, while too many still allow an improper use to be made of measuring and ruling in work where the eye alone should be relied on. I intend to make a decided effort to cope with this abuse in the coming year.

*Examinations.*

The following table gives the result of the examinations of the various grades of teachers (including applicant pupil-teachers) :—

	Black-board.		Freehand.		Model.		Geometry.		Perspective.		Total.
	No. exd.	Pass.	No. exd.	Pass.	No. exd.	Pass.	No. exd.	Pass.	No. exd.	Pass.	
Appt. Pupil-teachers ...	...	...	1,054	57·7	...	...	...	...	...	...	1,054
Pupil-teachers .....	224	75·4	293	54·3	175	40·6	...	...	...	...	692
Students in Training ...	...	...	2	100·0	3	33·0	45	53·3	...	...	50
Teachers.....	18	85·7	40	55·0	34	29·4	56	48·2	19	52·6	167

A very small percentage indeed of teachers or pupil-teachers have any grasp of the principles of Model Drawing, or of how it should be taught. The test-lessons given by the training-students and the work sent in for examination in June and December, as well as my observation of the work done in the schools, is conclusive evidence on this point. The examination work shows conspicuous absence of study in many cases, and inefficient instruction in many others.

*Training Schools.*

Although the classes worked well and conscientiously, the results of the examinations have been disappointing. To go through a sufficient amount of Practical Geometry, to lay some foundation for Perspective, and to give some lessons in the method of teaching Drawing is, in fact, too much for the time at our disposal; yet I am loth to leave out any one of these branches of our work. I am disposed to think that time should be gained by throwing on the (male) training students the responsibility of acquiring most of the Plane Geometry by private study.

*Appliances.*

Appliances are still very much needed—wall-copies for Freehand, and wire and solid models for Object-drawing especially. Teachers might, however, exercise more ingenuity in supplying the place of models. For instance, the boxes in which the new reading-books were sent out form excellent models, and suitable things are not difficult to find for those who are on the look-out for such.

*New Syllabus.*

I am engaged in the preparation of a detailed syllabus of the course of instruction in Drawing. It will be a great advantage to teachers to know what is expected at each stage, and will save me much verbal explanation, besides rendering the standard more uniform and less subject to private interpretation.

With the revised standard, and with the guidance of an illustrated syllabus, I hope, next year, to see the progress, which should spring from the greater thoroughness, made possible by the former, and the systematic information conveyed by the latter.

FREDERIC W. WOODHOUSE,  
Superintendent of Drawing.

## APPENDIX XIV.

## REPORT OF SUPERINTENDENT OF MUSIC.

I HAVE visited and reported on all schools in the Metropolitan District on Singing and Theory of Music.

There can be no doubt that music is a favourite study with our Australian youth, and thus most schools work well above the standard in "theory," whilst the singing in several of the schools is so good that it can scarcely be measured by the ordinary standard.

During the previous year I frequently urged the teachers to pay increased attention to enunciation, and to insist upon more expression and greater refinement in singing. I am glad to be able to report a decided improvement in this respect, although the enunciation of the children (especially in the lower classes) requires still greater attention.

In

In a fair number of schools reading at sight (both notation, staff, and tonic-sol-fa) in time and pitch is really good; even in the lower classes children sing "harmonised" passages at sight. In fact, not unfrequently, young children in the lower 2nd classes sing almost any succession of intervals with a firmness that is really astonishing.

The general mark given to the schools reaches almost "very fair," which mark, considering our former high standard, is very creditable.

I notice that the standard has been considerably changed, which, no doubt, will be to the advantage of schools in the country.

HUGO ALPEN,  
Superintendent of Music.

## APPENDIX XV.

### REPORT OF DIRECTRESS OF NEEDLEWORK.

I HAVE examined and reported upon 88 schools in and about the metropolitan district. In all, 14,029 pupils were present at examination of needlework. The above numbers do not include the examinations of needlework I have attended for Public School exhibitions or for prizes and awards at public competitions.

The epidemic of measles has caused a decided falling off in the numbers present at needlework examinations in most of the schools during the past year, but the work of the absentees was retained and arranged for my inspection, and proved most satisfactory.

This fact shows conclusively that the system of instruction in needlework continues to be thorough and effective.

The encouragement and recognition extended by the ladies of the Local Boards in many suburbs to the pupils for proficiency in needlework are much to be valued, as they have the much desired effect of fostering industry and inciting emulation.

#### *Mixed Schools.*

Mistresses, teachers' wives, and infant-school mistresses in charge of needlework in mixed schools continue to do good faithful work. Many of these schools are far above standard requirements, and, judging by results, much private time must be devoted to this subject.

Dressmaking lessons given in these mixed schools are looked upon by parents as a boon. The mothers of pupils frequently send in favourable comments upon this branch of instruction, it being considered a sound preliminary training for business as well as for home industry.

The small specimen squares worked with coloured cotton in lower classes are a decided success. Young children are amused in their first attempts at sewing lessons. Their desire to improve, and to proceed from one stage of stitch to another is evident, and the pleasure they experience in this lesson is productive of the highest results, and proves a happy change and relief from mental study.

#### *Pupil-teachers.*

In my incidental visits to schools, it was noticeable that the pupil-teachers were attentive to the instruction of work-mistresses, anxious to excel, and evinced the same proficiency in the art of needlework and design as formerly.

In many schools pupil-teachers receive their needlework lesson from the work-mistress at the usual sewing lesson. This is a decided advantage, as much varied and useful experience is gained in cutting and setting, also in the management and control of sewing classes, which experience proves of good service to them at the termination of their pupil-teachership.

#### *Dressmaking.*

As stated in my last annual report, this subject receives special attention from work-mistresses, and is carried out and made general in all metropolitan schools. In some large schools, where no work-rooms are available, it is found almost impracticable to give lessons in this subject, as the fitting-on attracts attention, and disturbs the quiet and order so essential to sewing lessons.

I may add that the work-mistresses in all first-class schools have acquired the practical knowledge necessary to enable them to teach this branch of needlework.

#### *Method and Discipline.*

Method and discipline in sewing-classes are generally well maintained and time economised in giving out and receiving needlework, the head-mistresses in most schools assisting in this arrangement. Independence and self-reliance are inculcated among the pupils of upper classes by teaching them to cut out and set their own work; and though depression exists among the working classes, pupils are very rarely found unprovided with sewing material according to their attainments and class.

I am glad to be able to testify to the constant diligence and application to duty on the part of work-mistresses during the past year, and also to the encouragement and appreciation shown by head mistresses in most metropolitan schools.

ANNIE DADLEY.

## APPENDIX XVI.

### CHIEF CLERK OF WORKS' REPORT.

THE past year has been an exceeding busy one with this Branch, as will be apparent from the following figures, which show an outlay on all building works of £70,215 4s. 6d., being about £26,500 over the previous year, the highest expenditure for the last five years, and considerably over the average for the past ten years, the works completed during 1898 being as follows:—

No.	Description of work.	Accommodation.	Cost.
			£ s. d.
20	School buildings .....	2,644	18,314 15 9
13	Residences .....		6,219 8 0
12	Weathersheds .....		1,178 2 5
34	Additions to residences .....		5,763 14 10
33	Additions to schools.....	3,687	16,047 18 10
554	Sundry works .....		22,691 4 8

The above shows, that accommodation has been provided for 6,331 pupils, being an increase of 1,452 over that of the previous year, and obtained at a cost of £34,362 14s. 7d., which sum also includes two cases where play-sheds have been included, viz., Petersham and St. Leonards, and one case providing no additional accommodation. The average cost per child for the accommodation provided works out at about £4 10s. per head.

The largest works completed, were :—A Primary School at Broken Hill, New Girls' School at Leichhardt, New Infants' School at Bowral, New Infants' School at Newtown North, New Girls' School at Armidale. With the exception of Broken Hill, these schools are all of two storeys, and the last two are designed to form wings of a complete block of buildings to be carried out at some future period.

In many brick buildings I have reintroduced cavity or hollow external walls, as they make dryer and cooler rooms than solid walls. This class of work was discontinued for many years on the plea of extra cost; but, when the cost of painting, or other means taken for the protection of the walls from damp, and the duration of the internal painting and colouring, are taken into consideration, the cost in the end is really less.

Besides the above, a number of works were still in hand at the end of the year but will appear in next year's list of completed works. They are as follows :—

No.	Name.	Accommodation.	Cost.
21	School buildings .....	3,065	£ s. d. 18,969 18 0
11	Residences .....	.....	6,266 6 1
2	Weathersheds .....	.....	149 15 0
15	Additions to residences.....	.....	2,813 16 1
9	Additions to schools.....	540	3,078 13 0
92	Sundry works .....	.....	6,691 1 10
Total value of works in hand .....		£ s. d. 37,879 10 0	

It will be seen by the foregoing, that extra accommodation for 3,605 pupils will be provided for early in the new year.

Owing to the pressure of work, two additional temporary draftsmen and a temporary clerk were placed upon my staff, also three temporary Clerks of Works, one of the latter being kindly lent by the Government Architect to act as relieving officer.

The quantity of office work for the year may be estimated from the fact that 655 plans and 771 specifications were prepared, and 709 contracts entered into.

*Technical Work.*

Broken Hill Technical College—	£ s. d.
Class room for assaying ..	889 0 0
Six sundry works .....	168 5 0
Newcastle Technical College—	
Two sundry works.....	91 18 0
Sydney Technical College—	
Six sundry works .....	552 17 6
Technological Museum .....	228 16 0
Chemical Laboratory .....	274 7 7
Total expenditure in Technical College work, £1,702 0s. 6d.	

J. S. WIGRAM,  
Chief Clerk of Works.

APPENDIX XVII.

BOARD OF EXAMINERS' REPORT.

THE total number of examinations during the year 1898 was 3,083—but two short of the total for the previous year. They were made up as follows :—

Applicant pupil-teachers.....	1,045
Pupil-teachers .....	778
Training students.....	68
Teachers.....	593
High-school candidates .....	599
Total .....	3,083
Applicant Pupil-teachers—	
Eligible for employment.....	211
Ineligible .....	825
Examined in drawing or music only, passed .....	8
“ “ “ failed .....	1
	1,045
Pupil-teachers—	
Promoted from Class IV to III ..	319
“ “ III to II .....	210
“ “ II to I .....	152
“ “ I to training .....	39
Ex-pupil-teachers examined specially for training .....	13
Examined in music or drawing only, passed .....	21
“ “ “ failed .....	2
Failed to gain promotion .....	18
Deferred cases .....	4
	778
	Candidates

Candidates for training—	
Males—	
Passed.....	26
Females—	
Passed.....	13
Failed.....	1
Ex-pupil-teachers examined specially for admission to training.....	13
Students in training—	
Males—	
Recommended for classification of II A.....	5
"                    "          II B.....	4
"                    "          III A.....	7
Females—	
Recommended for classification of II A.....	4
"                    "          II B.....	12
"                    "          III A.....	9
Students examined in drawing only, passed.....	5
"                    "          failed.....	22
The examinations in drawing only were held during the students' term training.	
Teachers—	
Teachers were examined and classified as under :—	
Promoted to Class I.....	14
"          II A.....	13
"          II B.....	42
"          III A.....	152
"          III B.....	57
"          III C.....	19
Examined in drawing and music, passed.....	55
"          "          "          failed.....	27
Failed to gain promotion or classification, Class I.....	22
"          "          "          II.....	60
"          "          "          III.....	128
Retirements from examination.....	4
	593

## High School Examinations.

The total number of candidates examined in the months of June and December were 599, of whom 559 were recommended as having qualified for admission as pupils of the Public High Schools, while 40 were regarded as having failed to reach standard requirements. Scholarships and bursaries were recommended for award as stated below :—

## For scholarships—

Boys—	
Sydney.....	15
Maitland.....	10
Girls—	
Sydney.....	15
Maitland.....	10
Bathurst.....	5

## The following bursaries were given :—

Boys—	
Maitland.....	10
Sydney.....	15
Girls—	
Maitland.....	5
Sydney.....	12

The number of candidates for the office of pupil-teacher is somewhat smaller than that of the previous year. The competition among the applicants of this class is, however, very keen, and, generally speaking, there appears to be no lack of suitable young people anxious to thus qualify themselves for appointment as pupil-teachers. As explaining to a large extent the apparently large number of ineligible examinees at these sittings, I might mention that each examination is a competitive one, and only those for whom immediate employment can be found are regarded as eligible, provided, of course, that their attainments are of a satisfactory nature. It may thus be seen that large numbers, though reaching standard requirements in point of attainments, are beaten by others of higher mental calibre and greater suitability so far as the examinations show. This practice, in my opinion, tends to benefit the Department in the direction of securing the best available candidates.

The number of pupil-teachers examined is considerably in excess of that for the previous year. This is accounted for by the fact that the needs of the Department necessitated a considerable addition during the year 1897 to this branch of the teaching staff. The proportion of failures to passes is very small, and from this alone may be deduced the conclusion that the pupil teachers prosecute their studies assiduously, and endeavour in their practical school-work to render themselves eligible for further advancement from year to year.

The number of candidates for admission to training was limited, due, undoubtedly, to the policy of the Department in filling vacancies occurring several years ago in the ranks of pupil-teachers by the appointment of ex-pupil-teachers, for whom small schools could not then be found. This was referred to in my previous report. Owing to the small number of first class female pupil-teachers who qualified for admission to training, an opportunity was afforded ex-pupil-teachers to submit to a special examination, with the object of securing a twelve months' course of training at the Hurlstone School. Only thirteen availed themselves of the concession, all of whom passed the required test.

A larger number of teachers than usual sought promotion or classification by examination. An increasing desire is thereby shown on the part of the teachers to improve their positions in the Service, and where that disposition is in evidence, the Department must necessarily, to a corresponding degree, reap advantage. Examination results show, in a general way, a satisfactory measure of attainments so far as the teachers are concerned.

The results of the High School candidates' examinations indicate that the number has not diminished, and that the percentage of passes is satisfactory.

R. N. MORRIS,  
Examiner.

## APPENDIX XVIII.

## REPORT OF PUBLIC SCHOOLS' CADET FORCE.

THE past year has seen the resuscitation of several companies formerly actively associated with the Cadet Force, and a number of new corps have joined the City, Suburban and Country Battalions. Several corps have, however, disbanded, leaving the number practically the same as in the previous year.

The high state of efficiency which gained the commendation and congratulations of Lord Hampden and the Naval and Military Commanders in Jubilee year has been maintained. The admirably-executed evolutions of the two battalions at the P.S.A.A. Annual Sports Meeting were a feature of the first day's gathering. His Excellency the Governor expressed himself greatly pleased with the work, while on all sides favourable comments were made, and the Press—including the illustrated weeklies, which published excellent photographs of the various movements—spoke in high praise of the soldier-like bearing of the cadets and the smartness and precision of all their manoeuvres.

I inspected the Metropolitan and Suburban Battalions, and everywhere amongst officers and cadets the improvement in uniforms and general deportment recorded last year is continued.

No inspection, however, was made of the country corps.

The monthly half-day parades and the quarterly full-day parades were held regularly, much useful work being done, the intelligent and practical interest shown by the officers in the various movements being very gratifying.

During the hot weather I ordered the parades to assemble at Lady Robinson's Beach and Bronte in order that swimming exercise might follow the field drill, thus affording the cadets a refreshing sea-bath after the day's work, and at the same time encouraging them in the health-giving and necessary art of natation.

Target practices have been held frequently, every facility being given to improve the quality of the shooting, and considerably-increased interest has been manifested in this particular direction. Ammunition has been issued on a larger scale than usual, and notwithstanding the drawback occasioned by the large number of unserviceable rifles, a decided improvement in shooting is very evident and is most satisfactory.

Many complaints have come to hand regarding the Braendlin carbines which have been in use by the Cadet Force for a number of years. In numerous cases the barrels have worn to such an extent as to make the weapon altogether unreliable for shooting purposes.

The supply of Braendlins in the first place was limited to 12 rifles for each full corps, and as many of them have now become useless, the case of the Orange Team—who had to fire in the recent match for the Challenge Shield with only three sound rifles—is not an isolated one.

It is absolutely necessary, if this work is to be carried on in an efficient manner and kept up to the standard, that new rifles must be obtained. Steps have been taken to procure samples of rifles better suited for cadet purposes than the one at present in use, and I hope that in the course of the next few months our wants will be attended to, and that the Minister will see his way clear to place a special sum on the Estimates for the purchase of new rifles.

Great economy has had to be exercised, and during the year rifles and cadet accoutrements have been called in from corps which have ceased to exist, and these have been redistributed amongst newly established corps, or forwarded to existing companies not possessing sufficient serviceable appliances.

The Annual Rifle Meeting was held on December 17th, 19th and 20th, at the Randwick Range, forty-five teams competing for the Challenge Shield, which was again won by the Orange Team. Bathurst, for the second time in succession, ran the winners very close; Singleton obtained third place, and for the first time for many years, a city school was placed fourth—Cleveland-street obtaining but 9 points fewer than the holders of the Shield. Each year sees the competition more and more closely contested, and the interest keener.

The Highest Aggregate Championship Gold Medal, presented by Messrs. A. Hordern and Sons, was won by Color-Sergt. A. Hatfield, of Kogarah, while Cadets C. Durrance, of Surry Hills South, and K. Hinde, of Albury, each scored two points less.

In addition to the Challenge Shield, prizes to the value of £80 were competed for, several citizens generously donating valuable trophies.

A special medal has been struck for the members of the winning team, and the highest individual scorer in each of the competing teams. The design is a unique one, in silver, with a gold centre, showing a typical Public School Cadet at the "Ready."

As in past years, the Royal Agricultural Society kindly granted space for the country teams to camp, and the military authorities lent a supply of blankets.

*School Drill.*

The Cadet Staff regularly visits the Sydney and Suburban schools for the purpose of instructing the pupils and the teachers in drill, in accordance with the School Standards, and also to drill the Cadet Corps attached to various schools. One effect of these systematic visits, continued throughout the year, is seen in the marked improvement in the evolutions performed, and in the character of the calisthenic displays given at the P.S.A.A. sports' meeting each succeeding year.

Country schools are drilled weekly by the Military Staff of the N.S.W. Forces, who also take charge of the cadets at the Rifle Ranges. Thanks are due to Major-General French for allowing the Staff-Sergeants in the country districts to pay these visits, the provision made in the Cadet Force Regulations for this purpose being largely availed of.

The classes in Military Drill and Calisthenic work—held for the benefit of teachers, on Friday evenings, in the Girls' High School—have been highly successful during the year, and have been very well attended, the space available often being far too small for the numbers present. In the course of my visits of inspection to the Metropolitan and Suburban Schools, the result of the training in these classes has been frequently apparent, and a higher standard of work performed by the pupils in many instances is recorded.

The improved methods of handling a class shown by many of the pupil-teachers who have attended these drills testify to the sound work being done.

Additional space for these classes is badly wanted, and I regret that the suggestion made in my last report, that the ground outside the Girls' High School should be lighted up, has not been carried out.

I am desirous of extending the scope of these classes, and trust soon to arrange for additional classes for lady teachers.

The Public Schools' Challenge Shield for Drill was won by the Croydon Park School, Camperdown being second, and Stanmore third. The test work in this competition is part of the standard drill for boys.

*Training Colleges and High Schools.*

Regular weekly visits have been made by the Cadet Staff to the Training Colleges, &c. The students at Hurlstone were thoroughly grounded in the principles of drill, and practised in the movements and exercises essential to their conducting classes according to the various standards in the schools.

The Fort-street students were taken step by step from the first stages of squad drill to company drill in all its forms, as well as being taught how to drill a class properly. They were also exercised in physical drill with arms, the manual and firing exercises, &c., and also afforded opportunities for rifle practice at the Range.

A number of the Cadet Staff visited weekly the Sydney High Schools, the boys being put through the military movements with and without arms, while the girls were put through a complete course of calisthenic drill.

At the close of the year I subjected the students at the Training Colleges to a careful and exhaustive theoretical and practical examination, and have to report satisfactory results.

*Drill Inspection of Schools.*

I have inspected the whole of the Metropolitan schools, and many of those in the sub-Metropolitan District, and found that with few exceptions the drill was of a very satisfactory character, and well up to standard requirements. More attention is paid to details, greater care is taken to see that the pupils maintain the correct positions, and some effort is made towards the proper setting up of the pupil and forming the young constitution.

A great want is still felt by the totally inadequate supply of dumb-bells and wands for girls, and dumb bells and drill rifles for boys, without which it is almost impossible for the classes to attain to the requirements of the standard of drill. I hope that before long means will be found to furnish all schools with the proper quantity of drill appliances.

I visited Newcastle, where I inspected the pupil-teachers of the district, putting them through a thorough course of drill, with a view to testing their knowledge of standard work required. Satisfactory reports of these examinations were forwarded to the Chief Inspector.

At the instance of the District Inspector I also visited Goulburn, calling at the various schools, and explaining to the teachers the details of the new standard of drill adopted by the Department. Practical illustrations of the exercises and movements as laid down were also given.

Similar visits paid to different country centres would be greatly appreciated by the teachers and Inspectors, and result in a more uniform and thorough class of work generally being done.

A. PAUL, Lieut.-Col.,  
Chief Staff Officer and Drill Superintendent.

ANNEX A.

PUBLIC SCHOOL CADET CORPS BRANCH—DEPARTMENT OF PUBLIC INSTRUCTION.  
RECEIPTS AND DISBURSEMENTS FOR THE YEAR 1898.

RECEIPTS.			DISBURSEMENTS.					
	£	s	d	£	s	d		
To Balance on account of 1897	74	8	8	By Salaries	1,120	0	0	
Amount received from Treasury, 1897-8 account	1,130	0	0	Purchase of arms	64	10	9	
Amount received from Treasury, 1898-9 account	2,600	0	0	"    ammunition	565	19	6	
				Travelling expenses, carriage of arms, ammunition, &c.	948	11	1	
				Grant for annual prize meeting	92	11	8	
				Military instructors	205	10	0	
				Equipment of cadets	309	13	10	
				Allowances as per Regulations 35 and 65	314	0	0	
				Rifle practice, musketry, &c.	61	11	0	
				School drum and fife bands	23	16	0	
				Unexpended balance, 1898	..			
	£3,804	8	8					
						3,706	3	10
						98	4	10
						£3,804	8	8

Account Branch, Department of Public Instruction,  
Sydney, 17th March, 1899.

A. E. BASSAN,  
Accountant.

APPENDIX XIX.

REPORT ON TECHNICAL EDUCATION, WITH ANNEXES.

CONSIDERABLE progress was made by the Technical Education Branch during the year, as will be seen by the following comparison of enrolments.—

	1897.	1898
Sydney Technical College	3,678	4,052
Suburban classes	726	686
Country classes	2,342	2,336
Classes connected with Public Schools	912	1,444
Totals	7,658	8,518

The number of individuals attending the Colleges and branch schools was 6,291, as against 5,848 for the previous year, being an increase of 443. The weekly average attendance throughout the year was 5,678. There were 2,956 examined, of which 2,246 passed, being an increase of 323 passes. The standard of work reached last year has been maintained, also the percentage of passes.

At the Technological Examinations of the City and Guilds of London Institute, held early in May last, 26 students of the various Technical Colleges were examined, of whom 22 passed.

There continues to be a large demand for technical instruction in new centres, and, where practicable, I have visited the localities to ascertain the needs of the districts.

The new College at Bathurst was officially opened by Hon. J. Garrard on 29th June. Manual training and woodworking classes were inaugurated with fair success. The classes at Broken Hill were reopened after a lapse of some years, and promise to be very successful; already the attendance exceeds the accommodation. A new school at Albury will be opened early next year; a resident master has already been appointed, and the necessary arrangements are being pushed forward.

TEACHING STAFF.

The teaching staff consists of 98 persons, distributed as follows:—

- 12 lecturers in charge of departments.
- 6 resident masters in charge of branch colleges and schools.
- 49 teachers.
- 13 assistant teachers.
- 18 teachers in charge of classes, and remunerated by the fees of pupils only,

Several important changes were made during the year. Mr. W. A. Dixon, the senior Lecturer, retired from his position as Lecturer in charge of the Chemistry Department. The Chemistry and Geology Departments were amalgamated and placed under the charge of the Rev. J. Milne Curran. Mr. J. M. Petrie was appointed Demonstrator in Chemistry, Mr. A. E. Perry, Laboratory Assistant,



Assistant, and Mr. Symmonds Acting-Demonstrator in Mining and Metallurgy. Mr. E. W. Warren, B.A., B.E., succeeded Mr. H. S. Barraclough, M.E., as Lecturer in Applied Physics. Mr. B. Hadley was placed upon the staff as Assistant to the Lecturer in Architecture and Assistant Teacher of Drawing. Mr. A. R. Coffey was added to the teaching staff of the Art Department. Mr. H. S. Gray and Miss Blakemore were engaged for extra lessons in the Plumbing and Art classes respectively. Mr. J. D. Fillans was employed to give instruction in Masonry and Stone and Marble Carving. In addition to this he took up Wood-carving, applications having been received for instruction in that subject. Mr. J. J. Kinross was appointed Assistant to the Lecturer in Agriculture. Mr. H. O. Jackson was succeeded by Mr. F. E. Stowe as Teacher of Quantity Surveying. In the country districts, Mr. Youll took charge of the Mine Surveying at Miami, Miss M. A. Newman Typewriting at Bathurst, and Mr. C. M. Goodyear Mathematics at Newcastle. Mr. Brackley's services were discontinued, and Mr. Yeates took up his duties.

Manual Training:—Nine workshops were in existence in 1898, which afforded instruction to the pupils of 27 schools. The total individual enrolment of these classes, including students in training, was 759. Of these 396 presented themselves for examination, and 324 passed.

#### *Agriculture.*

The enrolments for the classes in this Department were as follows:—Sydney Technical College 177, Hunter's Hill 20, and Granville 35, being an increase in each centre over the previous year. In addition to the class lectures, some forty outings for practical work were arranged, and on each occasion there was a large attendance. Good progress was made during the year, and the students evinced great interest in their work. Some special lessons were given to 29 students of the Fort-street Training College during the Second and Third Terms.

#### *Veterinary Science and Farriery.*

The progress made in these classes has been satisfactory. One student from the Veterinary class succeeded in passing the examination for Inspector of Stock. The students on the whole worked well, but found great difficulty in attending the classes regularly each week, and to devote sufficient time to their studies. The course appears too comprehensive for two years. A new syllabus has been arranged. Excellent work was done in the Farriery class.

#### *Botany.*

Some thirty students enrolled for this class, many of whom were head teachers from public and private schools. The study of this science is becoming popular and there are good prospects of a large advanced class next year. Botanical excursions were arranged during the session, and useful work was done. The attendance and attention throughout has been excellent.

#### *Sheep and Wool Department.*

During the first week of the Term the full complement of students enrolled, seventy-one being admitted. The syllabus was followed very closely, and fortnightly class examinations were held. Thirty one presented themselves for the Annual Examination and fifteen passed. All the students were engaged for the shearing season, and satisfactory reports were received from the station owners and managers who had employed them. Arrangements have been made with several large wool firms for the classing and sorting of all the wools purchased by them. This will prove a great advantage to the students. The night classes were not so well attended during the year. The students realise that artificial light is not good for the wool classing.

#### *Department of Chemistry and Geology.*

The Departments of Chemistry and Geology were amalgamated and placed under the charge of the Rev. J. Milne Curran. The year's work, whether judged by the class results or by the Examiner's report, has been the most successful since the establishment of the College.

The Geology classes reached the highest enrolment and secured the largest number of passes since its inception. In the Mineralogy class the students obtained the highest number of passes on record. During the year the Lecturer in Charge compiled a "Manual of Practical Chemistry" and published a text book on the "Geology of Sydney," primarily for the use of the students. In addition to these a text book for the Mineralogy class is now in press.

#### *Pharmacy.*

The total enrolments stand as follows:—Pharmacy 28, Pharmaceutical Chemistry 21, Dispensing 19, Materia Medica 15, Veterinary Pharmacy 8. In the majority of instances the students are from those employed during the day in chemist's shops or laboratories. Most of the wholesale drug houses in this city have sent several of their employees to the classes held, and nearly all the leading positions in Messrs. Elliott Bros' Laboratory are filled by students or ex-students of the College, as it has been found that the training imparted at the College has been the means of enabling them to employ only native-born labour instead of having to import trained labour from England or Germany as has frequently been the case in other colonies. The passing of the Pharmacy Act, and the decision of the Board of Pharmacy to only recognise the Sydney University as a recognised School of Pharmacy, will no doubt diminish the attendance at the Pharmacy lectures in future, and will at the same time prevent many lads from entering this profession in the future. The success which has hitherto attended the work of ex-students of these classes is a guarantee of the value of the instruction given.

### DEPARTMENT OF MECHANICAL ENGINEERING.

#### *Applied Mechanics.*

This class has maintained its numbers, although there was a slight falling off in the advanced section. Considerable difficulty is experienced with many of the younger students, as they do not see the necessity for a thorough course in this subject, and shun the mental effort involved. Very often they attend other classes in the engineering department before taking up applied mechanics. The theoretical portion of the instruction is apt to be sacrificed at the shrine of the practical.

#### *Mechanical Drawing.*

The accommodation was taxed throughout the year, although extra day classes were established, but the list of applicants for admission to these classes continued to be large; even with an increased teaching staff it was impossible to meet the demands. Larger rooms are urgently needed. The Examiner reported favourably on the work executed by the students, some of whom won special praise. Valuable prizes were offered by private firms for the best drawings on given subjects.

#### *Fitting and Turning.*

In spite of the increased teaching staff, some two hundred intending students are waiting admission to this class. The students have reached a high standard of efficiency. Engineering establishments are encouraging their employees to attend, and applications are constantly received for advanced pupils. Good work was done throughout the year, and the results of the examination were satisfactory.

#### *Blacksmithing.*

*Blacksmithing.*

Each Term the enrolments steadily increased, until the third, when an extra night was necessary. The work done by the students was not equal to that of the previous year.

*Boilermaking.*

Practical work is preferred by most of the students attending this class, notwithstanding that the theory is indispensable. Boilermakers, as a rule, are not well up in arithmetic; consequently they experience great difficulty in following mathematical solutions. The attendance was regular. Some of the students passed well, particularly in templating.

*Pattern-making.*

Excellent progress was made during the year, and the students showed a marked improvement. The number on the roll and the results of the examination were the best yet recorded. Unfortunately the limited shop room precludes a larger enrolment, which is to be regretted. Special visits were arranged for the pupils to engineering and other works on Saturday afternoons.

*Ironfounding.*

The largest enrolment was reached this year since the foundry work commenced. Several improvements were effected during the session, particularly in the lighting arrangements. Considerable work was done for the fitting and turning classes, as well as other departments of the College. The increase promises to continue next year.

*Slide-rule.*

Steady work was done all through the year, and the students did well at their examinations. The class is gradually growing, and many of the engineering and architectural pupils are recognising the value of the subject in their every-day work.

*Electrical Engineering.*

Both elementary and advanced sections were well attended. The lectures were illustrated, and the latest developments in the science were brought under notice. Laboratory work was continued, and as many students as possible were accommodated, but over 100 could not be admitted to the practical classes from lack of teachers. More appliances are needed. The students were well-conducted, and a good percentage passed at the recent examinations. Several were also successful at the City and Guilds of London Institute Examinations.

*Applied Physics.*

The course has been divided into five sections, which has proved a great advantage to the students, who take up such sections as are required in their particular courses of study. In the Mechanic's section the enrolment has been large; in consequence of the want of suitable apparatus the progress was somewhat limited. Students attending the Sound, Light and Heat course were able to reach greater proficiency, as the appliances for these subjects are better. The Laboratory classes were crowded, and it was found impossible to accommodate all intending students, even with the help of an assistant. These classes promise to assume large proportions in the future.

The lecturer complains of two great difficulties—the want of apparatus and the lack of mathematical knowledge on the part of the students.

*Mathematics.*

The total enrolment for the year shows a slight increase, viz., 117, as against 109 of last year. At the Algebra and Technical Arithmetic classes the attendance has shown a considerable improvement, but the Geometry and Trigonometry were poorly attended. Many of the students made satisfactory progress.

*Sanitation Department.*

The Sanitary Engineering classes are well attended, the influx of students from the Practical Plumbing classes being again noticeable. A special course of lectures was arranged for inspectors of nuisances, and the attendance was encouraging. During the year the Plumbing classes were crowded, notwithstanding that an additional teacher was appointed. The students attended regularly, and their examination work reached a high standard of efficiency. Outdoor practical lessons were arranged and visits were paid to the large city establishments, where profitable instruction was obtained. Special lectures were delivered at Newcastle and Maitland on public health in connection with the local Schools of Art. Several promising students have obtained appointments after competitive examination. The workshops are far too small, and the ventilation needs improving.

*Architecture Department.*

Classes in all divisions of this department have shown an improvement, and, compared with last year, the numbers are better. The appointment of Mr. Hadley as Assistant Teacher of Drawing has had a marked effect upon the classes, and excellent work has been turned out. The Trades Drawing class is growing more popular now its objects are being better understood. In the Carpentry classes the work did not reach the usual standard. A Wood-carving class was started during the year, and fair work was done. Candidates for examination in the Wood-working classes are few compared with the enrolments. Some, however, passed well. A great improvement was shown in the Quantity Surveying class, and the prospects for next year are encouraging.

*Art Department.*

Some 674 students enrolled, as against 636 in the previous year. All the classes were well attended. Black and White has been added to the list of subjects during the year. The course of instruction, as laid down in the calendar, was strictly carried out, with gratifying results. Particular mention should be made of the Geometrical and Perspective classes, as the number of honours gained at the last examination exceeded those of other years. A number of the advanced students availed themselves of the opportunity of receiving instruction at the National Art Gallery, and many excellent studies have been executed. The Plant Drawing and China Painting Classes were full, and a second division of the latter had to be arranged. In the modelling section the numbers kept up, and the standard of work was much higher than last year. Useful subjects were modelled by some of the advanced students, showing how their knowledge could be applied to the trades they were following. More accommodation is necessary to enable the work to develop.

*Industrial Art.*

Large numbers attended throughout the year, and satisfactory progress was made in each of the sections. The Signwriting class still retains its hold on the painters, nearly all the students being connected with the trade. The Decoration course attracts a number of journeymen, and useful work is being done. Two students were successful in passing the City and Guilds of London Institute examination. It has been found necessary to add to the Design course, and it now extends over three years. Creditable designs were executed by the students during the year.

*Department of Domestic Economy.*

During the year there was a marked increase in all the classes, and it was necessary to divide the classes and give two lessons instead of one during the day, so as to avoid overcrowding. A large number come from the country to receive instruction in plain cooking, and starching and ironing. The Domestic Economy class was reopened with a fair attendance. Many students distinguished themselves in this subject.

*Lithography*

*Lithography and Photo-Lithography.*

A demand at the beginning of the year for advanced work led to the formation of an advanced class, which was well attended. The installation of the electric light proved a boon, resulting in considerable improvement in the work. In the lithography division the aluminium process was introduced, and worked with success. Owing to the limited accommodation it is difficult to make the headway desired. The students did well at their examinations, and excellent specimens of class work were on view at the Annual Exhibition.

*Dressmaking and Millinery.*

The attendance was good throughout the year, and most of the students were able to complete the course prescribed in the calendar. The Millinery class was fairly well attended, and the pupils were able to turn out creditable work at the end of the year.

*Bookkeeping.*

Sixty-five students enrolled at the College, whilst 29 joined the class at Surry Hills. During the year, single and double entry were taught, and the usual class examinations held with good results. Many of the students were young tradesmen, who were anxious to understand bookkeeping, so as to keep their own books. One lesson per week in this subject is not sufficient to be satisfactory either to the teacher or the pupils.

*Physiology.*

Many of the pupils attending this class were teachers; consequently, the attendance and the attention were excellent. The complete course was covered, which was fully illustrated. At the Annual Examinations the students did well.

## ASHFIELD.

The attendance improved during the year, and good work was accomplished in the Art classes. One of the pupils succeeded in obtaining a first-class (A) in drawing at the Junior Examination. Most of the students are mechanics, and join the classes for special knowledge. The appliances and accommodation are sufficient for present requirements. In the Shorthand, Bookkeeping, and Penmanship classes the attendance was better than in the previous year, and a higher class of work was done.

## NEWTOWN.

During the First Term the Geometrical and Perspective Drawing classes were transferred to Sydney, and Mr. Nangle, the teacher, placed on the College staff. The Freehand and Model Drawing classes were continued upon the lines of instruction set down in the calendar. The returns show a slight falling off in the numbers enrolled, but as compensation there was a greater proportion of students who attended the courses of instruction for the whole year, and there was a better average attendance. In the Shorthand class the enrolments amounted to 89, and the total attendances to 969. Many of the pupils made rapid strides, and became proficient in the art.

## NORTH SYDNEY.

The Art classes were conducted as usual, and the students were orderly and industrious. The weekly and quarterly reports do not indicate the true amount of work, as the hours for class instruction are limited, but extra time was given during the day to meet the needs of the students. An increased number of students presented themselves for examination this year, with good results. The Shorthand classes were well attended, and satisfactory progress made.

## PETERSHAM.

Efficient work was done during the year, resulting in marked progress. The epidemic of measles prevalent in the district reduced the average attendance, but the high standard of work reached last year was maintained this year also. Most of the appliances are in good order, but up-to-date examples are needed for geometrical and mechanical drawing. There was a large enrolment in the Shorthand classes, but few students joined for bookkeeping and mathematics. Several local residents presented prizes.

## WAVERLEY.

Art classes were re-opened in April, and a good number enrolled during the year. Most of the students were beginners, but did fairly good work. The accommodation and appliances are satisfactory. There is every prospect of good classes being formed next year.

## ARMIDALE.

The progress made by the students was good, as was also the attendance; very many of the students enrolled for three lessons each week. Two students passed the Junior University Examination taking (A) and (B) respectively in drawing. Several prizes were won at the local shows. The day classes are well attended, and the improvement is expected to be maintained.

## BATHURST.

The present year has been, in some respect, exceptional in the history of the College, inasmuch as the work of the classes was transferred from the old rooms in Russell-street to the new buildings in William-street. The classes which were in operation last year have all been continued, and at the beginning of the year a class in Scientific Dresscutting was started, under Mrs. Cooper, formerly teacher of that subject at Newcastle. A class in Typewriting was commenced by Miss Newman. Mr. Felix Coles was transferred from the Technical College, West Maitland, to conduct classes in Carpentry and Manual Training. Mr. Coles personally directed the fitting up of the class rooms, and at the beginning of the third term the classes were begun. A large number of students joined immediately, so that four evenings and three afternoons have been devoted to Carpentry, Wood-carving, and Turning. In addition, four sets of students from the Bathurst Superior Public School, and set each from the Kelso and Milltown Public Schools have received instruction in Manual Training. The aggregate enrolment in all classes was 565, and the total number of individual students was 405. These numbers are a considerable increase on those of any previous year. All the teachers agree in speaking highly of the attention and general good behaviour of the students. A Students' Union was formed at the College during the Third Term. It has already 70 members, and some very successful meetings have been held. As a means of uniting students more closely with the College it is a valuable adjunct to class work. For several classes additional apparatus is urgently required. There appears to be every prospect that the College classes will be more largely attended in the future than they have been in the past.

## BROKEN HILL.

The new College was opened on the 8th August. Classes in Chemistry, practical and theoretical, Metallurgy, Assaying, Geology, and Mineralogy were formed, with a full complement of pupils, most of whom are young men resident in the district who have long felt the need of these classes. The intense heat reduced the attendance towards the close of the Third Term. A great variety of ores for the students to work upon have been supplied by the managers of the various mines, who take a lively interest in the College. Already the work is seriously handicapped through the limited accommodation.

GOULBURN.

## GOULBURN.

Some 326 individuals attended the classes during the past year. Eighteen distinct subjects were taught. The Science, Commercial, and Wood-working classes were popular, and good work was done. The exhibits from the Carving class sent to the Sydney Exhibition were really first-class. Several teachers from both Public and Private Schools attend. Several mining men have enrolled to obtain a practical knowledge of testing minerals. Carpenters and joiners attend, seeking to obtain further skill at their trades. The result of the year's work compares very favourably with that of previous years. Mr. Wilkie's classes continue to be popular, and excellent work is turned out in all the sections under his charge.

## GRANVILLE.

Last year there was an individual enrolment of 155, being an increase of 30 over the previous year. Classes in Freehand Drawing were formed, Mr. Coffee being appointed teacher, who also took over the Model Drawing class. This arrangement enabled the resident master to devote another night to Applied Mechanics. The art classes promise to become an important section. A number of outings were arranged for the engineering students on Saturdays and holidays to engineering and other works, the attendance being exceptionally large. The Annual Industrial Exhibition was a marked success. Satisfactory work was done in the Shorthand classes, 50 being enrolled.

## LITHGOW.

Shorthand Classes have now been in existence for two years. The aggregate number for the year was rather less than that for the previous year. The pupils were regular, and the individual progress was satisfactory.

## MAITLAND.

The total number of classes in operation in the district was 55, with an individual enrolment of 521 for the year. The Art classes were well attended throughout the district, and the standard of proficiency was quite equal to that of previous years. A marked improvement in the attendance in the Wood-working classes was visible, and as new buildings are being erected in connection with the dairying industry, it is expected that the numbers will keep up. Good work was done in the Dress-making classes, but the Hanbury System should now be dispensed with, as a newer and improved system is in the market. There is every prospect of the healthy condition of all classes being maintained during the ensuing year. A more suitable building for a College is needed, as the existing class-rooms are by no means satisfactory, and do not meet the requirements of the district.

## NEWCASTLE.

Compared with last year the individual enrolment is better by about 18 per cent.; the increase was common to most of the classes, but the Science, Art, Mechanical Drawing, Mining, and Plumbing classes were particularly benefited. During the year seven students from the College sat for the City and Guilds of London Institute Technological Examination, and all passed. Fourteen students from the Coal-mining classes succeeded in obtaining Mining Managers' Certificates under the Coal-mines Regulation Act. These successes have increased the popularity of the classes concerned. Science lectures were inaugurated for the pupils of the Public Schools; and one hundred attended each week. The Metallurgy and Mathematical classes did not receive the support anticipated. Applications for additional classes have been received. The apparatus and appliances are not at all equal to the requirements, though some important additions have been made during the year. The Chemical laboratory needs reconstructing, as it is badly ventilated and unsuitable. A room for a library is needed. The results for the year were very satisfactory.

## TECHNOLOGICAL MUSEUM.

THIS Museum still continues to act as an important agent in the educational system of this Colony, and by aiding the advancement of scientific knowledge in the field of the economics of nature, it is becoming an important factor in the commercial world of Colonial life.

What a Museum of this kind really depends upon for its success and usefulness is not so much its building, nor its cases, and not even its specimens, but its staff; and in respect to the latter I can speak in the highest terms, for it has worked with the greatest enthusiasm in order to maintain the Institution in a high state of efficiency in every branch.

The attendant staff has taken particular pride in keeping the Museum scrupulously clean, a feature that receives much favourable commendation from visitors.

The clerical staff has, by working late hours, ably assisted in the furthering the best interests of the Museum.

The personnel of the scientific staff has undergone some changes. Mr. A. E. Finckh, who was in charge of the animal products, resigned his position on the 31st May, in order to take charge of the Royal Society's coral-boring expedition to Funafuti.

Mr. S. J. Johnston, B.A., was appointed to the vacant position of Economic Zoologist on 1st September. He has given able assistance in carrying out the new scientific arrangements of the animal products, inaugurated last year.

The Teacher of Botany to the College (Miss S. Hynes, B.A.) was placed on the permanent staff on 10th September as Botanical Assistant, and has already rendered much assistance in this direction.

The amount of original scientific work performed was of high quality, and considerable progress has been made towards the completion of eucalyptus oil investigations.

The work emanating from this Museum has on numerous occasions been favourably reviewed by the leading scientific publications of Europe and America.

*Original Work completed during the Year.*

By R. T. Baker, F.L.S. (Curator).

- On the Pine Trees of New South Wales; Australian Association for the Advancement of Science, Sydney.—This paper, although read before the A.A.A.S., was not handed in for publication, as it is intended to very much amplify it and publish it in a book form as a Museum publication. It embraces all the species of the genus *Callitris*, giving their distribution and economics, such as camphors, oils, sandarachs, &c.
- On two well-known but hitherto undescribed species of *Eucalyptus*; Proc. Linn. Soc. N.S.W., Vol. XII, June, 1898.—By the identification of these species a very fine eucalyptus oil was shown to be present in the species, which has a wide distribution.
- On two new species of *Eucalyptus*; Proc. Linn. Soc. N.S.W., Vol. XII, September, 1898.—These two species are remarkable for producing an oil almost entirely consisting of oil of turpentine, and reference has already been made to the discovery by the *Chemist and Druggist* (Lon.), 3rd December, 1898. The timber of one species is very hard and durable, and suitable for wood-blocking, &c.
- On a new genus of the Natural Order, Myrtaceæ; Proc. Linn. Soc. N.S.W., Vol. XII, November, 1898.—This is an exceedingly pretty shrub and worthy of cultivation.

By

By Henry G. Smith, F.C.S.

On the Myrticolorin, the yellow dye material of Eucalyptus leaves; Trans. Chem. Soc. London, 1898, page 697.—This completes the chemistry of this dye material, and proves it to be a new substance, the formula being  $C_{27}H_{28}O_{16}$ .

On the Pinenes of the Oils of the genus Eucalyptus, Part I; Proc. Roy. Soc. N.S.W., Oct., 1898.—This research proves the identity of these pinenes with those of oil of turpentine, and shows that both levorotatory and dextrorotatory pinenes exist in Eucalyptus leaves; the one having left rotation is new, and has been named "Eudesmene."

Joint Paper by R. T. Baker and H. G. Smith.

On the Stringybark Trees of N.S.W., especially in regard to their Essential Oils; Proc. Roy. Soc. N.S.W., Vol. XXXII, July, 1898.—The importance of this paper to pharmacy has been favourably commented upon by the *Chemist and Druggist* (London), Sept. 24, and the *Pharmaceutical Journal* (London), Dec. 17, 1898.

In the Zoological side of the Museum the lower invertebrates exhibited have been arranged in systematic order, and the corals and sponges have been named.

A collection of Australian and Polynesian shells, comprising over 1,000 species, has been made for the Country Museums, and arranged according to the classification adopted by Cooke in the Cambridge Natural History. Many specimens of General Zoology have also been classified for the country branches.

Public School teachers in particular, and the public generally, have sent in many specimens of reptiles, fish, insects, &c., asking for identification and information respecting them.

The collections of edible fishes and economic insects have each been advanced a further stage, and are in a very satisfactory condition.

Articles, descriptive and explanatory of various exhibits in general economic zoology, have been compiled and written in order that they may be printed and hung up in the Museum.

The Zoological Library has been catalogued.

In the wool section there were 460 fleeces and samples received, and most of them were reported upon. Many samples were obtained from the best bred and most fashionable prize winners of the year, and now the Department possesses one of the most valuable wool collections in the world, which is considered historical by woolgrowers of Australasia, and is used extensively as a wool reference.

The woolgrowers, and especially stud sheep-breeders, are taking much more interest in this section than formerly, and numerous inquiries for information are made.

The Murrumbidgee Pastoral Association forwarded their Eighth Wool-scouring test for treatment, report, valuation, &c. This is a great compliment to the Department, as this test is the leading one of the world.

The new fleece cases, made by the Museum carpenters, are a decided success, making the different courts in which they are placed, together with additional wall cases, appear furnished, and the show is now more in accordance with other departments.

The members of various branches of the wool trade have asked to have prepared a collection, containing all the different spinning qualities or counts into which wool can be made, and good progress has already been made in getting this collection together.

The entire wool collection has been rearranged and placed in rotation according to districts.

The greatest improvement made in this section is the enlarging of the English Wool and Manufacturing Court, through the removal of one of the walls. This court now presents one of the finest pictures in the Museum, and visitors upon gaining the floor at once find a view equal to many in the larger exhibitions.

This alteration is a great success, giving a good light where it was most needed.

The removal of certain walls has been carried out on each floor, and is a very great improvement, especially so on the ground-floor, where previously the entrance to the Museum was dingy and depressing.

The improved light, and the increased range of vision, constitute a great improvement.

The large collection of essential oils and camphors, discovered by the staff during the last two years, are now exhibited, and fill a very large show-case, measuring 8 feet by 7 feet by 3 feet.

This collection is of the greatest economic value to science and the Colony, and advances considerably our knowledge of the Colony's indigenous vegetation.

Among the numerous exhibits placed on view during the year may be mentioned a fine collection of polished marbles from Bathurst, Orange, Molong, &c.

The collection of coal tar products and dyes is now fairly complete. A large collection of bronzes (leaf and powder) used in the decorative arts, has been added, also a very fine collection of lakes and other pigments used in decorating, printing, lithography, &c.

We have received by donations, loans, and exchanges, over 1,000 specimens, without reckoning those acquired by the country Museums.

Amongst some exhibits received from the Technical College is a very fine allegorical group in plaster of Paris, modelled by Miss D. Coghlan, a student of the modelling class for 1879.

In the engineering section a fine collection of wheels, domes for boiler, and other articles formed by hydraulic pressure, manufactured by Fried Krupp, Essen, was presented by Messrs. Noyes Brothers, the Firm's representatives in this Colony.

Amongst the exchanges, we have received a representative collection of West Australian Timbers, from the Conservator of Forests, Western Australia.

A series of Para Rubber, from J. C. Willis, Director, Royal Botanic Gardens, Peradenya, Ceylon.

Alderman John Mills, of Ashfield, donated very fine specimens of Cotton, *Gossypium vitifolium*, grown at Ashfield.

A very interesting collection of Casts of Fishes, which were cast from life by Mr. A. Murray, and coloured from life by Mr. C. Toms, at the Technical College, attract great attention from the visitors.

Duplicate Botanical Specimens, received from our Botanical Collector, have been sent to the Botanic Gardens, Sydney—in all, 173 distinct species. In return, we have received some valuable Timber Specimens; also, several additions to the Herbarium.

Attendance of visitors to the Sydney Museum was 106,179, as compared with 100,680 of the previous year, and the Country Museums as under:—

Newcastle .....	45,942
Bathurst .....	32,597
West Maitland .....	23,263
Goulburn .....	22,497
Albury .....	8,314

R. N. MORRIS.

ANNEX





## APPENDIX XX.

## PUBLIC SCHOOL SITES OBTAINED IN 1898.

Number of sites granted by the Government .....	49
"    " resumed, under Act 51 Vic. No. 37.....	17
"    " purchased .....	5
"    " conveyed as gift .....	1
Total number of sites secured during the year, as per following lists ...	72

## 1898.—School Sites granted by the Government.

Acacia Creek Bridge	Bribaree	Ganoo	Reedy Creek
Albertia	Brungle Upper	Half-moon Reach, Upper	Robertson
Back Yamma	Bulgundra	Hillgrove	Runnymede
Baerami	Burke Ward(Broken Hill)	Hyandra	Southgate, Lower
Bargong	Cocoooonah	Junction, The	Thalgarrah
Beardy	Currockbilly	Lockhart	Thompson's Creek
Beargamil	Dena River	Mair Jimmy	Uradux
Bilambil	Dorrigo	Mangain	Valla
Bimbimbe	Farnham	Molroy	Warraderry
Blaxland	Flixton	Oxford	Wowingragong
Bogan Gate	Gilmandyke	Pera	
Bombala	Girilambone	Platina	
Bredbo	Gosper's Downs	Putty	

## 1898.—School Sites resumed under the "Public Works Act of 1888."

Place.	Amount already paid.			Estimated amount still due.			
	£	s.	d.	£	s.	d.	
Alexandria.....				798	0	0	
Brookongia .....			*Nil.				
Collengullie, South.....			†Nil.				
Combo .....				10	0	0	
Cranbury (access) .....				8	0	0	
Crow Mountain .....				9	15	6	
Killabakh .....	6	3	2				
Lakelands .....	39	8	0				
Leichhardt, West.....				390	0	0	
Lintondale.....			‡Nil.				
Milbrulong .....			§Nil.				
Mount David .....			Nil.				
Tooyal .....	6	3	2				
Tunstal .....				7	0	0	
Wellington Vale .....				5	0	0	
Wilga .....				2	0	0	
Yarrahappini.....				12	0	0	
Grand totals .....	£	51	14	4	1,241	15	6

\* A gift from T. D. Jowett. † Another site leased in lieu of this. ‡ A gift from A. Bushell. § A gift from J. G. Terlich. || A gift from Mount David Gold-mining Company.

## 1898.—School Sites purchased.

Place.	Amount Paid.		
	£	s.	d.
Culcairn (additional) .....	45	0	0
M'Grath's Hill .....	70	0	0
Marshwood.....	20	0	0
Minto East.....	30	2	0
Petersham (additional).....	150	0	0
Total .....	315	2	0

## 1898.—School Site conveyed by way of gift.

Place.	Donor.
Far Meadow .....	Dr. John Hay.

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## APPENDIX XXI.

RECEIPTS AND DISBURSEMENTS of the Department of Public Instruction, from 1st January to 31st December, 1898.

RECEIPTS.		DISBURSEMENTS.		
	£ s. d.		£ s. d.	£ s. d.
To Balance from 1897 .....	9,115 16 6	By Salaries .....	15,641 13 6	
„ Balance of petty cash in hand .....	1 19 2	„ Repairs and furniture .....	243 15 9	
„ Amount received from Treasury on account of Vote for 1897-8 .....	303,912 0 0	„ Books, printing, and stationery .....	324 1 5	
„ Amount received from Treasury on account of Vote for 1898-9 .....	339,000 0 0	„ Miscellaneous expenses— Fuel and light .....	£ s. d. 113 6 9	
„ Amount received from Treasury on account of 1896 Loan Vote (Buildings) .....	4,000 0 0	Travelling expenses, freight, cartage, and cab hire .....	101 16 8	
„ Amount received from Treasury from Public Schools' Buildings Account .....	91,500 0 0	Sundry small expenses .....	20 17 3	230 0 8
				16,445 11 4
		„ Clerks of Works' travelling expenses .....		1,413 11 4
		„ Rent of all offices .....		556 19 11
		CHIEF INSPECTOR'S BRANCH.		
		„ Salaries and allowances .....	17,402 8 10	
		„ Rent, repairs, and furniture .....	61 11 3	
		„ Fuel and light .....	38 18 10	
		„ Books, printing, and stationery .....	235 6 9	
		„ Travelling expenses .....	5,035 11 3	
		„ Cleaning allowance .....	10 12 0	22,784 8 11
		TRAINING SCHOOL, FORT STREET.		
		„ Salaries and allowances .....	1,607 10 0	
		„ Repairs and furniture .....	20 1 7	
		„ Books, printing, and stationery .....	62 3 10	
		„ Fuel and light .....	20 9 7	
		„ Water and sewerage rates .....	2 12 6	1,712 17 6
		TRAINING SCHOOL, HURLSTONE.		
		„ Salaries and allowances, &c. ....	1,305 1 11	
		„ Repairs and furniture, &c. ....	71 3 6	
		„ Books, printing, and stationery .....	63 5 1	
		„ House expenses .....	527 19 7	
		„ Travelling expenses .....	78 2 5	
		„ Medical fees .....	3 3 0	
		„ Water and sewerage rates and cleaning closets .....	35 8 3	2,084 3 9
		HIGH SCHOOLS.		
		„ Salaries .....	5,539 19 2	
		„ Rent, repairs, and furniture .....	430 5 10	
		„ Books, printing, and stationery .....	41 6 3	
		„ Cleaning allowance, £32 10s. 5d. ; and fuel, £8 8s. 9d. ....	40 19 2	
		„ Examination fees .....	49 12 0	
		„ Water and sewerage rates and cleaning closets .....	98 6 8	6,200 9 1
		PUBLIC SCHOOLS.		
		„ Salaries and allowances (including rent of residences) .....	458,012 11 1	
		„ Buildings, repairs, rent, furniture, and sites .....	91,477 2 3	
		„ Cleaning allowance .....	7,114 16 6	
		„ Fuel .....	1,279 17 4	
		„ Books, printing, and stationery .....	14,532 11 6	
		„ Water and sewerage rates and cleaning closets .....	5,205 1 8	
		„ Travelling expenses .....	2,471 1 2	
		„ Law costs and stamp duty .....	138 10 11	
		„ Medical fees, &c. ....	83 14 6	
		„ Lectures, cookery instruction (miscellaneous) .....	1,208 6 9	
		„ Sundry small expenses .....	147 13 1	614,676 6 0
		PROVISIONAL SCHOOLS.		
		„ Salaries and allowances .....	22,956 3 6	
		„ Buildings, repairs, rent, and furniture .....	3,745 3 1	
		„ Fuel .....	81 15 0	
		„ Books, printing, and stationery .....	1,032 15 10	
		„ Travelling expenses .....	877 15 11	28,193 13 4
		HALF-TIME SCHOOLS.		
		„ Salaries and allowances (including rent of residences) .....	23,837 1 3	
		„ Buildings, repairs, furniture, and water, &c. ....	1,038 7 2	
		„ Fuel .....	95 11 6	
		„ Books, printing, and stationery .....	956 1 0	
		„ Travelling expenses .....	118 15 7	
		„ Forage allowance .....	1,518 9 4	27,614 5 10
		HOUSE TO HOUSE TEACHING.		
		„ Salaries and allowances .....	2,867 12 3	
		„ Repairs and furniture, &c. ....	9 19 6	
		„ Books, printing, and stationery .....	105 15 6	
		„ Travelling expenses .....	14 19 7	
		„ Forage allowance .....	230 11 0	
		„ Fuel .....	5 5 0	3,264 2 10
		EVENING SCHOOLS.		
		„ Salaries and allowances .....	564 0 6	
		„ Advertising, books, printing, stationery, &c. ....	10 0 7	574 1 1
		„ State scholarships, &c. ....		3,064 11 6
		„ Balance of petty cash in hand .....	2 4 5	728,585 3 2
		„ Cr. Balance in City Bank of Sydney .....	18,942 8 1	18,944 12 6
	£ 747,529 15 8		£	747,529 15 8

Account Branch, Department of Public Instruction,  
Sydney, 1st March, 1899.A. E. BASSAN,  
Accountant.

## APPENDIX XXII.

STATEMENT showing the Payments made by the Treasury on Account of Services rendered to the Department of Public Instruction, from 1st January to 31st December, 1898.

	£	s.	d.		£	s.	d.
To Amount from Vote of £630,282, being part of £656,694, Item No. 243, of Appropriation Act of 1897-8 .....	685	0	0	By Salaries .....	1,336	17	1
To Amount from Vote of £659,482, being part of £686,624, Item No. 258, of Appropriation Act of 1898-9 .....	651	17	1				
	£1,336 17 1				£1,336 17 1		

Account Branch, Department of Public Instruction,  
1st March, 1899.

A. E. BASSAN,  
Accountant.

1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

UNIVERSITY OF SYDNEY.  
(REPORT FOR 1898.)

*Printed under No. 3 Report from Printing Committee, 22 August, 1899.*

REPORT of the Senate of the University of Sydney for the year ended  
31st December, 1898.

1. The Senate of the University of Sydney, in pursuance of the provisions of section 22 of the Act of Incorporation, 14 Victoria No. 31, has the honor to transmit the account of its proceedings during the year 1898, for the information of His Excellency the Governor and the Executive Council.

*Matriculation.*

2. The number of persons who qualified themselves for Matriculation in 1898 by passing one of the various University Examinations was 228. Of these, 75 passed the ordinary Matriculation Examination, 83 the Junior Public Examination, 15 the Law Matriculation Examination, 47 the Senior Public Examination, and 8 the Entrance Examination for Law, Medicine, and Science. The number of students actually admitted to Matriculation, with a view to proceeding with the curriculum in one of the various Faculties, was 106.

*Annual University Examinations.*

3. The numbers of students who attended and passed the annual examinations in December, 1897, and March, 1898, after attending the prescribed courses of lectures, are shown in the following table:—

Faculty of Arts.			Candidates.	Passed.
First-year examination	...	...	71	57
Second-year examination	...	...	45	37
Third-year examination	...	...	47	42

In addition to the students passing through the regular curriculum, 17 evening students and students of special subjects passed examinations in individual subjects.

Faculty of Law.			Candidates.	Passed.
Intermediate examination	...	...	14	12
Final examination...	...	...	10	7

Faculty of Medicine.			Candidates.	Passed.
First-year examination	...	...	25	19
Second-year examination	...	...	38	25
Third-year examination	...	...	23	16
Fourth-year examination	...	...	29	21
Fifth-year examination	...	...	23	22

Faculty of Science.			Candidates.	Passed.
First-year examination	...	...	1	1
Second-year examination	...	...	2	1
Third-year examination	...	...	3	3

Faculty of Science.—Department of Engineering.			Candidates.	Passed.
First-year examination	...	...	9	7
Second-year examination	{ Civil	...	4	2
	{ Mining	...	5	3
Third-year examination	{ Civil	...	1	1
	{ Mining	...	4	4

In the Faculty of Science, three Students of special subjects passed in the final examinations in their subjects.

*Attendance at Lectures.*

4. The following table shows the number of Students attending lectures in the several Faculties:—

Faculty of Arts (day), 169 ; (evening), 40	...	...	209
Faculty of Law	...	...	34
Faculty of Medicine	...	...	154
Faculty of Science	...	...	27
„ Department of Engineering	...	...	41
Total	...	...	465

Included are 51 women who attended in the Faculty of Arts, 1 in Law, 10 in Medicine, 2 in Science; total, 64. The above also includes 31 unmatriculated students.

*Degrees conferred.*

## 5. The following degrees were conferred after examination:—

- Master of Arts (M.A.):—Enoch William Cadman, B.A.; Lizzie Cocks, B.A.; Edith Lucy Doust, B.A.; Edward Samuel Edwards, B.A.
- Bachelor of Arts (B.A.):—Catherine Anderson, Hugh de Barri Barry, Gertrude Lillian Bavin, Annie Holloway Beaumont, George Edward Brown, Lizzie Sherwood Brown, Louisa Cole, Sydney Leicester Cook, Grace Marion Cordingley, Ethel Naida de Lissa, Charlotte J. Dey, Frank Vincent Dowling, Nona Dumolo, Mary Clifton Dunnicliff, Edward Evan Edwards, David Pentland Evans-Jones, Isabel Margaret Fidler, Maude Yeomans Fitzhardinge, Walter George Forsyth, Emily Isabel Gordon, William Hilder Gregson, Frederick Guy Griffiths, Marian Harris, Marian Fleming Harwood, Ernest Charles Heden, Alice Ellen Hipsley, Andrew Holliday, Wilfrid John Holt, Stephen James Houison, William Charles Huggart, Thomas Brown Hunter, Bennie Jarvie, Elisabeth Ada Lance, Rebecca Mary McGlynn, Alexander Duncan McLaren, Ethel Robertson Mitchell, Norman George Stafford Pilcher, Cuthbert Potts, Philip Francis Purcell, Florence Annie Rossiter, Edmund Haighton Stoney, Ernest William Warren, Alfred James Williams, Ainslie Arthur Yeates.
- Bachelor of Laws (LL.B.):—Peter Joseph Clines, B.A.; James Cook Elphinstone, B.A.; John Harold Hammond, B.A.; Hugh Hamilton Mitchell Merewether, B.A.; William David Mitchell Merewether, B.A.; William Arthur Parker, B.A.; John Beverley Peden, B.A.
- Bachelor of Medicine (M.B.):—Ada Affleck, Harriett Eliza Biffin, Gustav Hall Böhrsmann, Cedric V. Bowker, Julia Carlile-Thomas, Percy Glover Cooley, Hubert Roger Cope, Robert Dey, Lawrence Edward Ellis, Edwin Cuthbert Hall, Norman William Kater, Thomas Walter Lipscomb, John MacPherson, M.A., B.Sc.; Alice Sarah Newton, John James O'Keefe, Robert Henry Pulleine, William Henry Read, Herbert Sheldon, Harold Skipton Stacy, William Woodburn Stevens, Herbert Zouch Throsby, William Bain Walton.
- Master of Surgery (Ch.M.):—Ada Affleck, Harriett Eliza Biffin, Gustav Hall Böhrsmann, Julia Carlisle, — Thomas, William Aloysius Conlon, Percy Glover Cooley, Robert Dey, Lawrence Edward Ellis, Edwin Cuthbert Hall, Norman William Kater, Thomas Walter Lipscomb, John MacPherson, M.A., B.Sc., Alice Sarah Newton, William Henry Read, Herbert Sheldon, Harold Skipton Stacy, William Bain Walton.
- Bachelor of Science (B.Sc.):—Sarah Octavia Brennan, M.A., Walter Fitzmaurice Burfitt, B.A., Agnes Marianne Davis, B.A., Walter George Woolnough.
- Bachelor of Engineering (B.E.)—Civil Engineering:—Robert James Boyd. Mining Engineering:—Reginald Austin William Black, B.A., Thomas Henry Palmer, Francis Llewellyn Piddington, B.A., Norman Reid.

6. The total number of degrees conferred during the year was thus 103, divided as follows:—M.A. 4; B.A., 44; LL.B., 7; M.B., 22; Ch.M., 17; B.Sc., 4; B.E., 5.

7. The degrees conferred by the University from its foundation to the end of 1898 are:—M.A., 263; B.A., 942; LL.D., 23; LL.B., 71; M.D., 38; M.B., 141; Ch.M., 100; B.Sc., 30; M.E., 3; B.E., 52; Total, 1,663.

*Honours at Degree Examinations.*

## 8. The following Honours were awarded at Degree Examinations:—

*Faculty of Arts—M.A. Examination.*

Modern History and English Literature—Class II:—Edith Lucy Doust, B.A.  
Modern History—Class II:—Stephen Drummond Chalmers, B.A., Edward Samuel Edwards, B.A.

*B.A. Examination.*

Latin—Class I:—Isabel M. Fidler; D. P. Evans-Jones (University Medal for Classics). Class III:—Mary C. Dunnicliff.  
Greek—Class I:—D. P. Evans-Jones (University Medal for Classics).  
French—Class I:—Isabel M. Fidler. Class II:—Ethel N. De Lissa and Marian F. Harwood, æq; Charlotte J. Dey; B. Jarvie. Class III:—Ethel R. Mitchell.  
English—Class I:—Isabel M. Fidler. Class II:—B. Jarvie.  
German—Class II:—Marian F. Harwood; Ethel N. De Lissa.  
History—Class I:—Elisabeth A. Lance and N. G. S. Pilcher, æq. Class II:—Emily I. Gordon. Class III:—Florence A. Rossiter.  
Mathematics—Class II:—F. G. Griffiths. Class III:—B. Jarvie.  
Logic and Mental Philosophy—Class I:—N. G. S. Pilcher (University Medal); Ethel N. De Lissa. Class II:—Gertrude L. Bavin, Nona Dumolo. Class III:—E. E. Edwards.  
Geology, &c.—Class II:—E. C. Heden, C. Potts.

*Faculty of Law.*

Class I:—J. B. Peden, B.A. (University Medal). Class II:—P. J. Clines, B.A., J. H. Hammond, B.A., W. A. Parker, B.A.

*Faculty of Medicine.*

Class I:—J. MacPherson, M.A., B.Sc. (University Medal). Class II:—E. C. Hall, N. W. Kater, H. Z. Throsby, L. E. Ellis.

*Faculty of Science.*

Biology (Vertebrate Zoology)—Class II:—Agnes M. H. Davis, B.A.  
Geology—Class I:—W. G. Woolnough,\* W. Poole.

*Department of Engineering.*

Civil Engineering and Surveying—Class II:—R. J. Boyd.

*Scholarships.*

\* Unmatriculated.

*Scholarships.*

9. The following Scholarships were awarded :—

(a) At the Matriculation Examination.

Aitken Scholarship for General Proficiency :—F. A. Todd.

Cooper Scholarship No. II for Classics :—P. H. Power ; G. N. Woodd and F. A. Todd, *prox. acc.*

Barker Scholarship No. II, and Horner Exhibition for Mathematics :—H. S. Mort.

Lithgow Scholarship for French and German :—Ina B. H. Armstrong.

(b) At the First Year Examination in Arts.

Cooper Scholarship No. III, for Classics :—R. N. Robson.

George Allen Scholarship for Mathematics :—W. S. Boyd.

(c) At the Second Year Examination in Arts.

Cooper Scholarship No. I, for Classics :—Gained by R. C. Teece, who was unable to retain it, being already the holder of two Scholarships. Not awarded.

Barker Scholarship, No. I, and Norbert Quirk Prize for Mathematics :—D. T. Sawkins.

(d) At the B.A. Examination.

Frazier Scholarship for History :—Elisabeth A. Lance, N. G. S. Pilcher, *æq.*

(e) At the Intermediate LL.B. Examination.

G. Wigram Allen Scholarship for General Proficiency :—H. S. Dettmann, B.A.

(f) At the First Year Examination in Medicine.

Renwick Scholarship for General Proficiency :—A. Muscio.

(g) At the Third Year Examination in Medicine.

John Harris Scholarship for Anatomy and Physiology :—W. F. Burfitt, B.A.

(h) At the Second Year Examination in Science.

Caird Scholarship for Chemistry and Physics :—G. Harker.

(i) At the First Year Examination in Engineering.

Levey Scholarship for Chemistry and Physics :—J. P. V. Madsen.

(j) At the Second Year Examination in Engineering.

Deas-Thomson Scholarship for Physics :—J. J. E. Durack.

*Prize Compositions.*

10. The awards made for Prize Compositions were :—

Wentworth Medals for English Essays—Subject: "The Origins of Mythology." Prize for Graduates—H. S. Dettmann, B.A. ; Prize for Undergraduates—G. G. Nicholson.

*First Classes at Annual Examinations.*

11. The following students were placed in the first class in Honours at the annual examinations, other than the final examinations for degrees :—

*Faculty of Arts.*

First Year Examination :—Latin—R. N. Robson, I. Mutton. Greek—R. N. Robson. Junior French—N. J. Gough,\* Margaret A. Bailey, Mary H. Uther, Caroline M. Scrutton, Catherine I. Fell. Junior German—Florence M. Rutherford, Margaret A. Bailey. Mathematics—W. S. Boyd, W. R. Horn (Engineering), H. M. Stephen.

Second Year Examination :—Latin—R. C. Teece. Greek—R. C. Teece. Senior French—G. G. Nicholson. Senior German—G. G. Nicholson. Mathematics—D. T. Sawkins. History—R. C. Teece, Elizabeth J. Read. Logic and Mental Philosophy—G. G. Nicholson.

*Faculty of Medicine.*

First Year Examination :—Biology—Eleanor E. Bourne, A. Muscio, D. Wallace, B.A. Chemistry—A. Muscio. Physics—A. Muscio, D. Wallace, B.A.

Second Year Examination :—Anatomy and Physiology—Passed with distinction, A. H. Macintosh. Organic Chemistry—A. H. Macintosh, Mabel J. Graham, J. E. V. Farling.

Third Year Examination :—Passed with distinction—W. F. Burfitt, B.A.

*Faculty of Science.*

Second Year Examination :—Chemistry—G. Harker.

*Department of Engineering.*

First Year Examination :—Applied Mechanics, Geometrical and Mechanical Drawing—L. J. Winton, J. P. V. Madsen. Physics—J. P. V. Madsen.

Second Year Examination :—Physics—J. J. E. Durack. Geology—G. A. Waterhouse, J. F. Morris.

*Annual Prizes.*

12. Annual Prizes were awarded as follows :—

University Prize for Physiography—Florence M. Rutherford, *prox. acc.*, I. Mutton. Professor MacCallum's Prizes for English Essays—First Year, N. J. Gough ; Second Year, Elizabeth J. Read and E. J. Withycombe, *æq.* ; Third Year (English), Isabel M. Fidler. Professor Anderson's Prizes for Logic and Mental Philosophy—Second Year, G. G. Nicholson ; Third Year, N. G. S. Pilcher. Professor Woods' Prize for History—Second Year, R. C. Teece, *prox. acc.*, Elizabeth J. Read. Professor Haswell's Prize for Zoology (Class Examination)—Eleanor E. Bourne and A. Muscio, *æq.* Professor Haswell's Prize for Zoology (Laboratory Notes)—A. Muscio. Dr. Dixon's Prize for *Materia Medica* and Therapeutics—G. McLean, *prox. acc.*, W. F. Burfitt, B.A. Smith Prize for Physics—L. K. Ward. Slade Prize for Practical Chemistry—L. J. Winton. Slade Prize for Practical Physics—J. P. V. Madsen. Professor David's Prizes for Geology—Second Year, G. A. Waterhouse ; Third Year, W. G. Woolnough. Collie Prize for Botany—Eleanor E. Bourne. Professor Liversidge's Prize for Chemistry amongst Evening students—C. Quaife.

*Bursaries.*

\* Evening student.



*Bursaries.*

13. The following bursaries were awarded, each consisting of a payment to the student of £50 per annum, or in the case of a half-bursary £25 per annum, for three years, together with exemption from the payment of lecture fees in the Faculty of Arts or that of pure Science:—

Burdekin Bursary.	Walker Bursary No. 2 (one half).
Hunter-Baillie Bursary No. 1	Walker Bursary No. 5 (one half).
Hunter-Baillie Bursary No. 2 (one half).	Watt Exhibitions (two).
Maurice Alexander Bursary.	

14. The number of students permitted to attend lectures without paying fees was 55, including 43 State bursars and holders of the University bursaries. The payments to bursars amounted to £778 15s. and to scholars £993.

Three students of State Training Schools attended at a reduced scale of fees.

*Public Examinations.*

15. The Junior Public Examination was held in June, in Sydney and at the following local centres:—  
*New South Wales.*—Albury, Araluen, Armidale, Ballina, Bathurst, Bega, Blackheath, Bombala, Bourke, Bowral, Braidwood, Broken Hill, Bungendore, Burrowa, Camden, Carcoar, Condobolin, Cootamundra, Cowra, Deniliquin, Goulburn, Grafton, Gundagai, Hay, Hillgrove, Hornsby Junction, West Kempsey, Lismore, Lithgow, West Maitland, Mount Victoria, Mudgee, Newcastle, Orange, Parkes, Parramatta, Queanbeyan, Richmond, Rylstone, Singleton, Tamworth, Taree, Temora, Wagga Wagga, Wellington, Wingham, Wollongong, Young.

*Queensland.*—Bowen, Brisbane, Bundaberg, Charters Towers, Ipswich, Mackay, Maryborough, Rockhampton, Southport, Toowoomba, Townsville, Warwick.

There were 1,079 candidates, and 698 passed.

16. The Senior Public Examination was held in November, concurrently with an examination for Matriculation Honours and Scholarships, in Sydney, and at the following local centres:—

*New South Wales.*—Bathurst, West Maitland, Wagga Wagga.  
*Queensland.*—Brisbane, Ipswich, Rockhampton, Townsville.

There were 110 candidates, and 96 passed.

17. The prizes for general proficiency in the Senior and Junior Examinations were awarded as follows:—

*Seniors.*

John West Medal and Grahame Prize Medal—Claude Seccombe Browne; Roy Noel Teece, *æq.*  
 Fairfax Prize for Female Candidates—Marjory Knox.

*Juniors.*

University Prize for Boys—Robert Smith Armstrong, Harry Ernest Neal, *æq.*; *prox. acc.*, Edmund Harold Molesworth.  
 Fairfax Prize for Girls—Stella Mabel Kellick, [Edith Muriel L. Swain, over age], *æq.*; *prox. acc.*, [Blanche Vavasour Sandford, over age].

18. Three Law examinations were held, similar and equal to that prescribed for Matriculation, for candidates for Articles of Clerkship with Solicitors. At these there were 29 candidates, and 15 passed.

*Meetings of Senate.*

19. The Senate held eleven ordinary meetings, one adjourned meeting, in addition to the annual commemoration, and five meetings of the Conjoint Board, consisting of the Senate of the University and the Board of Directors of the Prince Alfred Hospital.

The attendances of the various Fellows were as follows:—

MacLaurin, the Hon. H. N., M.A., LL.D., M.D., M.L.C., Chancellor ...	18
Backhouse, His Honour Judge, M.A., Vice-Chancellor ...	16
Anderson, H. C. L., Esq., M.A. ...	17
Barton, Edmund, Esq., M.A. ...	3
Butler, Professor, B.A. ...	13
*Cobbett, Professor, M.A., D.C.L. ...	6
Cullen, the Hon. W. P., M.A., LL.D., M.L.C. ...	14
*Jones, P. Sydney, Esq., M.D. ...	...
Knox, E. W., Esq. ...	16
Liversidge, Professor, M.A., LL.D., F.R.S. ...	18
†MacCallum, Professor, M.A. ...	6
O'Connor, His Honor Mr. Justice, M.A. ...	6
Oliver, Alexander, Esq., M.A. ...	9
Renwick, the Hon. Sir Arthur, B.A., M.D., M.L.C. ...	15
Rogers, His Honor Judge, M.A., LL.B., Q.C. ...	7
Russell, H. C., Esq., B.A., C.M.G., F.R.S. ...	16
Scott, Professor, M.A. (Retired in September) ...	12
Simpson, His Honor Mr. Justice A. H., M.A. ...	12
*Stephen, Cecil B., Esq., M.A. ...	3
Stuart, Professor T. P. Anderson, M.D. ...	14
Teece, Richard, Esq., F.I.A. ...	17

\* Absent on leave. † Elected 20th September, 1898.

20. Twenty-one meetings of Sub-Committees of the Senate for Finance, Grounds, and other matters, were held during the year, the attendance of members being as follows:—The Chancellor (The Hon. Dr. MacLaurin), 21; the Vice-Chancellor (His Honor Judge Backhouse), 20; Professor Butler, 2; the Hon. Dr. Cullen, 11; Edward W. Knox, Esq., 14; Professor Liversidge, 2; the Hon. Sir Arthur Renwick, 4; Professor Scott, 1; Cecil B. Stephen, Esq., 1; Professor Stuart, 4; Richard Teece, Esq., 9.

*Vice-Chancellor.*

*Vice-Chancellor.*

21. The annual election to the office of Vice-Chancellor in the month of April resulted in the unanimous re-election of His Honor Judge Alfred Paxton Backhouse, M.A.

*Senate.*

22. In February leave of absence from the meetings of the Senate for twelve months was granted to P. Sydney Jones, Esq., M.D., and in April similar leave for nine months to C. B. Stephen, Esq., M.A., both of these gentlemen being about to visit Europe.

*Deans of Faculties.*

23. In accordance with the usual practice for the biennial election of Deans of Faculties, the Senate invited recommendations from the various Faculties as to the Branches of Learning the Professors of which should be ex-officio members of the Senate under the Act 24 Victoria No. 13, and should be elected to the office of Dean for a period of two years.

Acting upon the recommendations received, an amended by-law referring to ex-officio memberships was made and approved by the Governor in Council, and the following were appointed in November to be Deans of Faculties and ex-officio members of the Senate for a period of two years:—

Faculty of Arts, Professor MacCallum, M.A.  
Faculty of Law, Professor Pitt Cobbett, M.A., D.C.L.  
Faculty of Medicine, Professor Stuart, M.D.  
Faculty of Science, Professor Liversidge, M.A., LL.D.

*Staff Appointments, &c.*

24. In the early part of the year leave of absence was granted to Professor Threlfall during Lent and Trinity Terms to enable him to prosecute certain inquiries concerning the methods of teaching electrical subjects and the appliances used in the most recently-fitted Laboratories of Physical Science.

Upon his return to Sydney in Michaelmas Term he resigned his office as Professor of Physics from the 31st of December, 1898, for certain reasons of a private nature which rendered it necessary for him to reside in England.

In accepting his resignation, the following resolution was unanimously passed:—"The Senate in accepting the resignation of Richard Threlfall, Esq., M.A., of the Professorship of Physics in the University of Sydney, expresses its regret that family circumstances have caused him to resign his Chair, and desires to place on record its high appreciation of the ability and energy with which he has discharged the duties of his office during a period of twelve and a half years, of his eminent scientific attainments, and of the valuable services which he has rendered to the cause of education in the community of New South Wales."

In order to fill the vacancy created by this resignation, advertisements have been issued in Australia and in Great Britain inviting applications from qualified persons, and the following gentlemen have been requested to act as a Selection Committee in London, and to forward the names of the three applicants whose qualifications appear to be the best:—

Sir Daniel Cooper, Bart., Acting Agent-General for N.S.W.  
Sir Charles Nicholson, Bart., D.C.L.  
F. L. S. Merewether, Esq., B.A.  
Lord Rayleigh, Royal Institution.  
Professor J. J. Thomson, M.A., Cavendish Laboratory, Cambridge.  
Professor P. G. Tait, M.A., D.Sc., University of Edinburgh.  
Professor G. F. Fitzgerald, M.A., Sc.D., University of Dublin.  
Professor Ayrton, City and Guilds Institution.  
Professor Rücker, Royal College of Science, London.  
Dr. P. Sydney Jones.

Pending a permanent appointment to the Professorship, the Senate has appointed J. A. Pollock, Esq., B.Sc., to be Acting Professor of Physics. This gentleman has acted efficiently as Demonstrator in Physics for the past eight years, and as Professor Threlfall's *locum tenens* during his leave of absence.

The vacancy existing at the end of 1897, in the office of Demonstrator in Physiology, was filled by the appointment of Herbert Hawker, Esq., late Demonstrator in Physiology in University College, London.

The vacant office of Surgical Tutor was filled by the appointment of H. V. Critchley Hinder, Esq., M.B., Ch.M.

The offices of Demonstrator in Geology and Lecturer in Metallurgy, rendered vacant at the end of 1897 by the resignation of W. F. Smeeth, Esq., M.A., B.E., were filled by the appointment of W. G. Woolnough, Esq., B.Sc., to the former office, and of J. Taylor, Esq., B.Sc., A.R.S.M., Government Metallurgist, to the Lectureship in Metallurgy, with the consent of the Public Service Board of New South Wales.

E. F. Pittman, Esq., A.R.S.M., was reappointed to the office of Lecturer in Mining.

In September the office of Demonstrator in Anatomy became vacant by the resignation of A. E. Mills, Esq., M.B., Ch.M., in consequence of his appointment as Honorary Assistant Physician at the Prince Alfred Hospital. The office was filled by the appointment of F. J. T. Sawkins, Esq., M.B., Ch.M.

The Junior Demonstratorship in Chemistry, resigned by J. M. Petrie, Esq., at the end of 1897, was held for two terms by C. Walker, Esq., and for the third term by G. Harker, Esq.

A. G. Corbin, Esq., B.Sc., acted as Junior Demonstrator in Biology during Lent Term, and J. J. E. Durack, Esq., as Demonstrator in Physics in Lent and Trinity Terms.

In the month of December J. C. Dibbs, Esq., was reappointed Auditor of the University for a period of two years.

*Leave*

*Leave of Absence.*

Leave of absence for Lent and Trinity Terms of 1899 has been granted to Professor G. Arnold Wood, M.A., Professor of History, to enable him to visit Europe. During his absence the duties of his office are to be performed by G. C. Henderson, Esq., B.A. This gentleman—a distinguished graduate of this University—gained the James King, of Irrawang, Travelling Scholarship, and he has had a distinguished career at Balliol College, Oxford, having been lately appointed to the first class of University Extension Lecturers under the Oxford Delegacy.

Leave has also been granted to Dr. W. Camac Wilkinson, Lecturer in Pathology, for the same period of 1899; and the duties of his office are to be performed by Dr. Sydney Jamieson.

Neither of these arrangements entails any additional expense to the University.

*P. N. Russell School of Engineering.*

25. The conditions of award of the P. N. Russell Gold Medal have been determined by the Senate, and published in the University Calendar. The Medal is to be awarded for the best thesis upon some engineering subject to a graduate of Engineering of not more than two years' standing.

*University Extension.*

26. The annual election of the University Extension Board took place in the month of December, and resulted in the following appointments:—

*Members of the Senate.*—His Honor Judge Backhouse, M.A.; H. C. L. Anderson, Esq., M.A.; The Hon. W. P. Cullen, M.A., LL.D.; R. Teece, Esq., F.I.A.

*Members of the Teaching Staff.*—Professor Anderson, M.A.; Professor David, B.A.; Professor MacCallum, M.A.; Professor Scott, M.A.; Professor Wilson, M.B., Ch.M.; Professor Wood, M.A.

*Other Members.*—H. Goodere, Esq.; Rev. J. Hill, M.A.; A. W. Jose, Esq.; E. B. Taylor, Esq.

*Benefactions.*

27. (a) The Senate has to acknowledge thankfully the receipt of a bequest of £2,050 from the Executors of the late Thomas Garton, Esq., for the foundation of two Scholarships. The terms of the bequest were the following:—

Being desirous of showing my gratitude to the inhabitants of Sydney, New South Wales, for the large amount of happiness I enjoyed during the few—too few—short years I was a resident in their midst, and knowing of no more appropriate form the expression of it could assume than in the foundation of two Scholarships in the University of their beautiful city, I therefore, with that object, give and bequeath to Sir Saul Samuel, Agent-General in London, for New South Wales, or to the Agent-General in London for New South Wales for the time being, the sum of £2,050 (free from all duties and taxes whatsoever) for transmission to Sydney (less expenses), to such of the authorities in the University authorised to receive the same for the foundation of two Scholarships, the one for German and French Languages, the other for Ancient History, in the University of Sydney, New South Wales. Should, however, it be the opinion of the "Council" that the appropriation of the said sum of £2,050 to some other branch of Science or Literature would better promote the interests of the University, then in such case it is my pleasure to leave the matter entirely and unreservedly to the discretion of the Members of the Council.

As the subject of Ancient History is included with the ancient Classics, in which a number of Scholarships are provided, it has been determined to devote the Garton Scholarships for the present to French and German exclusively, and two Scholarships of the annual value of £30, tenable for one year, have been established, to be awarded at the First Year Examination, and the Second Year Examination respectively, in the Faculty of Arts.

(b) The fund bequeathed by the late Edwin Dalton, Esq., for Scholarships in memory of the late Dr. Woolley, is now being administered in London by George Slade, Esq., and Samuel Yardley, Esq., C.M.G., as trustees, and will continue to be so administered until the lapse of the present annuities chargeable to the estate. The income, however, is being transmitted to Sydney, and a Travelling Scholarship has been established from the fund under the following regulations:—

1. The Scholarship shall be awarded to a graduate in Arts of less than four years' standing at the time of the award, reckoning from his qualification by examination for the B.A. degree.
2. The Scholarship will be awarded by the Senate after report from the Professors of Greek, Latin, Modern Literature, Philosophy, and History, who shall recommend to the Senate that candidate who in their opinion, shows the greatest promise of success in further study in any one or more subjects falling under the heads of Language, Literature, History, and Philosophy; provided that they consider such candidate to be of sufficient merit.
3. The holder will be required to prosecute his studies or researches to the satisfaction of the Senate at some approved place or places during the tenure of his Scholarship.
4. The amount of the Scholarship is £150 per annum, tenable for not more than two years.
5. An award of this Scholarship shall generally be made in alternate years with an award of the James King of Irrawang Travelling Scholarship.

(c) An admirable portrait of the late Sir William Windeyer, M.A., LL.D., formerly Vice-Chancellor and Chancellor of the University, executed by Arthur Foster, Esq., has been presented to the University by Lady Windeyer, and has been given a place on the northern wall of the Great Hall.

(d) A handsome bust in white marble of P. N. Russell, Esq., who generously endowed the School of Engineering by a gift of £50,000, has been presented by Mrs. Russell. It has also been placed in the Great Hall.

(e) A further valuable donation of books has been received from Sir Charles Nicholson, Bart., D.G.L., for the University Library, thus making an addition to his many previous benefactions, and illustrating the great interest which he still maintains in the University, in the foundation of which he was one of the most important actors.

*Nicholson*

*Nicholson Museum of Antiquities.*

28. A catalogue of the Greek and Etruscan vases, and of Greek and Roman lamps, in the Nicholson Museum, at the University, has been prepared by Miss Louisa Macdonald, M.A., Principal of the Women's College; and has been printed and distributed to kindred institutions and to persons engaged in archæological studies.

*The University Library.*

29. The great inconvenience existing through lack of space for the proper storage of books in the University Library has been somewhat relieved during the past year by the erection of a number of bookshelves in the ante-room to the Great Hall. This room, on the walls of which is stored the Stenhouse collection of books, has for many years been used as a lecture-room for History and Logic and Mental Philosophy, and for other classes. Space has had to be found in other rooms, at very great inconvenience, for the classes in these subjects. The present principal library or reading-room is most inconveniently crowded by readers during term-time, and many would-be readers are unable to gain admission at the times which are the most convenient. The Senate looks forward to the time when the present unsatisfactory condition of the University Library may be relieved by the erection of a suitable building, to form an extension of the present building, by the completion of the quadrangle originally designed.

Additional space is also required for the exhibits which belong to the Nicholson Museum, and it is hoped that at no distant date provision will be made to meet both these wants.

The rooms in the main building which would be set free by the transfer of books and museum specimens to the new building are urgently required as lecture-rooms in which to carry on the ordinary University teaching.

*Affiliation to the University of Cambridge.*

30. An application made by this University for affiliation to the University of Cambridge has been granted by that University.

The practical effect of this affiliation is to permit students who have completed two years of study in the University of Sydney to compete for Honours at the Tripos Examinations in the University of Cambridge after two years of study there, and to proceed in due course to the B.A. or LL.B. degree.

The University of Oxford accords a similar recognition to the University of Sydney.

*Science Research Scholarship.*

31. Her Majesty's Commissioners for the Exhibition of 1851 offered to the University the nomination to a Science Research Scholarship of the value of £150 per annum, for the year 1899, under the usual conditions.

As the Senate was unable on this occasion to nominate a candidate who had fulfilled all the required conditions, the Commissioners have been asked to renew their offer of a nomination for the year 1900.

*Naval Medical Staff.*

32. At the instance of His Excellency the Commander-in-Chief of the Australian Station, the Lords Commissioners of the Admiralty have been pleased to revise the regulations governing the entry into the Medical Branch of the Royal Navy, so as to include a regulation allowing the nomination by the University of Sydney of a Graduate in Medicine for appointment to the Medical Staff.

This privilege will enable Colonial Graduates to gain admission to that service without the necessity of attending the regular competitive examinations held in London.

*Army Medical Staff.*

33. The Secretary of State for War has been pleased to offer to the University of Sydney the nomination of a Graduate in Medicine for appointment to the Army Medical Staff for the year 1900. The time allowed for the nomination, however, was so short that no candidate came forward; and a request has been made for the privilege of nomination to be extended to the next year.

*Accounts.*

34. The annual statements of receipts and expenditure, and statements showing the position of the various trust funds of the University at the 31st of December, duly certified by the Auditor, J. C. Dibbs, Esq., are appended to this Report.

H. E. BARFF,  
Registrar.

## APPENDIX.

RECEIPTS and EXPENDITURE of the University of Sydney for the year ending 31st December, 1898.

## GENERAL ACCOUNT.

DR.				CR.	
RECEIPTS.				EXPENDITURE.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Received from the Government of New South Wales:—				Balance due Commercial Banking Co. of Sydney, 31st December, 1897	1,131 8 0
The Statutory Annual Endowment ...	5,000 0 0			Paid Salaries .....	17,004 19 5
The Additional Endowment .....	4,000 0 0			„ Examiners .....	116 15 0
Towards expenses of Evening and Extension Lectures .....	2,000 0 0			„ Grant to University Extension Board .....	210 0 0
For Carpenter's salary, &c, from vote for "additions, repairs, and furniture" .....	200 0 0	11,200 0 0		„ Printing and Stationery, including University Calendar .....	443 14 7
Received Lecture Fees ...£8,289 3 3				„ Advertising .....	26 14 0
Less paid to Professors and Lecturers .....	2,473 8 11			„ Repairs to University Die .....	26 5 0
	5,815 14 4			„ Repairs and Alterations, Fittings, &c.....	99 0 5
Received Matriculation Fees .....	448 2 6			„ Fuel and Lighting .....	105 5 1
„ Degree Fees .....	673 15 0			„ Fire Insurance Premiums .....	243 0 9
„ University Examination Fees...	268 0 0			„ Rent of Chambers .....	230 0 0
„ Public Examination Fees .....	100 0 0			„ Passage money, advertising, &c, Demonstratorship in Physiology .....	66 5 6
„ General Purposes Fees .....	18 0 0			„ Supervision at Examinations .....	27 11 3
„ Testing Fees .....	43 6 0			„ Uniforms .....	50 3 0
„ Scholarship Examination Fees .....	3 0 0	7,369 17 10		„ Rent of Telephones .....	14 10 0
Received for Pasturage .....		95 15 0		„ Water and Sewerage Rates.....	248 17 0
„ Fines .....		0 10 0		„ Cleaning .....	31 1 2
„ Fees for use of Microscopes .....		56 0 0		„ Postages, bank exchanges, &c. ...	61 2 7
„ for Medical Badges .....		2 5 0		„ Miscellaneous Charges.....	31 18 2
„ from Challis Fund, towards administration		1,166 17 3		„ for Periodicals and Binding Books for Library..	1,705 8 6
„ from Macleay Curatorship Fund, towards salary of the Curator of the Macleay Museum .....		179 8 0		„ for Improvements of Grounds .....	229 5 6
„ from Howell Lectureship, towards salary of Lecturer in Geology and Physical Geography .....		165 7 4		„ for Tuning Organ .....	104 17 1
Balance due Commercial Banking Co. of Sydney, 31st December, 1898 .....		1,409 3 4		„ for University Prizes .....	5 15 0
		21,645 3 9		„ for Maintenance of Scientific Departments, including Gas .....	8 4 0
					1,128 11 3
					21,645 3 9

JOHN C. DIBBS,  
Auditor.ROBERT A. DALLEN,  
Accountant.

## PUBLIC EXAMINATIONS ACCOUNT.

DR.				CR.	
RECEIPTS.				EXPENDITURE.	
	£ s. d.			£ s. d.	£ s. d.
Balance in Commercial Banking Co. of Sydney, 31st December, 1897 .....	127 11 7			Paid Examiners' Fees and all other expenses in connection with the Examinations, and grants towards expenses of local centres .....	1,353 8 2
Received Candidates' Fees, etc., Junior and Senior Public Examinations .....	1,240 8 7			Balance in Commercial Banking Co. of Sydney, 31st December, 1898 .....	14 12 0
	1,368 0 2				1,368 0 2

JOHN C. DIBBS,  
Auditor.ROBERT A. DALLEN,  
Accountant.

RECEIPTS

## RECEIPTS and EXPENDITURE of the University of Sydney for the year ending 31st December, 1898.

Dr.

## CHALLIS FUND ACCOUNT.

Cr.

## REVENUE ACCOUNT.

RECEIPTS.		£	s.	d.	£	s.	d.	EXPENDITURE.		£	s.	d.	
Balance in Commercial Bank, 31st December, 1897					1,282	13	5	Paid Salaries		6,900	0	0	
Received Interest on Investments—								„ General Account, towards administration expenses		1,166	17	3	
Debentures	2,762	0	0					„ Costs, transfer of property		59	4	0	
Bank Deposits	800	16	8					„ Printing and general charges		31	7	0	
Mortgages	5,351	3	1					Balance in Commercial Bank, 31st December, 1898		1,487	19	10	
Rents of Properties	195	17	5										
					9,109	17	2						
Received from Challis Trustees, Interest on Guarantee Fund after payment of Australian Annuity, etc.	771	16	11										
	9,881	14	1										
Less Transfer to Special Reserve Fund	1,518	19	5										
					8,362	14	8						
					£	9,645	8	1		£	9,645	8	1

## INVESTMENT ACCOUNT.

Received principal of fixed deposit	4,350	0	0	Paid in purchase of property	4,350	0	0
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## SPECIAL RESERVE FUND.

## Revenue Account.

Balance in Commercial Bank, 31st December, 1897	7	3	1	Paid salaries—quinquennial increases	800	0	0	
Received Interest on Investments	629	10	8	„ premium on Funded Stock	100	0	0	
„ from Challis Fund, interest over 4 per cent. on investments, for providing quinquennial increases to Professors and for equalising income from investments	1,518	19	5	„ investment account for investment	1,250	0	0	
				Balance in Commercial Bank, 31st December, 1898	5	13	2	
	£	2,155	13	2	£	2,155	13	2

## INVESTMENT ACCOUNT.

Received principal sum of mortgage	1,200	0	0	Paid for investments—Funded Stock	500	0	0
from revenue account for investment	1,250	0	0	Bank Deposits	550	0	0
	£	2,450	0	Property	1,400	0	0
					£2,450	0	0

JOHN C. DIBBS,  
Auditor.ROBERT A. DALLEN,  
Accountant.





## P. N. RUSSELL ENDOWMENT.

(Included in previous Account)

Received interest on Funded Stock	£ s d 1,886 16 0	Paid Salaries " for Scientific Apparatus . . . . . " for Printing and Sundry Charges . . . . . " third instalment towards Sinking Fund to defray premium on Funded Stock . . . . .	£ s d 1,275 0 0 360 0 0 13 2 4 140 8 0
SINKING FUND.		SINKING FUND.	
Received Interest on Investments " from Endowment Fund	10 12 11 140 8 0 £ 2,037 16 11	Paid for investment—Bank Deposit . . . . .	144 13 5 £ 1,933 3 9

JOHN C. DIBBS,  
Auditor.ROBERT A. DALLEN,  
Accountant.

## ANALYSIS of Private Foundations, showing Investments at 31st December, 1898.

Private Foundations	Ledger Account, Cr Balance	Investments.			
		Mortgages	Buildings and Land	Fixed Deposits.	Funded Stock and Debentures
	£ s. d.	£ s. d.	£	£ s. d.	£ s. d.
Levey Scholarship	1,017 10 8			700 0 0	325 0 0
Baker Scholarships	2,495 5 5	100 0 0	1,360 0 0	70 0 0	1,070 0 0
Deas-Thomson Scholarships...	2,462 17 6	25 0 0	1,036 0 0	395 0 0	1,030 0 0
Wentworth Prize Medal	548 8 0	100 0 0		38 15 0	400 0 0
Cooper Scholarships	2,531 3 4		1,360 0 0	131 5 0	1,220 0 0
Salting Exhibition	810 2 2			50 0 0	755 0 0
Wentworth Fellowship	2,062 4 11	180 0 0		1,175 0 0	695 0 0
Lithgow Scholarship	2,128 2 3	125 0 0		355 0 0	1,630 0 0
Nicholson Medal	599 19 5			193 15 0	400 0 0
Earl Belmore Medal	583 15 8			170 0 0	415 7 3
John Fairfax Prizes	571 3 1	50 0 0			500 0 0
Alexander Bursary	1,122 3 6	25 0 0		740 0 0	350 0 0
Levey and Alexander Bursary	1,114 17 6				1,100 0 0
West Prize	223 7 9	15 0 0		200 0 0	
E. M. Frazer Bursary	1,556 2 8	25 0 0		40 0 0	1,495 0 0
J. E. Frazer Bursary	1,459 1 6			25 0 0	1,430 0 0
W. C. Wentworth Bursary, No. 1	1,000 0 0				1,000 0 0
W. C. Wentworth Bursary, No. 2	1,000 0 0				1,000 0 0
W. C. Wentworth Bursary, No. 3	928 17 2	50 0 0		766 5 0	150 0 0
Budekin Bursary	1,074 11 3			1,005 0 0	70 0 0
Hunter-Baillie Bursary, No. 1	1,159 5 6			1,005 0 0	150 0 0
Hunter-Baillie Bursary, No. 2	1,300 4 9	175 0 0		512 10 0	585 0 0
J. B. Watt Exhibitions	3,853 8 1	85 0 0		2,400 0 0	1,335 0 0
Renwick Scholarship	1,117 9 10			616 5 0	495 0 0
Bowman-Cameron Scholarship	975 0 0				1,000 0 0
Hovell Lectureship	6,025 0 0	525 0 0	4,500 0 0	725 0 0	275 0 0
George Allen Scholarship	1,069 12 3			951 5 0	120 0 0
Freemasons' Scholarship	1,273 5 9	25 0 0		107 10 0	1,130 0 0
J. G. Raphael Foundation	88 4 6			66 5 0	20 0 0
James Atken Scholarship	1,115 0 0				1,100 0 0
Thomas Walker Bursaries	5,163 19 4			4,590 0 0	375 0 0
G. Wigram Allen Scholarship	1,641 11 6			837 10 0	795 0 0
Struth Exhibition	1,226 4 11	400 0 0		635 0 0	190 0 0
Fisher Estate	9,391 0 8	6,872 0 0	700 0 0	1,347 10 0	375 0 0
Fisher Estate Building Account	30,860 7 11	7,905 0 0		17,869 18 9	5,130 0 0
Norbert Quirk Prize	157 4 8			112 10 0	40 0 0
Smith Prize	109 9 7	100 0 0			
Badham Bursary	981 4 1			750 0 0	250 0 0
Slade Prizes	302 1 2	25 0 0		280 0 0	
Caard Scholarship	1,612 9 4	150 0 0		985 0 0	475 0 0
James King of Irrawang Scholarship	4,381 8 11	50 0 0		4,168 15 0	235 0 0
Macleay Curatorship	5,909 13 0			6,000 0 0	
John Harris Scholarship	1,022 0 3	1,000 0 0			
Horne Exhibition	207 4 8			210 0 0	
Council of Education Scholarship	446 11 8	335 0 0		50 0 0	45 0 0
Frazer Scholarships	2,316 9 4	50 0 0		2,185 0 0	115 0 0
Grahame Prize Medal	102 13 10	100 0 0			
Collie Prize	106 10 1			56 5 0	50 0 0
Dalton Estate	682 1 8			680 0 0	
P. N. Russell Endowment	47,241 14 10				47,170 0 0
P. N. Russell Endowment Sinking Fund	433 19 0				
Garton Scholarships	2,086 14 0			429 13 5	
Challis Estate	221,997 19 10	127,660 0 0	4,350 0 0	23,900 0 0	64,600 0 0
Challis Estate—Special Reserve Fund	16,505 13 2	3,200 0 0	1,400 0 0	10,300 0 0	1,600 0 0
	£ 398,152 11 10	149,352 0 0	14,706 0 0	90,205 17 2	142,690 7 3



1899.  
(THIRD SESSION).

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## SYDNEY GRAMMAR SCHOOL.

(REPORT FOR THE YEAR 1898.)

*Printed under No. 3 Report from Printing Committee, 22 August, 1899.*

The Chairman of the Board of Trustees to The Minister of Public Instruction.

Sir,

Sydney Grammar School, 29 March, 1899.

I have the honor to submit the following Report of the progress of the School, and the proceedings of the Trustees, during the year 1898, in order that the same may be laid before His Excellency the Governor and the Executive Council, in accordance with the provisions of the "Sydney Grammar School Act."

The increase in the number of boys attending the school, which was referred to in the last Report, has continued, the average attendance during the year having been 466 as against 418 in 1897. It has been necessary in consequence to supplement the teaching staff to a certain extent, and an additional master has been appointed.

The Trustees are pleased to be again able to report that the independent examination of the boys has given very satisfactory results, as will be gathered from the reports of the Examiners, which are appended hereto, with the Annual Returns.

Many of the prizes and scholarships given in connection with the University examinations have also been won by pupils of the School.

The Morehead Exhibition has been awarded to Mr. C. S. Browne.

During the year the offices of Chairman and Vice-Chairman have again been filled by Mr. A. J. Cape and Mr. E. W. Knox.

The following Annual Returns are annexed:—

Statement of Account, duly audited, gives particulars of the receipts and expenditure for the year 1898.

Return giving details of the Teaching Staff and other employees, with their emoluments.

Return giving particulars of the number of Masters and Scholars.

I have, &c.,

EDW. W. KNOX,

Chairman of the Trustees.

RETURN of the Number of Masters and the Number of Scholars at the Sydney Grammar School in the year 1898.

Number of Masters.	Number of Scholars.				
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Average of Year.
19	447	453	483	488	465 $\frac{3}{4}$

JUSTIN J. BRENNAN,  
Acting Secretary to Trustees.

REPORT UPON THE ANNUAL EXAMINATIONS, DECEMBER, 1898.

Presented to the Trustees of the School.

THE Upper School has been examined by the Masters of the School, who report upon the several subjects as follows :—

1. *Latin*.—The work at the top of the Forms is as good as it has ever been, and is much more even throughout all the Forms than it has been before. There are very few absolute failures. A considerably larger proportion of boys are doing higher work. The average knowledge of the language seems to be greater in amount, and to be more fairly distributed throughout the School. This subject is quite satisfactory.

2. *Greek*.—The highest work is better than it has been, and in each division a few boys are very promising, but there is too much inequality, and too much inaccuracy in the knowledge of pure grammar. It will be wiser, perhaps, for the future to restrict the study of Greek to those who show some special aptitude for this language. At present the subject is not satisfactory throughout.

3. *French*.—In the Upper Forms the standard in special honour work and in composition has been well maintained, and a noticeable advance made in unseen translation. The number of boys to whom such teaching has been given is considerably greater than last year, and whilst the best results have been brilliant, the general average of knowledge is quite as high as in former years. In the Middle Forms the work shows less relative advance, due largely to the prevalence of sickness, but partly also to want of that systematic teaching on definite lines which should prove equal to a sudden strain.

In the Lower Forms the training imparted by the Lower School has afforded a satisfactory ground work, but there is some material of a less promising character which has not enjoyed this advantage. In all Forms there is a good advance in breadth of vocabulary, owing to use of a more comprehensive text-book. In the higher Forms, knowledge of syntax has improved, and in almost all the other divisions there is a more accurate and more intelligent application of inflexional forms.

4. *German*.—The highest division has been doubled in number, and the teaching has stood the additional strain with results decidedly gratifying. The second division, which contains less satisfactory material, is receiving very capable and systematic teaching, but is at present not up to the usual standard. In the lower divisions the work is unequal, deficient in quantity, and spoilt by marked weakness in vocabulary. The insufficient continuity between the Junior Divisions, and the consequent loss of vitality, is a serious menace to general success in the teaching of this language.

5. *Mathematics*.—The papers sent in to the Examiner this year show that the School has fully maintained the high position it took last year in Mathematics. The improvements specially noted were a general advance in Arithmetic, the higher standard attained in the first division in Mechanics, and in the second division in Trigonometry, and the greater facility shown in solving Geometrical deductions by the lower divisions. This evidence of greater attention having been given to the careful development of the reasoning powers was noticeable in each division down to Division 5, where it was very distinctly marked. On the other hand, the range of work covered by one division was found to be too limited, while another division showed weakness in Algebra. The working of the lowest division in two sections has enabled the boys who have any aptitude for Mathematics to make a more rapid advance than they otherwise would have done.

6. *Natural Science* has been taught in all the Forms of the Upper School. The best work has been done by boys in Form IV, and five very good papers were sent in from Form V. The papers in Physical Geography of Commercial I were only fair.

The Rev. A. H. Coombes, M.A., Senior Mathematical Master of the King's School, reports upon the organisation and work of the Lower School as follows :—

CLASSIFICATION AND ORGANISATION.

The recent increase in the numbers, and the necessity of supplying more boys to the Upper School, have rendered it inadvisable to adhere to the method of simple gradation of Forms. A classification has been introduced, in which there will be two streams of boys doing work at different rates of speed. For this classification special advantages are claimed; it has obvious dangers and requires special precautions. If these dangers and cautions are borne in mind—and under the present Master of the Lower School they have all been noticed and allowed for—it seems that this scheme will succeed in producing what is aimed at—a constant supply of well-trained boys for the Upper School.

In the time-table, provision is made to bring every boy in the school immediately under the eye of the Master of the Lower School. The distribution of subjects is normal.

RESULTS OF THE EXAMINATIONS.

*Latin*.—The grammar was thoroughly good except in one Form. The composition is excellent in the five Upper Forms and good in the Lower ones. Translation from Latin to English was almost faultless in the two Upper Forms, but was not so well done below.

*French*.—The composition was very thoroughly known, the grammar less thoroughly. There is a need, which has been anticipated, of a drill-book of grammar.

*English*.—This examination was conducted by Masters of the School. The results point to unusually effective English teaching. I was particularly struck with the effort made to encourage literary appreciation.

*Geography*.—The papers were very searching. The result was satisfactory, though the map drawing was not neat.

*History*.—Two Forms were examined with satisfactory results.

*Mathematics*.—The text of Euclid was exceedingly well known. The deductions set seemed in every case to have been too hard for the boys. Algebra was very satisfactory and showed signs of careful teaching. The Arithmetic of the highest Forms was excellent; lower down it was not so even. Divisions 4 and 6 were good; Divisions 2B and 5 weak.

The results of the examinations indicate the thoroughly healthy condition of the Lower School, and speak volumes for the energy of the teaching. When the improved organisation which is now being evolved has come into full play, it is reasonable to suppose that the efficiency of the Lower School will be still further increased.

SYDNEY GRAMMAR SCHOOL.  
RETURN of Salaries and Allowances of the Masters for the Year 1898.

Office.	Name.	Salary.	Allowances.	Fees from Pupils.	Total.	Remarks.
Head Master	Weigall, Albert E	£ 500 0 0	£ *250 0 0	£ 996 5 0	£ 1,746 5 0	* For residence.
Mathematical and Science Master	Blanch, George Ernest	600 0 0	.. .. .	.. .. .	600 0 0	
Master of Lower School	Giles, Arthur	500 0 0	.. .. .	.. .. .	500 0 0	
Master of Modern Languages	Farrar, Arthur Key	450 0 0	.. .. .	.. .. .	450 0 0	
Second Classical Master	Hewlett, Charles Edward	450 0 0	.. .. .	.. .. .	450 0 0	
Second Mathematical Master	Carter, Herbert James	350 0 0	50 0 0	.. .. .	400 0 0	
Assistant Master	Soar, Charles Thomas	350 0 0	.. .. .	.. .. .	350 0 0	
Do do	McBurney, David	300 0 0	60 0 0	.. .. .	360 0 0	
Do do	Barbour, George Pitty	300 0 0	50 0 0	.. .. .	350 0 0	
Do do	Vaughan, George Frederick	300 0 0	100 0 0	.. .. .	400 0 0	
Do do	Goldie, Charles Dashwood	250 0 0	†12 0 0	.. .. .	262 0 0	† Refund of fees.
Do do	Fitz, Norman	250 0 0	.. .. .	.. .. .	250 0 0	
Do do	Bode, Reginald Heber	250 0 0	.. .. .	.. .. .	250 0 0	
Do do	Savigny, William Henry	225 0 0	25 0 0	.. .. .	250 0 0	
Do do	De Kantzow, Charles	225 0 0	.. .. .	.. .. .	225 0 0	
Do do	O'Reilly, Thomas John	200 0 0	25 0 0	.. .. .	225 0 0	
Do do	Sampson, Theodore	200 0 0	25 0 0	.. .. .	225 0 0	
Do do	Hume, Ronald J. G.	91 13 4	.. .. .	.. .. .	91 13 4	
Do do	Warren, Ernest W.	25 0 0	.. .. .	.. .. .	25 0 0	
Temporary Assistant Master	Corderoy, E. V.	13 0 0	.. .. .	.. .. .	13 0 0	
Do do	Mitchell, Edward M.	25 0 0	.. .. .	.. .. .	25 0 0	
Do do	Jameson, George W.	33 6 8	.. .. .	.. .. .	33 6 8	
Do do	Brown, F. R.	7 0 0	.. .. .	.. .. .	7 0 0	
Writing Master	Bruce, James	103 8 6	.. .. .	.. .. .	103 8 6	
Assistant to Science Master	Norman, Arthur	28 10 0	.. .. .	.. .. .	28 10 0	
Janitor and Drill Sergeant	Morris, Frank	200 0 0	.. .. .	.. .. .	200 0 0	With residence.
Secretary and Accountant to Trustees	Catlett, William Henry	83 6 8	170 10 0	.. .. .	253 16 8	
Acting do do	Brenan, Justin Joseph	18 6 0	.. .. .	.. .. .	18 6 0	
		£ 6,328 11 2	767 10 0	996 5 0	8,092 6 2	

Audited—Sydney, New South Wales, 30th January, 1899,—

JAMES C. TAYLOR, F.S.I.A.

JUSTIN J. BRENAN,

Acting Secretary.

SYDNEY GRAMMAR SCHOOL.  
STATEMENT of Income and Expenditure for the year ending 31st December, 1898.

Income.	Total.	Expenditure.	Total.
To School Fees from Pupils	£ 7,853 17 8	By Salaries	£ 6,328 11 2
„ Statutory Endowment	1,500 0 0	„ Allowances	767 10 0
„ Interest received from Prize Funds founded by private Benefactors	33 15 0	„ Capitation fees	996 5 0
„ Rent from Luncheon Caterer	50 0 0	„ Examination expenses and fees	67 11 6
„ Sports Committee, towards salary of Gymnastic Instructor	50 0 0	„ Stationery	148 11 7
		„ Printing	23 13 4
		„ Advertising..	15 7 6
Total Income.	£ 9,487 12 8	„ School prizes	34 0 0
„ Balance in Bank per Statement for 1897	4 8 0	„ Prizes founded by Private Benefactors—	
		Edward Knox prize	12 0 0
		G Wigram Allen prize	6 0 0
		George Knox prize	2 0 0
		Citizens' prizes	16 0 0
		„ Repairs	163 4 4
		„ Insurance	14 10 10
		„ Postages and petty expenses	114 3 5
		„ Grant to Athletic Sports	304 10 0
		„ „ Swimming Class	25 0 0
		„ „ Library	10 0 0
		„ School furniture	37 18 6
		„ Legal expenses	40 0 0
		Total Expenditure	£ 9,126 17 2
		1898—31 Dec —	
		By Balance	365 3 6
	£ 9,492 0 8		£ 9,492 0 8

6th January, 1899.

Audited—Sydney, New South Wales, 30th January, 1899,—

JAMES C. TAYLOR, F.S.I.A.

JUSTIN J. BRENAN,

Acting Secretary.





1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## AUSTRALIAN MUSEUM.

(REPORT OF TRUSTEES FOR THE YEAR 1898.)

Presented to Parliament pursuant to Act 17 Vic. No. 2, sec. 9.

Printed under No. 1 Report from Printing Committee, 3 August, 1899.

TO HIS EXCELLENCY THE GOVERNOR AND EXECUTIVE COUNCIL,—

The Trustees of the Australian Museum have the honour to submit to Your Excellency their Forty-fifth Annual Report.

1. Since their last Report two vacancies on the Board have occurred. On 2nd May, Hon. P. G. King, M.L.C., who had been a Trustee since 1881, sent in his resignation, and on 23rd August, James R. Hill, Esq., died. The vacancies were duly filled by the election of Hugh Pollock, Esq., Secretary to the Attorney-General, and Dr. Thomas Storie Dixon, Elizabeth-street, Sydney.

2. The Museum continued open to visitors during the usual hours, viz., from 2 to 5 p.m. on Sundays and from 10 a.m. to 5 p.m. on all week-days, except Mondays, which were reserved for cleaning purposes. On Monday afternoons the collections have, as usual, been accessible to students and schools for teaching purposes, on application being made to the Curator. The total number of visitors recorded is shown in Appendix VI, and shows a decrease of 4,358 from the year 1897. The average was 334 on week-days (341 the previous year) and 561 on Sundays (634 the previous year). The largest attendance on any one day ever recorded occurred on Monday 3rd October (Eight-hours Day) when 3,358 persons entered the building.

The Trustees regret that for some years past the funds voted for the maintenance of the Museum have been inadequate. In 1892 the Museum vote, leaving out of account special items, was £7,201. In 1893 the Trustees were compelled to submit to considerable reductions rendered necessary by the financial pressure of the time, and they endeavoured to adapt their work to the rates allowed. They expected, however, that with returning prosperity, not only would former votes have been restored, but that some material consideration would have been given to the natural advancement of the Institution; moreover it is to be noted that as regards the Members of the Scientific Staff no steps have been taken towards restoring the salaries to the rates existing before the retrenchment of 1893, although, in the Public Service generally, considerable increases have been granted to Officers. In 1892 the vote for purchases was £1,250; since 1893 only £200 a year have been allowed, including purchase of books as well as specimens. Consequently, many desirable specimens have been lost to the Museum and therefore to the Colony, while no collecting, so necessary for maintenance as well as increase of the exhibits, has been done, and the Library has also fallen into arrears. The insufficiency of the funds provided for the Museum by the Statutory Endowment of £1,000 per annum, together with the irregularity both in amounts and in detail of the Annual Votes of Parliament, supplementary to the Endowment, prevent anything like an effective promotion of the interests of Science in connection with the Natural History of the Colony. As those interests have an important relationship to the development of the resources and, consequently, to the future prosperity of the community, the Trustees are exceedingly anxious to be

placed in a better position for carrying out the purposes for which the Museum has been established. The Trustees are pleased to say that for the current financial year (1898-99) a slightly larger sum has been voted, but still not as much as is necessary. The whole amount will be expended before the year has half expired, leaving no possibility of purchasing new specimens or books for many months to come—that is, until the next year's Estimates are passed.

A table for reference is appended showing side by side what were the Trustees' estimates for the year 1898-99, and the amount that was submitted by the Government and voted by Parliament.

Details.	Trustees' Estimates.		Amount voted for year ending 30th June, 1899.	
	£	£	£	£
Curator .....	650		650	
Scientific Assistants .....	1,500		1,370	
Attendants .....	600		600	
Night Watchmen.....	180		180	
		2,930		2,800
Contingencies—				
To meet the expenses of the Museum on Sundays .....	150		150	
Collecting and purchasing Specimens .....	400		200	
Purchasing and Binding books.....	500		200	
Scientific catalogues, Museum Records, Printing and Binding.....	645		500	
Additional Endowment for General Purposes .....	876		876	
Travelling Expenses .....	60		60	
Show-cases, including repairs ..	500		400	
		3,131		2,386
		6,061		5,186

3. The greater part of the funds available for purchases has been spent in the acquisition of Ethnological specimens, from the northern districts of Australia, not hitherto represented in the Museum. Another large and important collection was under offer at the close of the year, but the Trustees have only been able to make arrangements for its purchase in part. The only other noticeable acquisitions by purchase were:—A small Meteorite from Western Australia; a remarkable Bone Club, origin unknown, apparently of a New Zealand type, but with New Guinea ornamentation; a collection of Broken Hill Ores, containing some exceedingly fine specimens of dendritic Native Copper; a valuable collection illustrative of New Caledonian Ethnology; and a fine mother-of-pearl inlaid Skull from the Solomon Islands.

4. No collecting expeditions were despatched during the year 1898, the Trustees not having the necessary means at their disposal. At the suggestion of the Public Service Board the Trustees were invited to send a naturalist to accompany the Trawling and Dredging Expedition of H.M.C.S. "Thetis," under the control of Frank Farnell, Esq., M.L.A. Mr. Edgar R. Waite was selected, and he accompanied the expedition throughout. The entire scientific collections have been deposited in the Museum, and the results will be worked out by the Museum Staff and published as a Museum Memoir at as early a date as possible.

5. The maintenance of the Museum collections is now mainly dependent on the generosity of donors, and specimens of more or less interest are from time to time received. The most noticeable of last year's acquisitions from this source were:—Ethnological specimens from Erromanga, New Hebrides, by the Rev. H. A. Robertson, including two examples of the rare *Navelah*, or "Moon Rings"; the well-known "Soudan Donkey," by the Zoological Society; Muridæ, from Central Australia by Prof. W. Baldwin Spencer; and a Japanese Salamander, by Mr. W. C. Heron.

6. As reported, last year, a sum of £1,500 had been placed on the Estimates for certain much needed repairs, which are now being carried out very slowly. It would be in the interests of the Museum if this work could be accelerated. On the Loan Estimates for 1898-99 a further sum of £13,500 has been voted for Museum extension, the intention being to build the superstructure over the recently erected workshops as a portion of the south wing.

7. There has not been any change on the Scientific Staff, but among the Mechanics and Attendants there have been some slight adjustments of duties, and one additional officer has been engaged. Full particulars of the staff will be found in Appendix XIV.

8. The work on the "Fishes of Australia" is still being continued by Mr. J. Douglas Ogilby, under the supervision of a Committee appointed by the Trustees. The scope of the work is so extensive, that the Trustees fear that it will not be possible for Mr. Ogilby to complete it within the time allowed by the Public Service Board,

9. The publications which have been issued during the year 1898 are :—Records of the Australian Museum, Vol. III, Nos. 3 and 4. Memoirs of the Australian Museum, Vol. III (On Funafuti), No. 6. Catalogue of Australian Birds (by Dr. E. P. Ramsay), parts 1 and 2, revised by Mr. A. J. North. Australian Lepidoptera and their Transformations (by late Mr. A. W. Scott), revised and edited by Mrs. Helena Forde and Mr. A. S. Olliff, Vol. II, part 5, being the title page and index only to complete the four previously published parts of Vol. II.

10. Full information with respect to the Museum will be found in the Appendices attached to this Report, viz. :—

- I.—Curator's Report.
- II.—Reports of Scientific Assistants.
- III.—Secretary's Report.
- IV.—Statement of Receipts and Expenditure.
- V.—Attendance of the Trustees.
- VI.—Attendance of Visitors and summary for fifteen years.
- VII.—Return of Specimens acquired.
- VIII.—Donations.
- IX.—Exchanges.
- X.—Return of information supplied to the Public.
- XI.—Additions to the Library.
- XII.—Publications of the Australian Museum.
- XIII.—Papers published by Members of the Museum Staff.
- XIV.—Museum Staff.

The Common Seal of the Museum was hereunto affixed by order of the Board, this 6th day of June, 1899.

(*l.s.*)

JAMES C. COX, M.D.,  
Chairman.

S. SINCLAIR,  
Secretary.

## APPENDIX I.

CURATOR'S REPORT FOR 1898.

To the Trustees of the Australian Museum,—  
Gentlemen,

Sydney, January, 1899.

I have the honour to hand you the following Report, dealing with the work of the Australian Museum during the past year, and on the condition of the Collections in your charge:—

1.—*General Condition.*—This continues to be satisfactory on the whole, but might be made still more so, were it not for the want of a more liberal Appropriation. The periodical examination of the roof structures and other likely spots by the Carpenters has not revealed any further ravages by Termites.

2. *Fire Appliances.*—The charge of these appliances still continues in the hands of the Metropolitan Fire Brigade. The fire-alarm bell referred to in last year's Report was procured and erected in the grounds contiguous to the Workshops.

3. *Staff Duties, &c.*—It is almost needless to say that the general attention of the whole Staff to their duties was most satisfactory.

Mr. Henry Barnes, who, for the past thirty-eight years, had acted as Articulator, Photographer, and Formator to this Museum, and retired from failing health, died on March 17th, 1898.

Mr. A. Barnes was promoted to be additional Attendant in February, to take the place of Attendant Robert Grant, whose transfer to the Taxidermist's shop as Assistant Taxidermist was duly carried out at the same time. Mr. A. W. Brown was appointed Labourer in February, and both he and Attendant A. Barnes were sworn in as Special Constables. The appointment of Mr. J. W. Woodhead as Compositor and Printer was also confirmed in February. Our thanks are due to two volunteer workers, who have lent great assistance during the past year; Mr. F. W. Franks who has aided Mr. C. Hedley in the Conchological Section since August, and Mr. Allan McCulloch who has efficiently assisted Mr. E. R. Waite since July.

Notwithstanding these additions to the Staff, I can do no less than reiterate my remarks of the last two years' Reports, in which I referred to the under-manned condition of the Museum generally, and the inadequate remuneration of many members of the Staff. It requires no demonstration to prove that as the collection increases at the rate, that under your control it has been doing for the last few years, a proportionate increase is needed amongst those who are charged with its care.

4. *Care of the Collections.*—I am again in a position to report that the Collection, both exhibited and in store, is in an excellent condition, although its size is fast outgrowing the capacity of the number of hands employed to keep it in an efficient and clean condition. In the Ethnological Section alone there is room for the undivided attention of two pair of hands, for it is the most difficult portion of the Museum's contents to keep in a clean and healthy state.

It is practically impossible for the Scientific Assistants, overburdened as they are with systematic work, to give that attention to the collections under glass that the importance of the latter demands. The time has now arrived, or to speak correctly, has passed, when a few Mechanical Assistants should be appointed, to whom should be committed the well-being of all collections, both exhibited and in store, under the respective Assistants-in-charge.

5. *Space.*—The appropriation obtained for the casing of the uppermost or sky gallery was utilised to provide wall-cases and locks for half the gallery approximately. The second moiety is the only portion of the Museum now devoid of cases, and this will be cased from the 1898-99 Vote. The space referred to last year in the three small rooms attached to the Ethnological Hall was also utilised.

6. *Structural Matters.*—In my last Report (1897) it was stated that on the Loan Estimates for 1897-8 was placed the sum of £1,500, to be expended chiefly in repairs to the existing building, some of which are referred to in the 1896 Report. I regret to say that very great and, to my thinking, unnecessary delay has arisen in the carrying out of these renovations. However, up to the present time the following items have been completed:—(1) Erection of a divisional brick wall, surmounted by a stone coping, between portions of the Museum and Sydney Grammar School Grants. This wall is 114 feet long and 10 feet high, and to it the Trustees of the Grammar School have added iron stanchions supporting a strong wire-netting fence, of considerable height, as a protection to our windows against balls, &c. (2) Refacing the stairs of the main staircase with metal fillets, and infilling the foot-hold behind with asphalt, the stairs having become much worn and dangerous to those using them. (3) Office telephones, to the number of sixteen were distributed throughout the building, and have already proved a source of great convenience and saving of time. (4) Alterations to rooms under main staircase for the accommodation of the Numismatics. (5) Renovation of the Photographic Studio.

In 1897, when the new Workshops were erected, a Crematorium was built for the destruction of offal, but it was not a success. After a number of alterations and experiments by the Government Architect, an efficient furnace was at last constructed, and now appears to perform the work required in a complete manner.

Coloured blinds were provided by the Department of Public Works for the new Spirit-house; the roadway leading to the private entrance was re-ashed at the Trustee's expense; the areas around the back portions of the Museum premises were re-whitewashed; and the charcoal filters distributed about the building were abolished, and replaced by one of Pasteur's Germ Pressure Filters, which provides sufficient pure water for all necessary purposes.

A store for empty packing cases and a smithy were erected by our Carpenters.

You were pleased to approve of plans submitted by the Government Architect for a further addition to the new south wing, and in consequence the Government were good enough to place on the 1898-99 Loan Estimates a sum of £13,500 to carry these out. This sum will be expended in building portions of two galleries above the recently-finished workshops. This continued building activity is particularly gratifying, because it foreshadows the completion of the south wing at no very distant date, and is a pleasing interlude to our otherwise gloomy financial outlook. The gain of space afforded by these immediate additions will afford two areas of floor-space alone, to say nothing of the walls, of approximately 88 feet long by 45 feet wide; but when the building is completed in the future these galleries will each be approximately 200 feet long by 45 feet wide.

It

It may not be out of place to mention here that the portrait of the Hon. Alexander Macleay, F.R.S., an Hon. Secretary of the Linnean Society of London, and a member of the Australian Museum Committee (as it was in those days) from its commencement in 1836 to his death in 1848, was renovated and revarnished. This remarkably fine portrait and picture was painted in London in 1838, but the artist's name is unfortunately obliterated, although the address—"Langham Place, London"—still remains perfectly clear and legible.

7. *New Cases.*—In consequence of the limited amount of wall-space still to be occupied, less work in the erection of new cases was carried out during 1898 than almost any previous year. One half of the wall-cases in the Sky or Fish Gallery were erected, and the locks provided out of the 1897-98 Appropriation; the glass shelving was taken from store.

A floor-case was provided for an additional Bower-bird group, the Newtonian Bower-bird (*Prionodura newtoniana* De Vis.), and a similar case for the Mount Stirling Meteorite.

Two rooms under the main staircase were provided with desk floor-cases for our coins, &c., and a third was wall-cased out of old material for the reception of Erotic figures and images.

The balustrade cases in the Invertebrate Gallery still remain without new locks, as already twice reported on.

8. *Collecting and Field Work.*—During the earlier summer months Mr. A. J. North, in his vacation, visited the neighbourhood of the Clarence River for the purpose of making observations on the nidification of some of our sub-tropical birds, and succeeded in obtaining a valuable series of photographs from nature. Mr. Charles Hedley also passed his vacation on the north-east coast of New South Wales, where he procured a fine set of Mollusca, that he generously presented to the Museum; and Mr. W. J. Rainbow, during a similar period, collected insects in the Blue Mountains.

The most signal success, however, relating to collecting, in which the Australian Museum has participated for some years past, was the Trawling and Dredging Cruise, under the control of Mr. Frank Farnell, M.L.A., of H.M. Col. S.S. "Thetis," (Capt. C. P. Hildebrand), commencing on February 18th, and terminating on April 9th. The Trustees were represented during the whole cruise by Mr. E. R. Waite, who succeeded in enriching our collection with a very fine set of marine organisms, many of them little known, some undescribed, and again others that had not been met with since H.M.S. "Challenger" visited our waters. Mr. Waite's outline Report is appended hereto.

*Thetis Trawling Cruise.*

To the Curator.

Sir,

Australian Museum, 28 April, 1898.

I have the honor to hand you a bare outline of the movements of the Trawling Expedition, which I understand is declared to be concluded.

Four times we returned to Sydney, the dates being as follows:—

1st Cruise	...	...	...	...	...	...	...	...	Feb.	18 to Feb.	23
2nd "	...	...	...	...	...	...	...	...	"	25 "	March 8
3rd "	...	...	...	...	...	...	...	...	March	10 "	" 22
4th "	...	...	...	...	...	...	...	...	"	25 "	April 9

The coast-line covered extended from Jervis Bay to the Manning River, and apart from the Lord Howe Island trip (fourth cruise), the greatest distance attained from land was 25 miles. The depths at which the trawl was lowered ranged between 10 and 90 fathoms. As you are aware, very valuable collections were secured for the Museum, and I am at present engaged in preparing a Preliminary Report on the fishes for Mr. Farnell. As far as can be estimated at present, there are about 100 species of fishes represented by 365 specimens. Several are new to the Colony, while a few are new to science.

I have, &c.,  
EDGAR R. WAITE.

Mr. Waite's preliminary "Scientific Report on the Fishes" was published as an appendix to Mr. Farnell's "Report upon Trawling Operations."\* On two occasions I had the pleasure of accompanying the expedition, one to the Manning Bight and the other to Lord Howe Island. Acting on a suggestion of mine, you were pleased to recommend to the late Minister for Public Instruction that a sum of £400 should be placed on the 1898-99 Estimates to provide for the publication of the complete scientific results of the Expedition. The subject was also warmly taken up by Mr. Frank Farnell, and in due course the money was voted.

To the assistance of Mrs. Thomas Nicholls, of Lord Howe Island, we were indebted for a further instalment of Mollusca from that interesting island.

In accordance with your instructions a map of Australia was coloured, showing areas that had been zoologically surveyed by members of the Museum Staff up to the present time.

I feel it my duty for the third time to call your attention to the disadvantage the Museum labours under through the want of a permanent trained Collector, and a sufficient allowance to enable such an officer to investigate many of the interesting problems still awaiting solution. This is the more to be regretted when we find a sister institution, not directly concerned in systematic science, the Technological Museum, in a position to do so; and Museums in other lands engaging Australian collectors.

9. *Exchanges.*—The principal exchanges effected during the year were:—From the Royal Museum of Vertebrate Zoology in Florence, Professor Henry Giglioli despatched a further consignment of mounted Mammals, comprising a Wolf (*Canis lupus*, Linn.), a Beaver (*Castor fiber*, Linn.), an Opossum (*Didelphys azaræ*, Temm.), a Monk Seal (*Pelagius monachus*, Herm.), &c. From the Perth (W.A.) Museum, Birds and Marsupials were received, and to the latter mounted Placental Mammals were forwarded. A collection of Australian Minerals and Metaliferous Ores was sent to the Imperial Geological Institute of Berlin. Indian Mammals of the Blandford Collection were received from the British Museum (Nat. Hist.), London.

10. *Presentations.*—Although the gifts last year were tolerably numerous, no one particular object or set of specimens calls for very special notice. A fine block of floated Pumice was presented by Mr. G. Sweet on his return from the Second Funafuti Coral-boring Expedition, obtained at Tarawa Island, Gilbert Group. Ethnological specimens were given by the Rev. H. A. Robertson, from Erromanga, New Hebrides, including a Cooking-pot and two examples of the *Navilah*, or "Moon Ring"; a series of Mesozoic,

\*Sea Fisheries. Report upon Trawling Operations off the Coast of New South Wales, &c., carried on by H.M.C.S. "Thetis," under the direction of Frank Farnell, Esq., M.P. (8vo. Sydney, 1898. By Authority.)



Mesozoic, Carboniferous, and Palæozoic fossils from Tasmania, by Mr. T. Stephens, M.A.; numerous Mammals by the New South Wales Zoological Society, including the well-known "Soudan Donkey"; a welcome set of Muridæ from Central Australia, by Professor W. Baldwin Spencer; a Japanese Salamander (*Megalobatrachus maximus*, Schl.), by Mr. W. C. Heron, a Reptile quite new to our collection; a valuable series of Corals, Aleyonarians and Crustacea, from New Caledonia, by Mr. C. Hedley.

11. *Purchases*.—Although few purchases were made during 1898, the specimens so obtained were highly important, the principal being:—An additional small iron Meteorite from Western Australia; valuable collection of New Caledonian Ethnology, from Mr. J. J. Atkinson, of Thio, including two funeral masks; Tasmanian minerals, through the Tasmanian Museum, Hobart; Broken Hill minerals from Mr. J. A. Burnell, the Native Coppers being particularly fine; a remarkable inlaid Skull from the Solomon Islands; and a Sunfish (*Orthogoriscus mola*, Schl.) from Port Jackson.

12. *Publications*.—The important work issued under your auspices, "The Zoology of Funafuti Atoll, based on collections made by Mr. C. Hedley in 1896," being Memoir No. III of the Museum Series, was steadily continued throughout the year, resulting in the publication of Part 6.

One part of the Museum Records was published, being Part 4 of Vol. III.

The new edition of Parts 1 and 2 (Accipitres and Striges) of Dr. E. P. Ramsay's "Catalogue of Birds in the Australian Museum," was duly published last year.

The second part of Mr. North's "Insectivorous Birds," prepared by desire of the Honorable the Secretary for Mines and Agriculture, appeared in the *Agricultural Gazette* (January, 1897) as already reported, but as the third part has now been in the hands of the Agricultural Department for upwards of four years, it is feared that its publication is abandoned. This, in my opinion, is very short-sighted policy, for I have received abundant proof of the popularity of these excellent articles.

In the early part of 1898 you requested me to report on the condition of the incomplete amongst the Museum catalogues, with the result that I recommended the abandonment *sine die*, of all except the "Catalogue of Australian Birds," by Dr. E. P. Ramsay; the "Tunicata," by Prof. W. A. Herdman; Mr. North's "Catalogue of Nests and Eggs of Birds found breeding in Australia and Tasmania"; and the Library Catalogue by Mr. Sinclair.

During the present year the "Funafuti Memoir" will be completed and two other important works commenced. viz., "The Scientific Results of the 'Thetis' Trawling Expedition," and a second edition of the "Catalogue of Nests and Eggs," as detailed in paragraph 23. I have long felt the want of a working catalogue of the more important specimens in the Museum, as well as of the duplicates, with the view of rapidly ascertaining both what we possess and are in want of, or as available for exchange. To this end Mr. Waite suggested the adoption of the Library system of card slips as explained in his Report (Appendix II), and this has so far been found to answer the purpose well.

13. *Information and Duplicates Disseminated*.—Numbers of visitors interested in Zoology were afforded access to the collections, and accommodation found for artists desirous of drawing from nature, particularly students from the Technical College.

A large number of mineral oddments was sent to the Technical College at Newcastle for the use of the students, and a series of food fishes was prepared for the Museum there. Certain anatomical preparations outside the scope of our operations were transferred to the Anatomical Museum at the University. Sundry botanical specimens, coming within the same category, were sent to the Botanical Gardens Museum. A full return under this head will be found in Appendix X. •

A large amount of information was disseminated in the form of replies to correspondents.

14. *Spirit Collection*.—As foreshadowed in my Report for 1897, the whole of the specimens in spirit were transferred from the old shed to the new Spirit-house, erected in 1897 without accident, under the superintendence of Messrs. Whitelegge and Waite. With the exception of the Mollusca all the groups were arranged in systematic order on the shelves and in the glazed cases by the various Assistants in charge, and printed group labels provided. This year Mr. Hedley will take the Mollusca in hand.

A reference to the Birds retained in spirit will be found in paragraph 23.

Previous to the commencement of last year it was always the custom to throw away dirty or foul spirit. This appeared to me a very wasteful act, and in consequence you were good enough to obtain from the Treasury a permit to redistil such material without procuring a license, or entering into any further bond than that already existing. So far, with very crude apparatus, 50 gallons of spirit have been recovered of a strength sufficiently high to enable it to be used for store and collecting purposes. Now, one of Townson and Mercer's six-gallon copper stills, with worm, &c., is under order from London, and on arrival I shall be in a position to make a much larger and more satisfactory saving of spirit—one of the most expensive items on our store list.

15. *Taxidermists* (Messrs. J. A. Thorpe and R. Grant).—A very satisfactory year's work was completed by the Taxidermists. I have elsewhere (par. 14) referred to the abandonment of the practice of keeping Bird skins in spirit. In following out this principle, 578 skins were prepared. In a similar manner, all Marsupial skins were removed from the tanks, and made up, to the number of ninety-six. Thirty new Mammal skins were preserved, or preserved and made up, and the same number was mounted. With the view of economising space in the wall-case devoted to the Rodentia, the Muridæ and Sciuridæ were taken in hand, and individuals of the same species and habitat grouped together; in this manner, forty-three skins were dealt with. Amongst Birds, only one nest group was set up, but the grouping process was again resorted to with advantage amongst the Australian Pigeons and Game-birds, forty-three groups being so prepared. The Lyre-bird group, showing these graceful Birds with their natural surroundings, was entirely dismantled and reset. The bower of Newton's Bower-bird (*Prionodura newtoniana*) was also worked up. Twenty-three new Reptile skins were mounted, and sixteen restored, chiefly Chelonian. The whole of the skin collections and the Ethnology also were in charge of the Taxidermists throughout the year.

16. *Articulators* (Messrs. H. Barnes, Junr., and A. H. Taylor).—Several valuable preparations were added, the principal being the skeleton of a Salamander. The skeletons of eighteen Mammals were mounted, and twenty-five prepared; fifteen Birds mounted, and thirty-five prepared; one Reptile mounted, and one prepared. In addition to the foregoing work, 453 separate bones were macerated, cleaned, and added to the collection of Comparative Osteology, 347 Mammals, and 106 Birds. A skeleton of the Japanese Salamander (*Megalobatrachus maximus*, Schl.) was successfully prepared.

17. *Formatori* (Messrs. H. Barnes, Junr., and A. H. Taylor).—Thirteen moulds were made and nineteen casts or reproductions taken, and fifteen of them subsequently coloured. The more important were a Japanese Salamander (*Megalobatrachus maximus*, Schl.), a Carpet Snake (*Python spilotes*, var. *variegata*, Gray); a Sea Snake (*Engyrus bibroni*, H. and J.); and two Meteorites, one known as the "Hay," the other as the "Yardea" Meteorite.

*Photographer* (Mr. H. Barnes, Junr.)—Photographic work shows a considerable advance upon that of last year. Seventy-two negatives were taken, 139 prints prepared, and fifty-six prints mounted. Amongst these negatives is a very fine set of Birds' nests, obtained in the majority of instances by Mr. A. J. North, with their natural surroundings.

19. *Carpenters* (Messrs. R. Barnes and B. Lucas).—The Carpenters were again kept fully employed, chiefly in the preparation of stands, tablets, small glass shades, cases, &c., for the display of specimens, 477 stands, eighteen tablets, and fourteen shade cases having been made. The usual amount of odd repairs effected, including fittings for the dark-room attached to the Photo. Studio, new cask-stands and foot-gratings in the Spirit-house, new fount trays for the Printer's presses, additional Library shelving; new picket fencing at the inner private gates, new step-shelf throughout the wall-cases devoted to Reptilia; frames for descriptive labels in the Reptile and Mineral galleries, and other miscellaneous work. Amongst other duties, the Carpenters had depending on them the keeping in order of all locks and the examination of the whole of the roofs and other structures for the detection of Termites.

20. *Smiths* (Messrs. B. Lucas and R. Barnes).—This branch of work, inaugurated in 1896, was fully taken advantage of, and it becomes more apparent year by year what a distinct gain it is to be able to perform this work on the premises, rather than putting it out to the trade. The work is of necessity of a miscellaneous character, but the principal items were racks in the Taxidermist's and Articulator's shops, brackets for support of shelving, supports for large Crocodile, mountings for garden roller, stretcher bars for glass shelving in wall-cases, &c.

21. *Compositor and Printer* (Mr. J. W. Woodhead).—The work performed by the Compositor and Printer last year was particularly satisfactory, comprising 7,667 labels of various sizes. The labels printed were distributed as follows:—Mammalia, 561; Reptilia, 190; Osteology, 39; Aves, 209; Insecta, &c., 2,210; Invertebrata (general), 352; Conchology 3; Ethnology, 645; Mineralogy, 1,047; Palæontology, 31; Library, 139; and general purposes, 2,241. The labels under Mineralogy comprise those for the crystal models, all of them of a highly intricate and technical nature. Some confidential returns and memoranda for Board Meetings were also composed.

22. *Mammalia*.—The entire space that can be devoted to this class being now occupied no additions to speak of were made, but the permanent printed labels were completed; in fact, no additions can be made until the proposed south wing of the Museum is erected in its entirety.

The old Spirit-house was cleaned and renovated, and used for the housing of unexhibited mounted skins, and duplicates.

Amongst Marsupials received from the Perth Museum was a specimen of the Rufous Hare-wallaby (*Lagorchestes hirsutus*, Gould), not previously represented in our series. Mammals received from Prof. Henry Giglioli will be found detailed in Par. 9. Prof. W. Baldwin Spencer, of Melbourne, with his usual liberality and desire to render our collection as complete as possible, presented several examples of Central Australian Muridæ. The Zoological Society of New South Wales was particularly mindful of us last year, for besides numerous small animals, we received from its menagerie a Black Leopard (*Felis unicolor*, Linn.), three Pumas (*Felis concolor*, Linn.), two young Orang Utans (*Simia satyrus*, Linn.), and the celebrated "Soudan Donkey." The latter animal, I am informed by Surgeon Col. W. D. Campbell Williams, was captured in the Soudan by a party of so-called "Friendlies"—Hadendowa Arabs—from one of Osman Digna's men, at a place called Otao, the furthest point reached by the British Expedition during the campaign of 1885. An outpost of New South Wales Infantry met the Arabs, and appropriated the donkey and a herd of goats that the dervish was driving, and on the latter objecting the Arabs calmly lopped off his right hand with one of their straight, razor-edged swords, and pursued the even tenor of their way, leaving the original donkey proprietor to do the best he could for himself. The hand, however, they tied round the donkey's neck, and came back to Otao in great form, the hand being produced as an evidence of their friendly spirit, and as to how they served Osman's men. The wounded Arab was found next morning by a scouting party, and brought into the Guard's Brigade Camp. In the Field Hospital the stump was trimmed up, and the man made a good recovery. When he was left by the Arabs to his own devices he rammed the stump of his arm into the sand to stop the bleeding. This is the true history of the "Soudan Donkey."

23. *Aves*.—Mr. North completed the second edition of Ramsay's Catalogue of Australian Birds, Parts 1 and 2, and they were accordingly published.

It is gratifying to be able to report that in this section acquisitions were more numerous than in any preceding year.

The cabinet collection of Australian Birds' Eggs has progressed in arrangement. We are, however, still much in want of many complete and side blown clutches.

The living example of the Golden-winged Parrakeet (*Psephotus chrysopterygius*) from Port Darwin, only five other examples of which are believed to be known, still continues to thrive and enliven us with his remarkably varied and musical note.

You were pleased to direct that a second edition of our most popular Catalogue "Nests and Eggs of Australian Birds," should be prepared, and published in an improved form. It will contain, in addition to the ordinary plates of eggs, illustrations of the more important nests photographed *in situ*, and some typical Birds. With this end in view Mr. North lost no opportunity during the late breeding season of securing good photographs of the former, often even to the sacrifice of his private time.

In consequence of other urgent work requiring attention only one nest group was mounted, but a number were procured and will receive attention during the current year. Among those presented was a particularly interesting nest of *Sericornis ceteoquularis* or rather group of five nests agglomerated into one by successive nidifications. This was presented by Mr. W. M. Thomas, of Dubbo.

A practice existed in this Museum for many years of allowing Birds in the flesh to accumulate in our Spirit-tanks, no allowance whatever being made for the fact that given sufficient time in spirits, the more vivid colours of most Birds' plumage will become obliterated. I have put an entire stop to this proceeding, and henceforth, unless Birds are required for anatomical examination, all that come in will be at once turned into skins, or osteological specimens.

24. *Reptilia and Batrachia*.—The Australian Snakes were also in part remounted and rearranged. The Snake models were increased by a small addition.

Descriptive labels, illustrated by diagrams of Reptilian structure, were framed and hung in contiguity to the specimens, and distribution maps were placed in the cases.

Of the Japanese Salamander (*Megalobatrachus maximus*, Schl.), presented by Mr. W. C. Heron, a model was in the first instance taken, and afterwards the specimen converted into both skin and skeleton.

25. *Pisces*.—Mr. Waite, after his return from the "Thetis" expedition, was employed for some time in the determination of the fishes obtained during the cruise. This, with other indispensable duties, referred to elsewhere, prevented more than a commencement being made with the arrangement of the general collection in the new cases, and as it is now necessary for him to describe the "Thetis" gatherings in detail, little will be accomplished this year in the direction of systematic arrangement, certainly not until well on in the year.

26. *Osteology*.—In the Report for 1897, I stated that the final disposition of the Birds, Reptile, and Fish Osteological preparations was held over. The removal of the Reptilia to the new cases prepared for them set free certain large cases on the floor of the Upper Main Hall. This enabled the congested state of the Bird skeletons to be relieved by transferring the smaller species to the cases in question, which were placed in contiguity to the general series of Birds. The wall-cases of the Osteological gallery proper are now quite full, with the exception of that portion allotted to the Rodentia and Marsupialia. Ample room has been reserved for the latter for some time to come, as it is, in my opinion, the one group we should, by every means in our power, endeavour to render as complete as circumstances will possibly permit.

The nucleus of a comparative series of disarticulated bones, commenced in 1897, has progressed very satisfactorily, 453 bones having been added to it.

The preparation of the skeleton of a Sunfish (*Orthogoriscus mola*, Linn.) was commenced late in the year, and it is hoped that it will turn out an object of interest and instruction.

The skeleton of a Japanese Salamander was prepared and mounted.

27. *Insecta, Myriapoda, and Arachnida*.—The donations of 1898 exceeded those of 1897 very considerably, whilst 3,209 specimens were received in exchange. The exhibited Australian Coleoptera and Lepidoptera were registered, and the former considerably augmented. The Exotic Coleoptera were provided with printed labels. This year the Exotic Lepidoptera will be similarly treated.

Mr. Rainbow has given as much attention as possible, beyond that of mere care, to the cabinet collections, the exotic and endemic Butterflies being completed, and the Moths well in hand.

As I anticipated, when writing last year's Report, an investigation of our spirit Insecta stores added largely to the duplicates for exchange.

28. *Mollusca*.—With the exception of keeping down current work, such as registration of acquisitions and preparation of exchanges, Mr. Hedley's whole time was taken up with the elaboration of the Funafuti Gasteropoda; this was completed at the end of the year, and is now in the hands of the printer. Had it not been for the cordial assistance of Mr. W. A. Franks, no advancement could have been made in the preparation of new material for future exhibition. Under Mr. Hedley's supervision, he mounted 1,800 tablets of shells.

It became necessary to provide movable covers to the Conchological cases to exclude the strong light, in consequence of some of the shells showing a tendency to become bleached; half the cases were so provided last year, and the remainder will be supplied this year.

29. *Invertebrata (exclusive of Insecta, &c., and Mollusca)*.—Mr. Whitelegge during the early part of 1898 continued and completed his researches into the Marine Invertebrata, other than the Mollusca, of Funafuti, and commenced the study of the Crustacea obtained during the "Thetis" Expedition; these are already partly named and registered.

Prof. W. A. Herdman having completed his descriptions of the New South Wales Tunicata returned the specimens, including fifty types. The collection was at once prepared by Mr. Whitelegge, and placed on exhibition. In 1888 my predecessor, Dr. E. P. Ramsay, acting on instructions from you, forwarded this collection of Tunicata for description to Prof. Herdman. In 1893, however, just as the work was about to be sent to press, circumstances of an official nature, beyond your control, temporarily put a stop to the publication. It now affords me much pleasure to say that in 1897 it was again possible to contemplate the publication of a Catalogue, which was therefore at once completed, and is about to be issued as one of the Museum Series.

At the time the specimens were forwarded to Prof. Herdman they formed a complete collection of the Tunicata of the New South Wales coast as then known to us, and very few additional forms have since come to hand. It is, however, unquestionable that by systematic collecting, which, unfortunately, the Australian Museum is not at present in a position to carry out, the list might be very much enlarged.

In addition to the Museum material, Prof. Herdman has incorporated certain forms known to him, but at present not represented in the former. A preliminary list was published in the "Annals and Magazine of Natural History" for June, 1898.

30. *Ethnology and Anthropology*.—As a possible means of assisting to perfect our Collection of Weapons and Implements, both Australian and Pacific, you authorised the distribution of two Circulars asking for donations, copies of which are attached:—

Sir,

The Australian Museum, Sydney, 1 November, 1898.

I am desired by the Trustees of the Australian Museum to ask the favour of your assistance in extending and completing the Ethnological Collections by your kindly presenting to the Trustees, and forwarding to the Curator, any specimens of interest you may obtain, with as much information as is available regarding locality, method of manufacture, uses, &c.

I send, under separate cover, a pamphlet published by the Trustees, on the "Ethnology of Funafuti," for your acceptance. A perusal of it will give you an idea of the kind of information required concerning articles from any of the South Sea Islands.

The Trustees are also willing occasionally to treat for the purchase of Specimens not already represented in the Museum.

I am, &c.,

R. ETHERIDGE,

Curator.

Sir,

The Australian Museum, Sydney, 1 November, 1898.

I am desired by the Trustees of the Australian Museum to ask the favour of your assistance in extending and completing the Ethnological Collections by your kindly presenting to the Trustees, and forwarding to the Curator, any specimens of interest you may obtain,

The

The fine Collection of Australian Aboriginal Implements belonging to the Trustees was entirely destroyed by the Garden Palace fire in September, 1881, and, although many specimens have since been acquired, the Trustees have none representing the now almost extinct coast tribes.

There must be many of these in the possession of old residents, and the Trustees would very highly appreciate gifts of such as can be spared.

I am, &c.,

R. ETHERIDGE,  
Curator.

I am glad to say that these applications have already borne fruit in the form of small collections obligingly presented by Mrs. W. Wyatt-Gill, Mrs. A. A. Smart, and the Rev. S. Ella, with the promise of others.

The unexhibited portion of our Ethnological collection had always been inconveniently scattered in several store-rooms, thereby causing much loss of time in instituting comparisons with new material. To avoid this I devoted four months, or more, to its thorough investigation, and succeeded in systematically classifying the whole, bringing like with like, and separating the duplicates. Each specimen was, in addition to its registration tag, supplied with a locality label. During the progress of this work many hundreds of specimens passed through my hands. I was cordially assisted in this work, at various times, by Messrs. R. Grant and B. Lucas. I also spent much time in working out the natural history of as many of the exhibited specimens as possible, and succeeded in inserting 645 descriptive labels, unfortunately only an infinitesimal portion of those required.

The whole of our Phallic or Erotic specimens were also arranged in a private room and labelled.

The chief acquisitions consisted of a valuable series of objects from Thio, New Caledonia, including two fine Funeral Masks, some particularly interesting examples of Shell-money, and the peculiar *Doigtier*, or Spear-throwing becket; an inlaid skull from the Solomon Islands; and an interesting Cooking-pot from Erromango, presented by the Rev. H. A. Robertson, of that island.

The general acquisitions in this section were also numerous.

31. *Historical*.—No work of any importance was performed in this Section during 1898.

32. *Numismatical*.—Comparatively few additions were made to the Numismatical Collection, but two private and suitable rooms for this important branch of Ethnology with suitable cases were fitted up. I hope during the current year to have a fair proportion of our coins and medals arranged, Mr. Sinclair having kindly lent his assistance and got through a good deal of the preparatory work.

33. *Mineralogy and Chemistry*.—The Mount Stirling Meteorite entrusted to Professor H. A. Ward, of Rochester, New York State, to be cut and etched, was safely returned, and now forms a prominent object in the Mineral Gallery.

The arrangement of the interesting and instructive series of Crystal Models was completed by Dr. Cooksey. In general the same surface throughout the combination of forms in a given mineral species received the same tint, and as far as possible similar surfaces throughout a system were treated in a like manner. The models number 743 in all, and in many instances are accompanied by natural crystals of the same form. Each model is provided with a printed label containing the name, crystallographic formula, and locality. In addition a large explanatory label of the symbols used is provided, and to each of the six systems an additional label, also explanatory is added. A collection of characteristic Australian minerals and ores was sent to the Imperial Geological Institute of Berlin, and a large number of mineral oddments to the Technical College, Newcastle, for the use of the students. From the Tasmanian Museum a collection of minerals of that island was received, including fine examples of Crocoite and Axinite.

Amongst a series of Broken Hill minerals purchased from Mr. J. A. Burnell, the Native Coppers, dendritic and feathery, were very fine; an additional small iron meteorite from West Australia was purchased from Mr. J. F. Connelly; and a slice of the Thunda Meteorite was obtained by exchange with Prof. A. Liversidge.

Amongst presentations the more important were:—Native Arsenic from Lunatic, near Drake, by Mr. E. Jordan; Stilbites from the Liverpool Plains by Mr. D. A. Porter; Fulgarites from Kensington, by Messrs. J. W. Grimshaw and G. H. Knibbs; Telluride of Gold from Kalgoorlie, by Mr. G. Sharp; and a slice of the Mungindie Meteorite, by the Government Geologist, (Mr. E. F. Pittman.)

Through the courtesy of Mr. F. R. Godfrey, of Melbourne, we were able to obtain a cast of a meteorite in his possession, and new to us, from near Hay, New South Wales; and Dr. E. C. Stirling, Director of the Public Museum, Adelaide, was kind enough to allow us to take a cast of a meteorite found at Yardea, Gawler Ranges, S.A.

34. *Palæontology*.—The large specimens exhibited in the wall-cases were increased by twenty-three. No tabletted specimens were added in consequence of the want of a Mechanical Assistant.

Mr. C. W. de Vis, M.A., Curator of the Queensland Museum, continued his examination and determination of our extinct Marsupial remains, much to our advantage.

Some years ago, when the alterations to the Geological Hall took place, certain portions of the general Foreign Collection were, from the want of space, packed up and passed into store. The whole were again unpacked, cleaned, and systematically arranged in covered wooden trays and placed on shelving in my workroom. This occupied my attention for about four months.

The most important acquisitions by presentation were a collection of Tasmanian Mesozoic, Carboniferous and Silurian fossils, by Mr. T. Stephens, M.A.; Cretaceous Reptilian and Fish remains from the Flinders River, by Mr. J. B. Nutting; Devonian, Silurian, and Carboniferous fossils from North America, by Mr. W. E. Crane; Prof. R. Tate's co-types of Ordovician fossils from Central Australia, collected during the Horn Expedition, by Mr. W. A. Horn, through Prof. R. Tate, &c.

During our enforced stay at Lord Howe Island, on the cruise of the "Thetis," Mr. Waite and myself succeeded in collecting some additional very interesting remains of the peculiar extinct Chelonian, *Meiolania platyceps*.

35. *Library*.—The Library has received careful attention, and acquisitions have been duly placed on the shelves. There are, however, many valuable books which it is important we should acquire for pressing needs, as soon as funds are available for purchasing them.

36. *Office*.—Under the watchful eye of your Secretary (Mr. S. Sinclair), the office work was efficiently carried on by Messrs. F. T. Clark and J. A. Spencer.

I have, &c.,

R. ETHERIDGE, JUNR.,  
Curator.

## APPENDIX II.

## REPORTS OF SCIENTIFIC ASSISTANTS.

To the Curator,—  
Sir,

Herewith I have the honour to submit to you my Report for the year 1898.

*Mammals.*

It is with satisfaction I am able to report that all the specimens in the Mammalian Galleries are now uniformly labelled. The Orders attended to during the year were the Rodentia, Ungulata, Edentata, Marsupialia, and Monotremata. The time was chiefly occupied with the fine collection of Marsupials; the *fœtal* stages in spirits were also included.

Perhaps, from a popular point of view, the most interesting donation was the donkey brought home by the New South Wales Contingent to the Soudan war. The carcass was presented by the Zoological Society of New South Wales, in whose gardens it had long been a familiar object. Professor W. Baldwin Spencer of Melbourne further enriched our collection of Central Australian Muridæ, while Mr. J. Stein, and Mr. F. C. Janson were liberal donors of Mammals. Exchanges were satisfactorily negotiated with the Perth (W.A.), Christiania, Florence, and British Museums.

In place of the usual book-form catalogue, I, with your concurrence, adapted the "card-catalogue" plan now being so extensively used in libraries. A separate card is issued for each specimen; one of these may be withdrawn or the series added to without in any way disturbing the whole. Already all the duplicate Mammals have been so catalogued, and the exhibited collection is now receiving attention in this direction.

Compared with Fishes and Reptiles, the number of Mammals preserved in spirits is extremely small, nevertheless it is pleasant to have them in such order as they occupy in the new spirit house, further to be mentioned.

The Taxidermists have, during the year, "made up" ninety-six skins of Mammals from spirit specimens; they have dealt with thirty animals in the flesh, while a similar number was mounted for exhibition purposes. The groups prepared number forty-three.

During the second half of the year I had the services of Master Allan R. McCulloch, a volunteer, who relieved me of much of the clerical work, such as preparing MS. labels for the printer and other matters within his powers.

*Reptiles and Batrachians.*

In this Section the work performed was not great; some progress was, however, made with the spirit collection of snakes. Hitherto these had been coiled in jars in the usual unsatisfactory manner. I have commenced arranging them in natural curves against a sheet of opal glass, by which means they are attractively and usefully displayed. The Lizards, Frogs, etc., I had previously mounted in this manner.

The series of groups representing Lizards among natural surroundings was added to, and the maps illustrative of distribution were completed and form a most useful adjunct to the gallery.

Hung near the Lizards and Frogs will be found descriptive letterpress and diagrams, at present taking the place of a much needed and reliable guide.

A few more snakes were utilised as models for the "dry" collection, and the Japanese Salamander presented by Mr. W. C. Heron was first cast and then passed over to the Articulator. Among other donors may be mentioned Mr. Henry Richards, who furnished specimens from West Australia, and the Rev. George Brown, who enriched our series of New Guinea Reptiles.

The main work accomplished during the year, in company with Mr. Whitelegge, was the transference of the entire collection of spirit specimens to the new house specially built for its reception. In addition to thousands of bottles, wooden tanks each of fifty gallons capacity were moved for some distance up a steep incline almost without mishap.

The bottle specimens of Reptiles were placed in systematic order upon the shelves of the new spirit house.

*Fishes.*

In the Section of Fishes my office has been that of a collector rather than of an administrator. In accordance with your instructions, I accompanied the trawling expedition of H.M.C.S. "Thetis" as naturalist. The operations extended from February 18th to April 8th, and included the coast of the Colony from Jervis Bay to the Manning River, up to the 90-fathom line. As you accompanied us both to the Manning Bight and on the final excursion to Lord Howe Island, you are aware how, after leaving Sydney on March 25th, and encountering heavy weather, our passage occupied seventy hours as against the usual thirty-six. We were left upon the island for eleven days, the "Thetis" being blown to sea in the gale, returning to Sydney for coal and supplies before taking us off.

Large collections of marine objects were accumulated during the seven weeks' cruise, the determination of which will occupy some time. An essay on the fishes obtained has already been printed at the Government Printing Office, but a more technical account will be issued by the Museum.

One section of the new Fish Gallery, referred to in my last Report, has been completed, and a small number of specimens has already been housed. An extension of the gallery will be proceeded with during the coming year.

The Spirit Collection of fishes now in the new house has been broadly classified, time not yet having been found for a more detailed arrangement.

*Skeletons.*

As far as space permits this collection is in a satisfactory condition. The smaller bird skeletons were removed to the Bird Gallery, but at present space cannot be found there for the Ratitæ; these, consequently, remain in the Osteological Gallery.

The Articulators have in hand the skeleton of a Sunfish, but as the treatment adopted, being similar to that employed for cartilaginous fishes, occupies considerable time, it is still in course of preparation.

Ninety-six skeletons were prepared during the year, of which number thirty-four were mounted and placed in the gallery.

I am, &c.,

EDGAR R. WAITE.

To

To the Curator,—

Sir,

I have the honour to hand you herewith my Annual Reports for 1898 of the Sections under my charge.

*Aves.*

One thousand two hundred and ninety-three specimens have been registered during the year. Numerically the registrations exceed those of any previous year. This is chiefly due to the partial incorporation, as time permits, of the Dobroyde Collection. Good progress was made with the Cabinet Collection of Australian Birds' Eggs, which occupied the greater portion of my time during the first six months of the year. The collection of Australian Birds' Nests was rearranged in the cases and labelled, and a small number of written tickets in the Bird galleries replaced by printed ones.

Most important work was done in the Spirit Collection. The collections of Birds from various sources during the last quarter of a century were brought together, the broken, bleached, and worthless specimens destroyed, those of any value either being kept for future reference or skinned by the Assistant Taxidermist. It was found on examination that a large number consisted of unregistered and mutilated specimens, obtained in the neighbourhood of Sydney.

With a view to the publication of a second edition of the Catalogue of "Nests and Eggs of Birds found breeding in Australia and Tasmania," during the spring and summer months many photographs of nests and eggs were taken *in situ*. A visit was also made to the Upper Clarence River in November, resulting in the acquisition of specimens and information which will form the subject of future remarks.

No additions were made to the Group Collection illustrating the life-histories of Australian birds, but many nests *in situ* were secured, and will claim the early attention of the Taxidermist. A very fine case of Newton's Bower-bird (*Prionodura newtoniana*) was set up with the bower or playground. Useful work was also done by the Taxidermist, in grouping together the singly-mounted specimens of Pigeons, Game-birds, and Waders, thereby rendering an amount of space available for future additions.

The collections are in a good state of preservation, the Assistant Taxidermist having devoted a large amount of his time to their systematic examination.

Numerous inquiries were answered, either personally or by letter, during the year, and several small collections of birds' eggs were determined, also one of the *Paradiseidae*.

Proofs of Parts I and II of the 2nd edition of Dr. Ramsay's "Catalogue of the Australian Birds in the Australian Museum" were revised, and the publication issued.

The publication of the remainder of the M.S. on "The Insectivorous Birds of New South Wales," prepared at the request of the Under Secretary for Mines and Agriculture for the use of the students at the Hawkesbury Agricultural College, may be regarded as practically abandoned. The last part was issued in the *Agricultural Gazette* in January, 1897.

*Ethnology.*

Eight hundred and eighty-four specimens were registered.

Consequent upon your circulars issued during the year, the acquisitions to this Section were both numerous and valuable. Chief among these may be mentioned a large collection of miscellaneous articles from different islands of the Pacific, presented by the Rev. Samuel Ella; a similar donation from the Rev. H. A. Robertson, of Erromanga, New Hebrides, including two large stone-rings or "Navelahs," of great rarity and value; and mats, fish-hooks, &c., from Mr. Craig Maginnis, of Tonga. By exchange a large collection of Palæolithic implements was received from Indiana, North America; and shields, bull-roarers, &c., from the Tasmanian Museum, Hobart. The principal additions by purchase consisted of a collection from Thio, New Caledonia; various articles of extreme rarity from North and Central Australia; and boomerangs, dilly-bags, &c., from the Upper Clarence River.

Under your supervision the ever-increasing collection in the storerooms has been systematically arranged, labelled, and rendered available for future reference.

A considerable amount of your time, too, was devoted to the preparation of descriptive labels, which were struck off by the printer, and attached to the specimens.

*Numismatical and Historical.*

The chief acquisitions, by presentation, to the Numismatical Collection consist of an Ashanti bronze star, and nineteen pieces of ribbon belonging to various British war and other medals, received through the Agent-General for New South Wales, from the War Office, London, and two silver medals received from the Public Schools Athletic Association through the Department of Public Instruction, Sydney.

Only three Historical specimens were received during the year—the most noteworthy being a large shark-hook found in a well while digging the foundations of the additions in George-street to the General Post Office, Sydney.

I am, &c.,

ALFRED J. NORTH.

To the Curator,—

Sir,

I have the honour to hand you herewith the Annual Report of the Entomological Section for the year 1898.

The number of specimens received as donations is considerably in excess of those registered during the preceding year. The principal contributors to our cabinets were Mrs. J. Babington White, from whom we received a collection of Thursday Island Lepidoptera, and Mr. G. A. Waterhouse, who generously donated a large collection of Indian butterflies. Messrs. P. de la Garde, R.N., of H.M.S. "Waterwitch"; Hatley Boyd, of Minmi; E. N. Atkin, of Sydney; and J. A. Thorpe, of the Australian Museum, added largely to our duplicate collection of Australian Coleoptera.

Very



Very little collecting was done during the year, and this principally by Dr. Ramsay. During my annual leave I embraced the opportunity presented by a short trip to the Blue Mountains to collect a number of specimens of which our duplicate collection stood in need.

The total number of specimens received in exchange was 3,209, and consisted principally of British Coleoptera, Rhopalocera, and Heterocera; these were from Mr. Edgar R. Waite. A small series of Australian butterflies was received as an exchange from Mr. G. A. Waterhouse, of Waverley. The balance of a collection of Australian Coleoptera, due to Mons. E. Guérin, of Maion, France, was made up and despatched.

The work of revising, remounting, and registering specimens received considerable attention during the year. Nearly the whole of the exhibited collections of Australian Coleoptera and Lepidoptera were registered, and many examples of the former, not previously displayed, were set out in the gallery. The total number of registrations under this head is 626.

The whole of the manuscript labels attached to the exhibited collection of Exotic Coleoptera were replaced by printed ones, and added greatly to the general appearance by their neatness and uniformity. The Exotic Lepidoptera will be similarly treated as the work of printing progresses.

The task of examining and arranging the spirit collection in the new spirit room was undertaken and accomplished. This, although it involved much time and labour, will be of immense advantage in the future when selecting specimens for exchange.

One noticeable feature of 1898 was the increase in the number of young students of Australian Entomology. The facility afforded to private collectors, by the displayed collection, of naming specimens was largely availed of, and in addition much help was given in the way of names and information.

The collection is clean and free from insect pests.

I have, &c.,

W. J. RAINBOW.

To the Curator,—

January, 1899.

Sir,

I have the honour to hand you herewith my Annual Report on the Conchological Section for the year 1898.

The study of the Atoll of Funafuti, which had already consumed the two previous years, has again almost exclusively engaged me; this time by the preparation of a report on the Mollusca. Except the section on the Bivalves, this was completed and partly printed by the end of the year. At a considerable expenditure of time, but at a reduction of cost to the Institution, all the illustrations for this were prepared by myself.

In the course of the investigation of the Funafuti shells, a large number of species from other parts of the tropical Pacific were compared and named.

For six months the Conchological Section has benefited by the valuable assistance of a volunteer, Mr. F. W. Franks, who attended daily, and mounted about 1,800 tablets of shells under my supervision. By his kind and efficient aid I have been able to overtake work which the Funafuti studies had thrown into hopeless arrear.

The increases registered were from the following sources:—Dr. C. G. Seligman presented a useful series of small shells from Torres Straits; Dr. R. Pulleine, a collection of South Australian Mollusca; Mr. J. S. Gardiner, a set of the land shells of Rotuma, duplicates of author's types; Mr. A. U. Henn, a series of Lifu shells determined by Mr. J. C. Melvill; shells from New Zealand, New Caledonia, and New South Wales were added by myself. By exchange small collections were received from Prof. R. Tate, Mr. J. Jennings, the British Museum, and the Technological Museum of Sydney. Mrs. T. Nicholls collected a series from Lord Howe Island. From the old collection 234 species were registered.

The total number of the acquisitions registered other than the foregoing amounts to 1,094.

During my annual leave I visited the North Coast of New South Wales, and obtained there a series of Mollusca, illustrating geographical distribution and embracing several species new to our collections.

From time to time my services have been required by you in the Ethnological Section.

Students and inquirers have been, as usual, supplied with names and other information.

I have, &c.,

CHARLES HEDLEY.

To the Curator,—

Sir,

I have the honour of submitting my Annual Report for the year 1898.

The acquisitions received during the year were unusually large.

The principal donation consists of a large and valuable collection of Corals, Alcyonarians, and Crustacea from Oubatche, New Caledonia, collected and presented by Mr. Charles Hedley. It contains many rare and interesting forms hitherto wanting in the Museum collection. Numerous specimens were received in exchange, the most important being a very fine series of mounted slides of Victorian Polyzoa from Mr. Joseph Gabriel of Melbourne.

The

The material collected during the cruise of H.M.C.S. "Thetis" pertaining to my section consists of a very large number of Sponges, Zoophytes, Corals, Gorgonias, Echinoderms, Crustacea, and Polyzoa. The great variety of forms procured fully proves that the waters off the coast are as richly endowed with life as those of Port Jackson. The collection contains a very large number of rare or new forms not hitherto recorded from our coasts. Considerable progress has already been made in sorting out and classifying the "Thetis" collection, and the Crustacea have been in part specifically separated and registered.

During the year Mr. Waite and myself were engaged in transferring the collection of spirit specimens to the new spirit house. This work was carried on intermittently, and occupied considerable time; it has, however, been completed, and the whole of the collections under my charge have been arranged in systematic order.

The exhibits have been enriched by the addition of the collection of Australian Tunicata, determined by Prof. W. A. Herdman, of Liverpool. The material was sent from the Museum in the years 1886 and 1887, and returned about the middle of 1898. On arrival, the specimens were immediately unpacked, mounted, and placed in the cases, and considering that the collection contains over fifty types, it is a most valuable addition.

The paper on the Madreporarian Corals of Funafuti, as mentioned in my last report, was finished and published on the 21st of February. (Mem. Aust. Mus., vol. III, pt. 6.)

A paper dealing with the Hydrozoa, Scyphozoa, Actinozoa, and Vermes was completed during the past year and is now in the press.

I am, &c.,

THOMAS WHITELEGGE.

To the Curator,—

Sir,

I have the honour of submitting to you my Annual Report for the year 1898.

The number of specimens acquired has suffered a diminution on that of last year; this is principally due to the smaller number of donations. However, among these some valuable specimens have been sent in, notably some fine Stilbites from Mt. Nomby, Liverpool Plains, presented by Mr. D. A. Porter; specimens of Fulgurites from Kensington, near Sydney, presented by Messrs. Grimshaw and Knibbs; and some good specimens of Calaverite, the Telluride of Gold, from Kalgoorlie, West Australia, presented by Mr. G. Sharp.

A large number of very beautiful specimens of native Crystallised Copper, besides other interesting minerals from Broken Hill, were purchased from Mr. J. A. Burnell; and the Tasmanian Museum sent us two instalments in continuation of the standing purchase, in the second of which a number of very desirable minerals were secured, including some Axinites, Crocoites, and Datolites. Two valuable slices of the Mungindi and Thunda meteorites were obtained by exchange, the former with the Geological Survey of New South Wales, Sydney, and the latter with Prof. A. Liversidge. These were both new to the collection.

The Mount Stirling Meteorite purchased last year, and sent to Professor H. A. Ward, of Rochester, U.S.A., to be cut, polished, and etched, was returned to us, together with two slices. Four slices of West Australian Meteorites have been received in addition to complete the transaction. The main mass is now exhibited in a specially-built case at the west end of the gallery.

Casts of two Australian Meteorites have been taken from the originals kindly lent to us for that purpose. They are—

1. A Siderite, weighing 7 lb.  $3\frac{1}{2}$  oz., found in 1875, four miles south of Yardea Station, Gawler Ranges, South Australia, and now in the Public Museum, South Australia.
2. A Siderolite, weighing 9 $\frac{1}{2}$  lb., found in 1868-70 at Pevensey Station, Old Man Plain, ten miles below Hay, in a paddock fifteen miles south of the Murrumbidgee, New South Wales. The original is in the possession of Mr. Godfrey, of Melbourne.

The latter, and the Eli Elwah Meteorite in the possession of Mr. H. C. Russell, Government Astronomer, and found at Eli Elwah Station, fifteen miles west of Hay, are probably portions of the same original mass. Both have the appearance of having formed parts of a larger one.

The colouring, mounting, and labelling of the Crystallographic Models has now been completed, and in addition about one hundred natural crystals have been determined and labelled, and placed with their corresponding models. Large descriptive labels were also printed, so that this branch of the collection is now quite out of hand. It forms a very valuable and interesting exhibit.

Unfortunately a little progress only was made with the printed labels for the minerals themselves. These are badly needed, and would add very greatly to the value of the collection.

An effort to improve the appearance of the topmost shelves of the wall-cases by mounting and labelling large specimens proved very successful; a number of attractive specimens, for which glass shades and stands were prepared on the premises, has also been placed on the small shelves between the balustrade table-cases. It is intended to continue these additions, as opportunity occurs, all around the gallery.

A good number of specimens was added to the exhibited collection during the year, to which, in most cases, printed labels were attached.

A large number of mineral oddments was sent away for school and college use, particularly to the Technical College, Newcastle.

I have, &c.,

T. COOKSEY.

## APPENDIX III.

## SECRETARY AND LIBRARIAN'S ANNUAL REPORT FOR THE YEAR 1898.

To the Trustees of the Australian Museum,—  
Gentlemen,

I have to report that the office work has been efficiently performed by the Staff, documents and papers have been properly filed, and all clerical work duly attended to.

The Accounts have been audited monthly, and found in order by the Finance Committee.

To give a return of the documents received and registered conveys little information as to the labour involved in dealing with them, but it is of interest as comparing year by year. The following is a comparison of two years, showing the growth of the Museum in the time :—

	1898.	1899.
Letters received ... ..	471	1,104
Letters written ... ..	385	1,009
Letters of thanks written... ..	345	1,246
Vouchers ... ..	397	405
Reports ... ..	25	37
Schedules—		
Purchase ... ..	55	21
Exchange ... ..	42	57
Donation ... ..	360	776
Collection ... ..	.....	62
Information ... ..	.....	82

The Library continues to receive a large share of time and attention, and current work is kept up to date. The number of volumes received and registered was 347, besides 168 pamphlets and numerous unbound parts.

Owing to the want of funds to pay for the printing and employ the necessary assistance, the Library Catalogue has made no progress towards publication. It is, however, kept in the office in MS., and is available for reference by the Staff. It consists of—

Part 1. An alphabetical list of all the books in the Library under names of Authors or Institutions, arranged on slips, card-catalogue system.

Part 2. A more detailed list of periodical literature, arranged geographically, and made up ready for press.

Part 3. The pamphlets, collected in bound volumes. A portion of this has been printed; a further portion is ready for press.

Part 4. General Subject Index.

The Library contains the following number of books :—

<i>Periodical Literature.</i>				<i>General Subjects.</i>						
British—				Works.	Volumes.					
London	...	...	60	1,800	General Natural History	...	128	489		
England	...	...	24	150	Mammals	...	53	68		
Scotland	...	...	13	100	Birds	...	108	241		
Ireland	...	...	3	40	Reptiles	...	19	32		
India	...	...	18	140	Fishes	...	48	94		
Canada	...	...	10	90	Mollusca	...	94	271		
Australia	...	...	5	25	Insects	...	169	246		
New South Wales	...	...	50	330	Spiders, &c.	...	14	28		
Victoria	...	...	25	100	Crustacea	...	19	20		
Tasmania	...	...	4	30	Worms, &c. (Vermes)	...	10	14		
South Australia	...	...	13	45	Echinodermata	...	12	16		
Western Australia	...	...	4	10	Coelenterata	...	43	58		
Queensland	...	...	17	45	Parasites	...	12	13		
New Zealand	...	...	16	100	Anthropology	...	13	17		
New Guinea	...	...	1	5	Ethnology	...	49	66		
Oceania	...	...	2	2	Philology	...	14	14		
United States	...	...	100	1,000	Numismatics	...	11	12		
Austria, Hungary, &c.	...	...	18	130	Comparative Anatomy	...	21	34		
Belgium	...	...	8	40	Text Books	...	18	21		
Denmark	...	...	1	11	Physiology	...	9	13		
France	...	...	33	510	Botany	...	56	92		
Germany	...	...	48	550	Palæontology	...	227	383		
Holland	...	...	6	40	Geology	...	110	123		
Italy	...	...	10	65	Voyages and Travels	...	187	405		
Japan	...	...	6	25	Dictionaries and Encyclopædias	...	56	120		
Java	...	...	2	40	Exhibition Literature	...	22	77		
Norway	...	...	4	20	Library and Book Catalogues	...	39	60		
Russia	...	...	5	55	Microsmopy	...	8	8		
Spain and Portugal	...	...	5	17	Taxidermy	...	16	16		
Sweden	...	...	4	20	Miscellaneous	...	29	29		
Switzerland	...	...	3	7	Rarities	...	16	18		
South America	...	...	12	32	Pamphlets in bound volumes	...	.....	70		

Papers descriptive of the Australian Museum and the Australian Museum Library were sent, with the permission of the Publication Committee, to the Museums Association at Cambridge, the Second International Conference of Librarians at London, and the Australasian Library Association at Sydney.

I have, &c.,  
S. SINCLAIR,  
Secretary.

## APPENDIX IV.

## ABSTRACT OF RECEIPTS AND EXPENDITURE FOR THE YEAR 1898.

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	
Balances from last year .....				679	16	4	Salaries—							
From Colonial Treasurer—							Curator .....	650	0	0				
Statutory endowment .....	1,000	0	0				Secretary .....	375	0	0				
Parliamentary appropriation .....	5,806	0	0	6,806	0	0	Scientific assistants .....	1,370	0	0				
From sale of Publications—							Office staff .....	192	0	0				
Coloured plates of eggs .....	4	4	0				Mechanics .....	938	1	2				
Miscellaneous .....	6	5	3				Attendants .....	595	12	4				
From sundries, fines, &c. ....	1	1	0	11	10	3	Night-watchmen .....	143	0	0				
							Miscellaneous .....	86	12	11	4,350	6	5	
							Expense of opening on Sundays .....				142	4	0	
							Purchase of specimens .....	617	10	5				
							Spirits and material .....	28	0	0				
							Books, binding, and periodicals .....	234	4	3	929	14	8	
							Show-cases, repairs, locks, and fittings .....				463	5	10	
							Scientific catalogues, Museum Records, and Printing .....				385	11	9	
							Specimen bottles and boxes .....				9	5	1	
							Furniture, minor repairs, and window cleaning .....				101	5	0	
							Freights and travelling expenses .....				43	15	2	
							Funafuti Expedition—Further Publication of Results .....				12	7	2	
							“Thetis” Trawling Expedition—Expenses of Museum Representative .....				17	11	7	
							Miscellaneous expenses—							
							Stationery, Stores, and other Supplies .....	59	13	0				
							Insurance .....	57	4	6				
							Uniforms .....	20	1	3				
							Sundries and petty expenses .....	37	16	0	174	14	9	
							Printing, and colouring plates, of Australian Lepidoptera .....				10	0	3	
							Colouring plates of eggs .....				4	18	0	
							Balances—							
							Endowment Account and Special Funds .....	679	15	4				
							Public Account .....	172	11	7				
											852	6	11	
											£	7,497	6	7
											£	7,497	6	7

Audited and found correct, 21st February, 1899,—

S. H. HYAM, } Trustees.  
J. BELISARIO, }

## APPENDIX V.

## ATTENDANCE OF THE TRUSTEES DURING 1898.

*Crown Trustee.*

J. C. Cox, Esq., M.D., F.L.S. ... .. 16

*Official Trustees.*

His Honor the Chief Justice ... .. 0  
The Honorable the Colonial Secretary ... .. 0  
The Honorable the Attorney-General ... .. 0  
The Honorable the Colonial Treasurer ... .. 0  
The Auditor-General ... .. 11  
The Collector of Customs ... .. 0  
The President of the Medical Board ... .. 0

*Elective Trustees.*

J. Belisario, Esq., D.D.S. ... .. 12  
A. Liversidge, Esq., M.A., F.R.S. ... .. 10  
The Honorable Jas. Norton, LL.D., M.L.C. ... .. 13  
H. H. B. Bradley, Esq. ... .. 7  
Charles Moore, Esq., F.L.S., F.Z.S. ... .. 7  
The Honorable P. G. King, M.L.C. ... .. 0†  
W. D. Campbell Williams, Esq., L.R.C.P., London, &c. ... .. 6  
W. A. Haswell, Esq., D.Sc., F.R.S. ... .. 4\*  
T. W. Edgeworth David, Esq., B.A. ... .. 5  
James R. Hill, Esq. ... .. 1‡  
J. T. Wilson, Esq., M.B., Ch.M. ... .. 5  
The Honorable S. H. Hyam, M.L.C. ... .. 4  
Hugh Pollock, Esq., B.A., LL.B. ... .. 8  
T. Storie Dixon, Esq., M.B., Ch.M. ... .. 2

Number of Meetings during the year—11 ordinary, 2 special, and 5 Committee.

\* Had leave of absence granted. † Resigned 3rd May, 1898. ‡ Died—August, 1898.

APPENDIX VI.

I.—ATTENDANCE OF VISITORS DURING 1898.

	Week-days.	Sundays.	Total.
January ... ..	7,648	2,612	10,260
February ... ..	4,899	1,556	6,455
March ... ..	6,575	1,884	8,459
April ... ..	10,132	2,287	12,419
May ... ..	6,256	3,250	9,506
June ... ..	7,300	2,420	9,720
July ... ..	9,305	3,782	13,087
August ... ..	6,347	2,808	9,155
September ... ..	6,093	2,239	8,332
October ... ..	8,206	2,201	10,407
November ... ..	5,898	2,044	7,942
December ... ..	9,673	1,546	11,219
Total ... ..	88,332	28,629	116,961
Average .. ..	334	561	898

II.—COMPARISON OF ATTENDANCE OF VISITORS DURING FIFTEEN YEARS.

	Week days.			Sundays.		
	Number	Increase.	Decrease.	Number.	Increase.	Decrease.
1884 .....	81,653		4,461	44,387		6,900
1885 .....	82,594	941		43,918		469
1886 .....	85,972	3,378		41,259		2,659
1887 .....	85,931		41	36,568		4,391
1888 .....	89,028	3,097		40,337	3,469	
1889 .....	92,858	3,830		45,552	5,215	
1890 .....	87,900		4,958	36,824		8,728
1891 .....	91,910	4,010		40,935	4,111	
1892 .....	94,438	2,528		36,263		4,672
1893* .....	81,551		12,887	30,776		5,487
1894 .....	86,246	4,695		34,324	3,548	
1895* .....	86,353	107		32,226		2,098
1896* .....	83,351		3,002	34,491	2,268	
1897 .....	89,907	6,556		32,987		1,507
1898 .....	88,332		1,575	28,629		4,358

\* Partially closed for repairs during these years.

APPENDIX VII.

RETURNS OF SPECIMENS ACQUIRED AND MOUNTED DURING 1898.

A.—Acquisitions.

Regis- tration mark.	Department.	No of Specimens acquired by—				Total Acquisitions.
		Donation.	Exchange.	Purchase.	Collection.	
M.	Vertebrata— Mammals .....	83	21			104
O.	Birds .....	903	88	92	51	1,134
R.	Reptiles .....	118			7	125
I.	Fishes .....	23	1	1	405	430
S.	Skeletons .....	18	4	1	8	31
C.	Invertebrata— Mollusca .....	4,488	519	1	107	5,115
K.	Insecta, Arachnida, &c .....	2,678	3,209	5	849	6,741
G.	Other Invertebrata .....	421	194	3	634	1,252
F.	Fossils .....	436	19	219	117	791
D.	Minerals .....	175	2	166	5	348
E.	Ethnological .....	269	194	142		605
H.	Historical .....	3				3
N.	Numismatical .....	6		16		22
B.	Miscellaneous .....	5	2			7
L.	Casts and Moulds .....	3				3
	Total .....	9,629	4,253	646	2,183	16,711

## B.—Prepared and Mounted.

Taxidermists.						
	Mammals.	Birds.	Reptiles.	Fish.	Crustacea.	
New skins, preserved ...	10	664	34	23	1	1
„ made up ...	116					
„ mounted ...	30					
New groups, „ ...	43	43	.....	.....	.....	.....
Old skins, remade ...	.....	22	16	.....	.....	.....
Nest groups, mounted ...	.....	1	.....	.....	.....	.....
Total ...	199	764	39	1	1	

Articulators.						
	Mammals.	Birds.	Reptiles.	Fish.		
Skeletons, cleaned ...	25	35	1	1		
„ mounted ...	18	15	1	.....		
Disarticulated bones, cleaned ...	347	106	.....	.....		
Total... ..	390	156	2	1		

Photographers.						
Negatives taken ...	.....	.....	.....	.....	.....	72
Photos printed ...	.....	.....	.....	.....	.....	139
„ mounted ...	.....	.....	.....	.....	.....	56
Total ...	.....	.....	.....	.....	.....	267

Formatori.						
Moulds made ...	.....	.....	.....	.....	.....	13
Casts prepared ...	.....	.....	.....	.....	.....	19
„ coloured ...	.....	.....	.....	.....	.....	15
Total ...	.....	.....	.....	.....	.....	47

## APPENDIX VIII.

## DONATIONS OF SPECIMENS TO THE MUSEUM, 1898.

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. A. J. Andrew...	1	Gold in quartz.	Mr. E. N. Atkin ...	200	Beetles—90 <i>Lamprolina æneipennis</i> , 25 <i>Paropsis immaculata</i> , 18 <i>Amarygmus purpureus</i> , 3 <i>Adelium porcatum</i> , 6 <i>Adelium geniculatum</i> , 2 <i>Toxicum sp.</i> , 27 <i>Meneristes laticollis</i> , 25 <i>Menephilus nigerrimus</i> , 2 <i>Australica vittata</i> , 2 <i>Thallis compta</i> .
Do ...	1	Quartz containing gold and silver.	Do ...	1	Wasp ("Solitary Ant")— <i>Mutilla rugicollis</i> .
Do ...	1	Native arsenic and gold with quartz.	Mr. M. P. Atkin.....	107	Beetles—24 <i>Lamprolina æneipennis</i> , 5 <i>Australica vittata</i> , 8 <i>Paropsis immaculata</i> , 12 <i>Coccinella sp.</i> , 1 <i>Menephilus nigerrimus</i> , 2 <i>Prypnus squalidus</i> , 9 <i>Paropsis maculata</i> , 2 <i>Paropsis reticulata</i> , 3 <i>Prionoleura sp.</i> , 6 <i>Saprinus irenus</i> , 5 <i>Onthophagus granulatus</i> , 5 <i>Onthophagus sp.</i> , 1 <i>Cordus hospes</i> , 12 <i>Saprinus latus</i> , 5 <i>Onthophagus asper</i> , 3 <i>Onthophagus auritus</i> , 1 <i>Mæchidius sp.</i> , 3 <i>Aphodius lividus</i> .
Mr. R. Arnold .....	1	Wasp— <i>Evania appendigaster</i> .	Do ...	5	Weevils—1 <i>Cordus hospes</i> , 4 <i>Prosauius sp.</i>
Mr. E. N. Atkin ...	1	Parasitic bug— <i>Coranus sp.</i>	Mr. W. Atkins .....	1	Auriferous ferruginous clay.
Do ...	73	Beetles—1 <i>Harpalus thouzetti</i> , 1 <i>Harpalus sp.</i> , 1 <i>Silvanus castaneus</i> , 1 <i>Utoma sp.</i> , 2 <i>Opatrum mastersi</i> , 2 <i>Lemidia sp.</i> , 8 <i>Prionophora cylindrica</i> , 1 <i>Trogosita mauritanica</i> , 2 <i>Adelium geniculatum</i> , 6 <i>Adelium porcatum</i> , 1 <i>Amarygmus laticollis</i> , 2 <i>Attractus columbinus</i> , 1 <i>Cordus hospes</i> , 1 <i>Esmelina sp.</i> , 3 <i>Orthorrhinus simulans</i> , 1 <i>Loxopleurus aereus</i> , 5 <i>Episcaphula australis</i> , 1 <i>Monocrepidius nebulosus</i> , 1 <i>Pterostichus hunteriensis</i> , 2 <i>Phymatopterus piceus</i> , 1 <i>Bothrioderes krefftii</i> , 4 <i>Dermestes murinus</i> , 2 <i>Dermestes sp.</i> , 1 <i>Sartalus sp.</i> , 4 <i>Toxicum pictipenne</i> , 15 <i>Meneristes laticollis</i> , 1 <i>Promethis lethalis</i> , 2 <i>Cardiothorax castelnaudi</i> .	Mr. J. J. Atkinson...	1	Native bag.
Do ...	1	Locust— <i>Locusta sp.</i>	Do ...	1	Paper-weight of Nickel ore.
Do ...	68	Beetles—14 <i>Mastochilus australasicus</i> , 4 <i>Dermestes murinus</i> , 6 <i>Adelium geniculatum</i> , 1 <i>Lamprima latriellei</i> , 1 <i>Trogosita mauritanica</i> , 26 <i>Orcus 4-maculatus</i> , 7 <i>Monocrepidius striatus</i> , 1 <i>Lacon, sp.</i> , 1 <i>Sarathrocopus porticalis</i> , 1 <i>Tibarus niger</i> , 1 <i>Mæchidius macleayanus</i> , 4 <i>Mastochilus politus</i> , 1 <i>Rhagiomorpha lepturoides</i> .	Mr. J. W. Barnes ...	1	Spider— <i>Gasteracantha flavomaculata</i> .
Do ...	7	Weevils—1 <i>Cordus hospes</i> , 1 <i>Talaurinus sp.</i> , 3 <i>Prypnus squalidus</i> , 2 <i>Polyptrades nanus</i> .	Mr. H. M. Bates ...	2	Hairworms— <i>Gordius sp.</i>
			Miss Bayldon .....	1	Beetle— <i>Lamprima latriellei</i> .
			Mr. Arthur S. Beaver	1	Giant Water Scorpion— <i>Belostoma indicum</i> .
			Lieut. C. E. Beddome	17	Shells—2 <i>Papuina meditata</i> , 15 <i>Rissoa contabulata</i> .
			Mr. M. Benjamin ...	1	Leafy Sea-horse— <i>Phyllopteryx foliatus</i> .
			Mr. G. F. Bevan ...	1	Playbill of the "New Theatre Royal, Drury Lane," for Friday, Jan. 14th, 1825.



Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. G. F. Bevan ...	1	Playbill of the "Theatre Royal, Covent Garden," for Thursday, March 1st, 1827.	Rev. Geo. Brown, D.D.	1	Comrie's Manucode— <i>Manucodia comrii</i> .
Mr. Birch .....	1	Black-bellied Snake— <i>Denisonia signata</i> .	Do	4	Island Boa— <i>Enugrus bibronii</i> .
Mr. P. G. Black ...	1	Photo. of Drum Grove at Mili, New Hebrides.	Do	1	Banded Sea Snake— <i>Platurus colubrinus</i> .
Do	2	Wandering Sea Snakes— <i>Platurus colubrinus</i> .	Do	1	Tree Snake— <i>Dipsadomorphus irregularis</i> .
Do	1	Dorsal Fin of Swordfish— <i>Histiophorus Turbo imperialis</i> (sub-fossil).	Do	1	Emerald Skink— <i>Lygosoma smaragdinum</i> .
Do	1	Shells—2 <i>Cardium unedo</i> , 1 <i>Cardium fragum</i> , 3 <i>Corbis fimbriata</i> , 2 <i>Venus puerpera</i> , 1 <i>Venus marica</i> , 2 <i>Cytherea obliquata</i> , 1 <i>Meretrix castrensis</i> , 1 <i>Lucina interrupta</i> , 1 <i>Lucina fibula</i> , 1 <i>Cryptodon sp.</i> , 4 <i>Tellina rugosa</i> , 1 <i>Lima fasciata</i> , 1 <i>Pinna assimilis</i> , 8 <i>Lucina irpea</i> , 1 <i>Lucina sp.</i> , 12 <i>Haminea vitrea</i> , 1 <i>Haminea cuticulifera</i> , 2 <i>Atys cylindrica</i> .	Do	2	Skink— <i>Lygosoma sp.</i>
Do	45		Do	146	Shells—120 <i>Helicina suprafasciata</i> , 12 <i>Leptopoma vitreum</i> , 13 <i>Pythia scarabaeus</i> , 1 <i>Ommastrephes ovalanensis</i> .
Do	1	Black Coral— <i>Antipathes ulex</i> , Ellis and Solander.	Do	1	Comrie's Manucode— <i>Manucodia comrii</i> .
Botanic Gardens, Sydney.	1	Black-faced Whydah Bird— <i>Vidua regia</i> .	Mr. H. Y. L. Brown	1	Pipe-clay from Charlotte Waters, Central Australia.
Do	1	Long-billed Cockatoo— <i>Licmetis nasica</i> .	Miss M. E. Bundocke	29	Moths—4 <i>Ophideressalaminia</i> , 4 <i>Ophideres dioscorea</i> , 2 <i>Ophideres fullonica</i> , 1 <i>Ophideres cajeta</i> , 5 <i>Ophideres sp.</i> , 2 <i>Grammodes oculicola</i> , 2 <i>Grammodes sp.</i> , 2 <i>Ophinsia myops</i> , 5 <i>Marmorinia sp.</i> , 1 <i>Boarmina excusaria</i> , 1 <i>Polia festiva</i> .
Do	1	Horned Parrakeet— <i>Nymphlicus cornutus</i> .	Do	1	Butterfly, "Skipper"— <i>Ismene exclamations</i> .
Do	2	"Sea Beans"— <i>Entada scandens</i> .	Mr. Henry Burns ...	1	Yellow-billed Tropic Bird— <i>Phaeton candidus</i> .
Do	1	Cone of Burrawang— <i>Macrozamia spiralis</i> .	Do	1	Minute Bittern— <i>Ardetta pusilla</i> .
Do	1	Fresh-water Sponge— <i>Spongilla sceptroides</i> , Haswell.	Do	1	King Quail— <i>Excalfatoria lineata</i> .
Mr. Hatley Boyd ...	1	Ringed Snake— <i>Furina occipitalis</i> .	Mr. A. Butler ...	1	Rock Gecko— <i>Gymnodactylus platurus</i> .
Do	2	Lizards— <i>Diporophora australis</i> .	Mr. Joseph Cadogan	1	Infiltration markings on quartz porphyry.
Do	22	Beetles— <i>Harpalus sp.</i> , 1 <i>Machidius atratus</i> , 1 <i>Heteronychus spicipes</i> , 1 <i>Liparetrus depressus</i> , 2 <i>Dermestes sp.</i> , 1 <i>Anoplognathus analis</i> , 2 <i>Lamprolina aeneipennis</i> , 4 <i>Idiocephala sp.</i> (weevils, 2), <i>Acantholophus marshami</i> , (weevils, 6) <i>Aplocnemis sp.</i>	Mr. J. R. Calow .....	1	Leaf Insect— <i>Exaltosoma tiaratum</i> .
Do	1	Cicada— <i>Cicadetta torrida</i> .	Mr. W. D. Campbell	1	Western spine-tailed skink.— <i>Egernia depressa</i> .
Do	4	Leaf-hoppers— <i>Ledro corticalis</i> .	Do	3	Eggs of the Collared Sparrow Hawk— <i>Accipiter cirrhocephalus</i> .
Do	1	Frog-hopper— <i>Ptyelus sp.</i>	Do	3	Eggs of the Red-rumped Kingfisher— <i>Haleyon pyrrophygus</i> .
Do	1	Cockroach— <i>Panesthia brevicollis</i> .	Do	2	Eggs of the Yellow-rumped Thornbill— <i>Geobasileus cheysorrhoea</i> .
Do	6	Earwigs— <i>Forficula sp.</i>	Do	2	Eggs of White eye-browed Pomatostomus— <i>Pomatostomus superciliosus</i> .
Do	1	Wasp— <i>Pompilus sp.</i>	Do	1	Nest of the White eye-browed Pomatostomus— <i>Pomatostomus superciliosus</i> .
Do	2	Sand-flies— <i>Pterygophorus interruptus</i> .	Do	1	Nest of Chestnut-backed Thrush— <i>Cinlosoma castaneotum</i> .
Do	3	Flies— <i>Tephritis strigipennis</i> .	Do	2	Eggs of Chestnut-backed Thrush— <i>Cinlosoma castaneotum</i> .
Do	1	Bag shelter of moth— <i>Teara sp.</i>	Do	1	Wasp "Solitary Ant"— <i>Mutilla rugicollis</i> .
Do	33	Spiders—2 <i>Gasteracantha flavomaculata</i> , 2 <i>Argiope maculata</i> , 7 <i>Araneus wagneri</i> , 4 <i>Araneus idonea</i> and nest, 1 <i>Nephila edwardii</i> , 4 <i>Latrodectus scelio</i> , 7 <i>Miturga lineata</i> , 1 <i>Lampona murina</i> , 1 <i>Lycosa sp.</i> , 3 <i>Marptusa complanata</i> , 1 <i>Attus flavicruris</i> .	Do	7	Butterflies (Large Blues)— <i>Ogyris orates</i> , 1 (Small Blue)— <i>Lycena labradus</i> , 1 (Yellow)— <i>Terias smilax</i> , 2 (Large Black and White) <i>Delias aganippe</i> , 1 (Meadow Brown) <i>Purameis kershawi</i> .
Do	20	Beetles—1 <i>Meneristus laticollis</i> , 1 <i>Amarygmus purpureus</i> , 1 <i>Epilachna 28-punctata</i> , 1 <i>Epilachna sp.</i> , 9 <i>Paropsis reticulata</i> , 2 <i>Paropsis sp.</i> , 2 <i>Lacon caliginosus</i> , 1 <i>Trigonothops pallidior</i> , 1 <i>Clevina sp.</i> , 1 <i>Harpalus infelix</i> .	Do	1	Moth— <i>Cericea spectans</i> .
Do	12	Stone crabs— <i>Petrolisthes elongatus</i> .	Do	1	Ground Beetle— <i>Gigadema grande</i> .
Do	2	Crabs— <i>Elemena sp.</i>	Do	2	Weevils— <i>Psalidura mira</i> .
Do	7	Mussel crabs— <i>Pinnotheres pisum</i> .	Do	1	Plant bug— <i>Scutellera sp.</i>
Do	8	Amphipods— <i>Talorchestia sp.</i>	Do	1	Robber fly— <i>Ascilus sp.</i>
Do	3	— <i>Chiton pellis-serpentis</i> .	Do	9	Wasps—3 <i>Pompilus ahasverus</i> , 2 <i>Pompilus apatetus</i> , 3 <i>Pompilus distinctus</i> , 1 <i>Pison decipiens</i> .
Do	1	Red pigment used by the aborigines of the Herbert River district, Queensland.	Do	1	Ichneumon fly— <i>Ophion sp.</i>
Do	1	Yellow pigment used by the aborigines of the Herbert River district, Queensland.	Do	2	Ants— <i>Campunotus nigroaeneus</i> .
Mr. W. M. Brandreth	1	Moth— <i>Macrosila casuarina</i> .	Do	2	Solitary Ants— <i>Mutilla rugicollis</i> , 1 <i>Mutilla sp.</i>
Capt. Bremer, R.N.	1	Legless lizard— <i>Pygopus lepidopus</i> .	Do	3	Cockroaches— <i>Panesthia athops</i> , 1 <i>Panesthia sp.</i>
Do	3	King Quail— <i>Excalfatoria lineata</i> .	Do	1	Earwig— <i>Forficula sp.</i>
Do	1	Green Shank— <i>Totanus glottis</i> .	Do	6	Beetles—1 <i>Stenoderus suturalis</i> , var., <i>abreviatus</i> , 1 <i>Phoracantha semipunctata</i> , 2 <i>Helens sp.</i> , 1 <i>Micropocila breweri</i> , 1 <i>Haplonycha gigantea</i> .
Master F. Bretnall...	1	Huntsman spider— <i>Isopeda villosa</i> .	Do	9	Land shells— <i>Liparus melo</i> .
Miss F. W. Braine...	1	Spider— <i>Uloborus sp.</i>	Mr. J. M. Cantle ...	1	Nest of Ring-tailed Opossum— <i>Pseudochirus peregrinus</i> .
British Government.	1	Ashanti Bronze Star (1896) and ribbon.	Do	1	Nest of Pied Grallina— <i>Grallina picata</i> .
Do	1	Packet of ribbons (19 pieces), issued with various British War and other medals.	Master Henry Cantle	59	Beetles—33 <i>Penthea vermicularia</i> , 7 <i>Anoplognathus analis</i> , 10 <i>Anoplognathus porosus</i> , 4 <i>Anoplognathus rugosus</i> , 2 <i>Repsimus purpureipes</i> , 1 <i>Chrysolophus spectabilis</i> , 1 <i>Trogodendron fasciculatum</i> , 1 <i>Cisseus sp.</i>
Mr. A. W. Brown...	1	Welcome Swallow— <i>Hirundo neoxena</i> .	Mr. George W. Card	9	Struvite crystals.
Mr. F. G. Brown ...	1	Auriferous Gossan.	Do	1	Copper token, obv. "Kangaroo, Armadillo and Rhinoceros," rev., T. Hall, City Road, near Finsbury Square, London, 1795.
Do	3	Stalactitic auriferous oxide of iron.	Mr. A. E. Carr .....	2	Stalagmitic carbonate of lime.
Do	4	Oxide of iron showing gold.	Do	1	Granite.
Do	1	Auriferous magnetic oxide of iron and quartz.	Mr. C. W. J. Carter.	1	Spider— <i>Nephila edwardsi</i> .

Donor.	No. Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. J. de Casteljan.	2	Crustaceans— <i>Thalassina maxima</i> .	Prof. T. W. E. David	1	Edible earth (decomposed basalt) eaten by the natives of Fiji.
Mr. Thos. Chadwick.	1	Auriferous pyritous quartz.	Do	2	Devonian Corals—1 <i>Favosites</i> sp., 1 <i>Heliolites</i> sp.
Mr. T. F. Cheeseman	1	<i>Pleurobranchæa novæzelandiæ</i> .	Mr. Davidson.....	1	Moth— <i>Antheræa eucalypti</i> .
Mr. G. H. Cherry ...	1	Longicorn beetle— <i>Agrionome</i> sp.	Mr. S. Davis .....	2	Short-snouted Sea Horses— <i>Hippocampus brevirostris</i> .
Master C. Chute ...	1	Eel— <i>Ophichthys</i> sp.	Capt. Pudsey Dawson.	1	Glass Crab— <i>Squilla raphidea</i> .
Master Clarke .....	1	Ground cricket— <i>Gryllotalpa africana</i> .	Mr. Arthur Dean ...	26	Shells—4 <i>Thersites bipartita</i> , Fer.; 2 <i>Thersites bipartita</i> (var. <i>unicolor</i> ), Cox; 2 <i>Thersites forsteriana</i> , Pfr.; 2 <i>Chlorites aridorum</i> , Cox; 2 <i>Rhytida franklandensis</i> , Forbes; 2 <i>Nanina vil-laris</i> , Pfeiffer; 2 <i>Stenogyra gracilis</i> , Hutton; 2 <i>Helicina gouldiana</i> , Forbes; 2 <i>Leptopoma vitreum</i> , Lesson; 2 <i>Pupina ventrorsa</i> , Dohrn; 2 <i>Pupina pettardi</i> , Crosse; 2 <i>Cassiuula angulifera</i> , Petit.
Do	32	Spiders—1 <i>Lampona sordida</i> , 1 <i>Theridion</i> , sp. (immature), 1 <i>Gasteracantha flavomaculata</i> , 2 <i>Nephila maculata</i> , 1 <i>Amaurobins inornatus</i> , 1 <i>Araneus festivus</i> , 3 <i>Venatoria heteropoda</i> , 1 <i>Celania excavata</i> , 9 <i>Araneus wagneri</i> (3 ♂, 6 ♀), 3 <i>Nephila edwardsi</i> , 1 <i>Nephila ventricosa</i> , 1 <i>Argiope regalis</i> , 2 <i>Gasteracantha flavomaculata</i> , 3 <i>Araneus heroine</i> (1 ♂, 2 ♀), 1 <i>Zachria hæmorrhoidalis</i> , 1 <i>Delena cancerides</i> .	Do	18	Snails— <i>Thersites forsteriana</i> .
Do	1	Cockroach— <i>Panesthia</i> sp.	Mr. Denson .....	2	Gorgonias—1 <i>Suberia</i> sp., 1 <i>Plezaura antipathes</i> .
Do	7	Spiders—2 <i>Araneus wagneri</i> (♂ et ♀), 1 <i>Lycosa godeffroyi</i> , 1 <i>Hasarius lineatus</i> , 1 <i>Theridion</i> sp., 1 <i>Amaurobins robustus</i> , 1 <i>Nephila edwardsi</i> .	Do	1	Dredgings, from Nanoute.
Dr. C. D. Clark.....	13	Calling Crabs— <i>Gelasimus signatus</i> .	Do	2	do Apamua.
Do	1	Prawn— <i>Palaemon</i> sp.	Mr. Geo. Dixon.....	2	Orthopterous pseudo-imago — <i>Polyzosteria</i> (?) sp.
Mr. F. T. Clark .....	1	Jew lizard— <i>Amphibolurus barbatus</i> .	Do	1	Spider— <i>Argiope regalis</i> .
Mr. J. B. Cleland ...	2	Ticks— <i>Ixodes hydrosauri</i> .	Do	2	Spider and Cocoon— <i>Argiope regalis</i> .
Mr. Ernest C. Colquhoun.	6	Larvæ of Hawke Moth— <i>Macrosila casuarinæ</i> .	Do	1	Spider— <i>Celania excavata</i> .
Do	1	Moth— <i>Agarista agricola</i> .	Mrs. Doyle.....	1	Yellow-naped Parrot— <i>Conurus ochrocephala</i> .
Do	1	Larva of moth— <i>Macrosila casuarinæ</i> .	Mr. W. S. Dun .....	1	Beryll.
Rev. A. H. Coombes	34	Shells—1 <i>Drillia harpularia</i> , 2 <i>Drillia angasi</i> , 5 <i>Clathurella parva</i> , 6 <i>Mangelia jacksonensis</i> , 5 <i>Mangelia vincentina</i> , 1 <i>Mangelia australis</i> , 12 <i>Mangelia australis v. mitralis</i> , 1 <i>Turbonilla maria</i> , 1 <i>Bittium</i> sp.	Do	1	Malachite.
Mr. Chas. A. Copeland.	1	Island boa— <i>Enygrus bibronii</i> .	Do	1	Malachite and Azurite.
Do	1	Parrot Finch— <i>Erythrura psittacea</i> .	Do	1	Jet.
Do	1	Waxbill— <i>Estrilda astrilda</i> .	Do	1	Mantis— <i>Orthodera laticollis</i> .
Do	1	Amaduvade Finch— <i>Sporoginthus amandava</i> .	Do	1	Spider— <i>Gasteracantha flavomaculata</i> .
Miss Blanch Corbett	1	Tick— <i>Ixodes</i> sp.	Rev. S. Ella .....	1	Kava Bowl.
Mr. G. Corkhill.....	1	Spider— <i>Gasteracantha flavomaculata</i> .	Do	1	Sago do.
Mr. A. P. Corrie ...	4	Bones Native Dog— <i>Canis dingo</i> .	Do	1	Carved Belt.
Dr. Allaster Cox ...	2	Wallaby bone— <i>Macropus</i> sp.	Do	1	Large Gourd Water-bottle.
Dr. F. H. Cox.....	2	Venomous Spider and Cocoon— <i>Latrodectus scelio</i> , var. <i>indica</i> .	Do	4	Women's Girdles.
Mr. H. W. Cox .....	15	Ant-lions (larvæ)— <i>Myrmeleon</i> sp.	Do	3	Tappas.
Do	4	Beetles—8 <i>Mastochilus politus</i> , 5 <i>Phymatopterus piceus</i> , 2 <i>Mastochilus politus</i> .	Do	1	Small Hand-basket, with double lid.
Do	19	Plant Bugs— <i>Peltophora picta</i> .	Do	1	Lump of Chunam.
Dr. J. C. Cox .....	1	Beetles—8 <i>Mastochilus politus</i> , 1 <i>Lampyrina latrillei</i> , 3 <i>Adelium geniculatum</i> , 5 <i>Adelium porcatum</i> , 2 <i>Chilænius peregrinus</i> .	Do	1	Gourd for Chunam.
Do	24	Native Porcupine— <i>Echidna aculeata</i> .	Do	1	War Stone.
Do	1	Shells—10 <i>Assimineæ affinis</i> , Mousson, 14 <i>Tatea rufilabris</i> , Adams.	Do	2	Pearl-shell Breast Ornaments.
Do	1	Sucker-fish— <i>Echeneis naucrates</i> .	Do	3	Shell Necklaces.
Do	4	Sea Shells—2 <i>Corbula coxi</i> , 2 <i>Adeorbis sigaretinus</i> .	Do	1	do Head-dress.
Do	4	Eggs of Mallee hen— <i>Lipoa ocellata</i> .	Do	1	Seed Necklace.
Mr. W. E. Crane ...	142	American Silurian, Devonian, Carboniferous, Cretaceous, and Eocene Fossils.	Do	1	Bead and Ground Shell Necklace.
Hon. Dr. J. M. Creed, M.L.C.	3	Pyrites in Slate.	Do	2	Shell Head-dresses.
Do	1	Fossil— <i>Thinnfeldia odontopteroides</i> .	Do	1	Cassowary Feather Head Ornament.
Do	1	Telluride of Gold in schistose rock.	Do	2	Canoe Decorations.
Mr. A. J. Crisp .....	1	Friar Bird— <i>Tropidorhynchus corniculatus</i> .	Do	3	Bows.
Do	2	Rufous-tailed Bronze Cuckoos— <i>Lamprococcys basalıs</i> .	Do	24	Arrows.
Hon. Dr. Cullen, M.L.C.	1	Longicorn Beetle— <i>Euracanthus</i> sp.	Do	3	Spears tipped with human bone and poisoned.
Do	1	Plume Moth— <i>Aciptalia aptalis</i> .	Do	2	Four pronged Fish spears.
Rev. J. Milne Curran	3	Grave-stones.	Do	1	Single pointed spear.
Do	2	Oval-grinding Stones.	Do	1	Carved paddle.
Do	7	Conical-grinding Stones.	Do	2	do clubs.
Mr. Arthur Darby...	6	Thread Lung Worms— <i>Strongylus filaria</i> .	Do	1	Club (plain).
Mr. H. Darcy.....	1	Blind Snake— <i>Typhlops polygrammicus</i> .	Do	1	Tomahawk.
Mr. C. W. Darley, Engineer-in-Chief, Department of Public Works.	4	Dendritic Manganese on sandstone.	Do	1	Stone adze.
Do	1	Dendritic Oxide of Iron on sandstone.	Do	2	Stone clubs.
Do	2	Hairworms— <i>Gordius</i> sp.	Do	1	Bamboo staff.
			Do	1	Walking stick.
			Do	2	Baskets.
			Mr. H. R. Elvery ...	2	Nests of the Large-billed Scricornis— <i>Scricornis magnirostris</i> .
			Do	1	Large-billed Robin— <i>Eopsaltria magnirostris</i> .
			Mr. F. E. Etchells...	1	Brown-tree Snake— <i>Dipsadomorphus fuscus</i> .
			Do	1	Black Snake— <i>Pseudechis porphyriacus</i> .
			Do	1	Brown Snake— <i>Diemenia textilis</i> .
			Mr. R. Etheridge ...	30	Micro. mountings and slides—6 Polyzoa (fragmentary), 1 <i>Cythere normaniana</i> , 1 <i>Bairdia ovata</i> , 1 <i>Macrocypris orientalis</i> , 5 <i>Achistrum nicholsoni</i> , 2 <i>Achistrum</i> sp., 1 <i>Chirodota</i> (?) sp., 3 <i>Salterella Hardmani</i> , 1 <i>Tentaculites</i> sp., 1 <i>Cladochonus michilini</i> , 7 <i>Eichwaldia capewelli</i> , 1 <i>Nammulites</i> sp.

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. R. Etheridge ...	2	Orbitoidal or Nummulitic Limestone.	Mr. C. French ...	4	Fruit Flies— <i>Ceratitis</i> sp.
Do ...	1	“Looper” caterpillar— <i>Geometer</i> sp.	Mr. W. W. Froggatt ...	2	“Scorpion” Spiders— <i>Arachnura feredayi</i> .
Do ...	1	Locust— <i>Truxalis</i> sp.	Mr. W. Frost ...	1	Agate pebble.
Mr. A. J. Ewen ...	2	Opals.	Mr. P. de la Garde..	3	Stick Insects—1 <i>Clemacantha regale</i> , 2 <i>Xeroderus kirbii</i> .
Do ...	1	Ferruginous sandstone:	Do ...	8	Praying Insects—4 <i>Mantis</i> sp., 2 <i>Orthodera laticollis</i> , 2 <i>Pseudomantis</i> sp.
Do ...	5	Beetles—1 <i>Mallodon figuratum</i> , 2 <i>Bostrychus jesueta</i> , 1 <i>Suprinus gayndahensis</i> , 1 (larva)— <i>Elater</i> sp.	Do ...	11	Locusts—10 <i>Gayllus</i> sp., 1 <i>Truxalis</i> sp.
Do ...	3	Wasps—2 <i>Stilbum amethystinum</i> , 1 <i>Pompilus ahasverus</i> .	Do ...	1	Mole Cricket— <i>Gryllotalpis vulgaris</i> .
Do ...	1	Ant-lion— <i>Myrmeleon</i> sp.	Do ...	2	Plant Bugs— <i>Scutellera</i> sp.
Do ...	1	Plant bug— <i>Scutellera splendida</i> .	Do ...	6	Beetles—5 <i>Chrysomela bicolor</i> , 1 <i>Heteronyx</i> sp.
Do ...	1	Centipede— <i>Heterostoma sulcidens</i> .	Do ...	1	Weevil— <i>Elytrurus caudatus</i> .
Do ...	10	Spiders—2 <i>Nephila imperatrix</i> , 2 <i>Nephila maculata</i> , 1 <i>Araneus brisbanæ</i> , 4 <i>Latrodectus scelio</i> , 1 <i>Heteropoda incomta</i> .	Do ...	10	Beetles—1 <i>Monolepta</i> sp., 1 <i>Monolepta luteicollis</i> , 1 <i>Epilachna</i> sp., 2 <i>Idiocephala albilinea</i> , 1 <i>Epilachna undecemvariolata</i> , 3 <i>Menepilus</i> sp., 1 <i>Adelium elongatum</i> .
Do ...	6	Eggs of the Chestnut-eared Finch— <i>Taeniopygia castanotis</i> .	Do ...	1	Weevil— <i>Talaurinus pulverulentus</i> .
Mr. A. E. Finckh ...	1	Spider— <i>Storena formosa</i> .	Do ...	1	Beetles—1 <i>Opatrum australe</i> , 3 <i>Saragus odevakui</i> , 4 <i>Opatrum</i> sp., 2 <i>Batocera sapho</i> , 2 <i>Clytus</i> sp., 1 <i>Stigmodera</i> sp., 2 <i>Collodema regalis</i> , 3 <i>Chalcophora elongata</i> , 1 <i>Amarygmus grandipennis</i> , 1 <i>Schizorrhina pulchra</i> , 2 <i>Diaphonia dorsalis</i> , <i>Cacochroa variabilis</i> , 1 <i>Lomaptera cinnamomea</i> , 2 <i>Lomaptera wallisiana</i> , 1 <i>Trox squamosus</i> .
Fisheries Department	1	Peron Crawfish— <i>Ibacus Peronii</i> .	Do ...	27	
Do ...	1	Sea-weed Crab— <i>Halimus spinosus</i> , Hess.			
Do ...	1	Australian Trout— <i>Galaxias</i> sp.			
Mr. J. Fred Fitzhardinge.	1	Venomous Spider— <i>Latrodectus scelio</i> .			
Do ...	6	Venomous Spiders and cocoons— <i>Latrodectus scelio</i> .			
Do ...	1	Spotted Gecko— <i>Diplodactylus vittatus</i> .			
Do ...	1	Green-tree Snake— <i>Dendrophis punctulata</i> .			
Mr. A. E. Flavelle...	1	Death Adder— <i>Acanthophis antarcticus</i> .	Do ...	3	Moths— <i>Euproctis</i> sp.
Mr. Flood .....	1	Stick Insect— <i>Ectatosoma tiaratum</i> , ♂.	Do ...	1	Sugar ant— <i>Camponotus testaceipes</i> .
Mrs. H. Forde .....	1	Frog— <i>Limnodynastes dorsalis</i> .	Do ...	6	Spiders—2 <i>Araneus productus</i> , ♂ et ♀, 4 <i>Celonia excavata</i>
Do .....	1	Tree Frog— <i>Hyla peronii</i> .	Do ...	3	Myriapods— <i>Julus</i> sp.
Do .....	3	Swamp Frogs— <i>Pseudophryne bibronii</i> .	Do ...	1	Trap-door spider—1 <i>Phlogius crassipes</i>
Do .....	1	Frog— <i>Limnodynastes salminii</i> .	Do ...	6	Spiders—1 <i>Poltys papense</i> , 1 <i>Poltys</i> sp., 1 <i>Argiope nephilina</i> , 1 <i>Gasteracantha variegata</i> , 2 <i>Gasteracantha sacerdotalis</i> .
Do .....	1	Snake— <i>Denisonia</i> sp.			
Do .....	1	Sand containing shells.			
Do .....	1	Pearl and tortoise-shell fish-hook.			
Do .....	2	Palm-leaf Fans.	Do ...	1	Scorpion— <i>Hormurus</i> sp.
Do .....	1	Carved armllet from Fiji.	Do ...	2	Samoan combs.
Do .....	1	Plain do	Do ...	2	Shells—1 <i>Ovula adamsi</i> , Reeve?, 1 <i>Calliostoma</i> , sp.
Do .....	1	Bonito hook bone barb.			
Do .....	1	do do iron do	Do ...	3	Soft coral— <i>Spongodes umbellata</i> .
Do .....	1	Plant bug— <i>Peltophora picta</i> .	Do ...	2	Nipper prawns— <i>Alpheus minor</i> var., <i>neptunus</i> .
Do .....	3	Sprays ti-tree infested with galls— <i>Brachyscelis pharetrata</i> .	Do ...	2	Galathea— <i>Galathea aculeata</i> .
Do .....	41	Beetles—17 <i>Diphucephala sericea</i> , 1 <i>Psolidura mastersi</i> , 5 <i>Storeus</i> sp., 1 <i>Rhoptea verreauxi</i> , 1 <i>Isodon australasiae</i> , 6 <i>Lepistilus sulcicollis</i> , 1 <i>Idioccephala</i> sp., 3 <i>Euops australasiae</i> , 3 <i>Storeus variegatus</i> , 1 <i>Paropsis</i> sp., 1 <i>Xylonychus eucalypti</i> , 1 <i>Heteronyx</i> sp.	Do ...	1	Death Adder (young)— <i>Acanthophis antarctica</i> .
Do .....	8	Ants— <i>Pachycondyla bispinosa</i> .	Mr. J. S. Gardiner...	48	Shells—4 <i>Pythia scarabaeus</i> , 10 <i>Melania mageni</i> , 3 <i>Charopa rotumana</i> , 2 <i>Opeas juncea</i> , 1 <i>Succinea rotumana</i> , 3 <i>Tornatellina aperta</i> , 3 <i>Littorina undulata</i> , 2 <i>Littorina obesa</i> , 2 <i>Melampus fasciatus</i> , 3 <i>Melampus luteus</i> , 5 <i>Omphalotropis rotumana</i> , 5 <i>Helicina fulgora</i> , 4 <i>Helicina modesta</i> , 1 <i>Placostylus morosus</i> .
Do .....	...	Collection of galls— <i>Opisthoscelis subrotunda</i> .			
Do .....	4	Sprays infested with “scale.” <i>Aspidiotus</i> sp.	Mr. A. E. Garnsey...	1	Caterpillar— <i>Trictina</i> (?) sp., killed by an entomogenous fungus, <i>Cordyceps taylori</i> .
Do .....	4	Frog-hoppers (immature)— <i>Eurymela</i> sp.			
Do .....	1	Larva of moth— <i>Thalpocharis cocophaga</i> .	Mr. Charles Gerber	1	Hydraulic Limestone.
Do ...	13	Beetles—10 <i>Lema unifasciata</i> , 2 <i>Lema</i> sp., 1 <i>Lema togota</i> .	Mr. G. Giddy.....	1	Spider— <i>Araneus heroine</i> .
Do ...	2	Weevils—2 <i>Storeus variegatus</i> , 1 <i>Haplonyx ustipennis</i> .	Miss Effie F. Gill ...	17	Pyromorphite.
Mr. E. Forsyth ...	1	Weevil— <i>Chrysolophus spectabilis</i> .	Do .....	6	Galena.
Mr. Arthur W. J. Foster.	1	Fœtal Kangaroo— <i>Mucropus</i> sp.	Do .....	2	Galena and Pyromorphite.
Do	1	Spotted Gecko— <i>Diplodactylus vittatus</i> .	Do .....	1	Quartz with oxides of lead and iron.
Do	3	Eyed Gecko— <i>Edura ocellata</i> .	Do .....	3	Quartz.
Do	1	Death Adder— <i>Acanthophis antarctica</i> .	Do .....	3	Cerussite.
Do	1	Blind Snake— <i>Typhlops</i> sp.	Do .....	1	Goslarite.
Miss Dorothy Fox...	1	Ironstone concretion.	Do .....	2	Azurite and Malachite.
Mr. F. A. Franks ...	1	Goby— <i>Petroscirtes anolis</i> .	Mrs. E. Wyatt-Gill	2	Indian Conch-shell bracelets.
Do ...	1	Northern Blue-tongued Lizard— <i>Hemiphysariodon gerrardii</i> .	Do .....	1	Cocoa-nut ring.
Do ...	1	Warty Rock Gecko— <i>Gymnodactylus cornutus</i> .	Do .....	1	Shell necklace.
Do ...	1	Black-backed Snake— <i>Denisonia nigrescens</i>	Do .....	2	Spoons from Madagascar.
Do ...	1	Kreff's Dwarf Snake— <i>Pseudelaps kreffii</i> .	Do .....	1	Carved gourd spoon.
Do ...	3	Blind Snakes— <i>Typhlops polygrammicus</i> .	Do .....	1	Carved cocoa-nut shell spoon.
Do ...	1	Water bug— <i>Nepa tristis</i> .	Do .....	1	Legless lizard— <i>Lialis burtoni</i> .
Do ...	1	Spider— <i>Arcys lanceolata</i> .	Mr. W. L. R. Gipps	1	Tube-dwelling worm— <i>Spirographis Australis</i> .
Do ...	1	Tick— <i>Ixodes</i> sp.	Mr. C. Glover .....	1	Blind Snake— <i>Typhlops polygrammicus</i> .
Do ...	1	Trap-door Nest— <i>Avicularidæ</i> sp.	Mr. T. S. Godfrey ...	1	Sanguineous Honey-eater— <i>Myzomela sanquinolenta</i> .
Mr. Albert Fraysse..	3	Auriferous Limonite.	Mr. Duncan Goldfinch.	1	Native Porcupine— <i>Echidna aculeata</i> .
Do ...	1	Asbestos.	Mr. J. J. Goulder ...	1	Eggs of Brown Flycatcher— <i>Micreca fuscianus</i> .
Mrs. R. W. Fremlin.	1	Scorpion— <i>Hormurus</i> sp.	Mr. Douglas Grant..	2	Eggs of Australian Pipit— <i>Anthus australis</i> .
			Do .....	3	Spider— <i>Araneus beelzibub</i> .

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. R. Grant.....	3	Butterflies— <i>Chrysophanus aurifer</i> .	Mr. C. Hedley .....	...	Mollusca—continued.
Do .....	4	Spiders—1 <i>L. scelio</i> , 1 <i>Voconia immanis</i> , 1 <i>Amaurobins robustus</i> , 1 <i>Lycosa sp.</i>			<i>Columbella sagittata</i> , 1 <i>Harpa gracilis</i> , 2 <i>Mitra cardinalis</i> , 1 <i>Strombus tridentatus</i> , 21 <i>Torinia dorsuosa</i> , 5 <i>Natica chinensis</i> , 11 <i>Natica marochiensis</i> , 8 <i>Nerita reticulata</i> , 12 <i>Turricula exasperata</i> , 14 <i>Turricula deshayesi</i> , 9 <i>Mangilia zonata</i> , 5 <i>Clathurella philippinensis</i> , 12 <i>Solidula nitidula</i> , 4 <i>Solidula sulcata</i> , 25 <i>Solidula solidula</i> , 12 <i>Phasianella variegata v. graeffei</i> , 28 <i>Gibbula danieli</i> , 40 <i>Trochus thomasi</i> , 2 <i>Cerithium sp.</i> , 1 <i>Cerithium planum</i> , 3 <i>Cerithium sp.</i> , 6 <i>Cerithium sp.</i> , 6 <i>Cerithium sp.</i> , 10 <i>Pisania fusciculata v. montrougeri</i> , 1 <i>Sigaretus papilla</i> , 1 <i>Rissoina spirata</i> , 5 <i>Scalaria sp.</i> , 5 <i>Scalaria sp.</i> , 2 <i>Scalaria multiperforata</i> , 1 <i>Vanikoro ligata</i> , 1 <i>Mangilia balansai</i> , 1 <i>Mangilia angicostata</i> , 14 <i>Mangilia rubida</i> , 3 <i>Drillia lactea</i> 12 <i>Engina lineata</i> , 2 <i>Engina trifasciata</i> , 2 <i>Engina mundula</i> , 8 <i>Trochus stigmatarius</i> , 15 <i>Monilea nuclea</i> , 15 <i>Leptothyra lactea</i> , 2 <i>Pyramidella auris-cati</i> , 2 <i>Solidula alveola</i> , 1 <i>Torinia infundibuliforme</i> , 1 <i>Solarium ozytropis</i> , 1 <i>Omphalotropis sp.</i> , 1 <i>Trivia exigua</i> , 1 <i>Triforis connatum</i> , 1 <i>Mangilia sp.</i> , 1 <i>Triforis sp.</i> , 9 <i>Triforis ruber</i> , 2 <i>Cerithium sp.</i> , 1 <i>Rhytida beraudi var.</i> , 1 <i>Rhytida ouveana</i> , 2 <i>Pararhytida dictyodes</i> , 4 <i>Microcystis savesi</i> , 1 <i>Pseudopartula singularis</i> , 1 <i>Amphicyclotus guesterianus</i> , 2 <i>Helicina primeana</i> , 2 <i>Flammulina baladensis</i> , 3 <i>Endodonta n. sp.</i> , 15 <i>Endodonta sp.</i> , 8 <i>Endodonta sp.</i> , 12 <i>Diplommatina perroquiniana</i> , 12 <i>Diplommatina n. sp.</i> , 2 <i>Placostylus caledonicus</i> , 1 <i>Septoteuthis lessoniana</i> , 1 <i>Mactra maculata</i> , 1 <i>Corbis fimbriata</i> , 20 <i>Melanopsis frustulum</i> , 20 <i>Septaria bougainvillei</i> , 15 <i>Isodora nasuta</i> , 1 <i>Succinea montrougeri</i> , 20 <i>Melania arthuri</i> , 2 <i>Neritina bruguieri</i> , 15 <i>Neritina variegata</i> , 2 <i>Neritina petiti</i> , 5 <i>Neritina canalis</i> , 1 <i>Chiton sp.</i> , 2 <i>Cypraea erronea</i> , 1 <i>Mitra isabella v. peasei</i> , 1 <i>Natica solida</i> , 4 <i>Ricinula fuscillum</i> , 6 <i>Trochus obeliscus</i> , 2 <i>Trochus fastigiatus</i> , 20 <i>Monilea nuclea</i> , 40 <i>Monilea pudibunda</i> , 1 <i>Monodonta canaliferus</i> , 8 <i>Leptothyra lactea</i> , 1 <i>Euchelus fischeri</i> , 10 <i>Cyclostrema n. sp.</i> , 2 <i>Stomatella concinna</i> , 4 <i>Stomatella concinna var.</i> , 3 <i>Schismope ferriezi</i> , 2 <i>Schismope moreleti</i> , 5 <i>Teinostoma sp.</i> , 2 <i>Scalaria lyra</i> , 4 <i>Scalaria sp.</i> , 8 <i>Scalaria lineolata</i> , 1 <i>Scalaria sp.</i> , 1 <i>Scalaria subauriculata</i> , 1 <i>Rissoina scolopax</i> , 2 <i>Rissoina sp.</i> , 1 <i>Rissoina spirata</i> , 5 <i>Rissoina spirata v. artensis</i> , 4 <i>Rissoina sp.</i> , 1 <i>Rissoina sp.</i> , 3 <i>Rissoina oryza</i> , 40 <i>Rissoina exasperata</i> , 1 <i>Rissoina sp.</i> , 1 <i>Rissoina obeliscus</i> , 1 <i>Rissoina sp.</i> , 2 <i>Rissoina ambigua</i> , 1 <i>Rissoina n. sp.</i> , 3 <i>Rissoina sp.</i> , 2 <i>Rissoia sp.</i> , 1 <i>Rissoia semicarinata</i> , 2 <i>Rissoia sp.</i> , 5 <i>Diala semistriata</i> , 2 <i>Diala sp.</i> , 35 <i>Diala hardyi</i> , 1 <i>Diala hardyi v. prolongata</i> , 1 <i>Diala sp.</i> , 3 <i>Diala ludens</i> , 2 <i>Barleia chasteri</i> , 8 <i>Fenella pyrrhacme</i> , 1 <i>Columbella turturina</i> , 10 <i>Columbella marquesa</i> , 7 <i>Columbella stephensi</i> , 3 <i>Mitra cucumerina</i> , 16 <i>Turricula luculenta</i> , 1 <i>Turricula amanda</i> , 1 <i>Turricula fusiformis</i> , 3 <i>Mangilia reticulata</i> , 2 <i>Mangilia rhodacme</i> , 1 <i>Borsenia nigrocincta</i> , 3 <i>Clathurella felina</i> , 5 <i>Caecum exile</i> , 1 <i>Cadulus vivipidens</i> , 1 <i>Cerithiopsis sp.</i> , 4 <i>Bittium sp.</i> , 2 <i>Bittium sp.</i> , 12 <i>Bittium sp.</i> , 1 <i>Odostomia pupaeformis</i> , 6 <i>Pyramidella typica</i> , 1 <i>Pyramidella turrita</i> , 1 <i>Turbonilla sp.</i> , 5 <i>Pyrgulina glirella</i> , 1 <i>Auricula hanleyana</i> , 1 <i>Melampus albus</i> , 12 <i>Haminea tenera</i> , 1 <i>Phenacolepas sp.</i> , 1 <i>Marginea elliptica</i> , 20 <i>Tornatina hadfieldi</i> ,
Do .....	1	Nest of the Spine-billed Honeyeater— <i>Acanthorhynchus tenuirostris</i> .			
Do .....	1	Australian Raven— <i>Corone australis</i> .			
Do .....	1	Grey Crow-shrike— <i>Strepera cuneicaudata</i> .			
Do .....	1	Hybird between the White-backed and Black-backed Piping-crows— <i>Gymnorhina leuconota G. t. bicen</i> .			
Do .....	1	Valve of <i>Ostrea</i> from refuse-heap in rock-shelter at Abbotsford— <i>Ostrea edulis</i> , var., <i>angasi</i> , <i>Sowerby</i> .			
Do .....	1	Gourd spinning-top.			
Misses Griffiths .....	14	Entry turrets from ants' nests— <i>Formicida sp.</i>			
Do .....	13	Ants— <i>Camponotus intrepidus</i> .			
Do .....	2	Ants-nests entries— <i>Camponotus intrepidus</i> .			
Do .....	1	Wasp— <i>Diamma bicolor</i> .			
Do .....	2	Plant bugs— <i>Pentatoma sp.</i>			
Master Frank Grimley.	1	Chrysalis— <i>Euploea corinna</i> .			
Messrs. J. W. Grimshaw and G. H. Knibbs.	11	Fulgurites.			
Mr. F. Gunning.....	1	Limestone.			
Do .....	1	Pumice.			
Do .....	1	Carbonate of copper.			
Do .....	1	Tuff.			
Do .....	1	— <i>Phacops sp.</i>			
Do .....	22	Siluro-Devonian Corals—19 <i>Favosites sp.</i> , 3 Encrinital limestone.			
Rev. J. and Mrs. Hadfield.	1	Bait for cuttle-fish in form of a rat.			
Do .....	7	Samples of twine.			
Do .....	1	Samples of fishing-net.			
Do .....	1	Meshing-needle.			
Do .....	1	Wooden rule.			
Mr. H. L. Hall .....	1	Skink— <i>Lygosoma casuarinae</i> .			
Miss V. Hall .....	1	Moth— <i>Daralla chelepteryx</i> .			
Mr. G. Halligan.....	2	<i>Calobates saulii</i> .			
Do .....	1	Block perforated wood.			
Messrs. W. F. Hamlin and O. H. Andersen.	22	Birds eggs from China.			
Mr. E. T. Hancock..	7	Spears.			
Do .....	2	Boomerangs (carved).			
Do .....	3	„ (plain).			
Do .....	1	Bull-roarer.			
Do .....	1	Womerah.			
Mr. W. R. Harper...	...	Two negatives of conical grinding stones, S.W. New South Wales.			
Mr. Herbert Harris..	1	Wasp's nest built into an empty cartridge case— <i>Pison? sp.</i>			
Mr. Percy R. Harris	5	Trap-door nests of a spiders of the family — <i>Avicularidae,? gen. et sp.</i>			
Mr. A. Haylock.....	1	Sea urchin— <i>Echinobrissus recens</i> .			
Miss R. Heard .....	1	Praying mantis— <i>Mantis sp.</i>			
Do .....	1	Stick Insect "Native Lady"— <i>Acrophylla titan</i> .			
Mr. Jas. Heane .....	1	Tick— <i>Ixodes sp.</i>			
Mr. C. Hedley .....	2	Photos. of a fish hook collected by Dr. M'Sherry, of H.M.S. "Wallaroo" at Mambare, Bnt. New Guinea.			
Do .....	...	Mollusca—14 <i>Sphaerium tasmanicum</i> , 1 <i>Soletellina epidemia</i> , 1 <i>Donax cuneata</i> , 12 <i>Mactra sp.</i> , 4 <i>Diplodonta sp.</i> , 2 <i>Lucina, n. sp.</i> , 1 <i>Myodora sp.</i> , 5 <i>Diplodonta sp.</i> , 2 <i>Donax sp.</i> , 1 <i>Tellina sp.</i> , 1 <i>Tellina assimilis</i> , 8 <i>Tellina sp.</i> , 6 <i>Tellina subrosea</i> , 5 <i>Tellina ticaonica</i> , 1 <i>Tellina sp.</i> , 15 <i>Tellina robusta</i> , 1 <i>Montacuta sp.</i> , 3 <i>Mactra artensis</i> , 2 <i>Kellia sp.</i> , 2 <i>Diplodonta sp.</i> , 5 <i>Venus striatus</i> , 1 <i>Caecella cumingi</i> , 3 <i>Crenella sp.</i> , 12 <i>Pectunculus sp.</i> , 2 <i>Cytherea picturata</i> , 2 <i>Cuspidaria sp.</i> , 12 <i>Cordata</i> , 4 <i>Tapes variegata</i> , 1 <i>Pannimobiasquamosa</i> , 4 <i>Myodora convexa</i> , 1 <i>Scintilla sp.</i> , 2 <i>Lucina fabula</i> , 1 <i>Columbella atrata</i> , 11 <i>Nassa muricata</i> , 6 <i>Nassa albescens</i> , 20 <i>Nassa paupera</i> , 6 <i>Nassa kieneri</i> , 15 <i>Columbella versicolor</i> , 20 <i>Columbella pardalina</i> , 6 <i>Columbella sp.</i> , 3 <i>Columbella obtusa</i> , 6 <i>Columbella plucaria</i> , 20 <i>Columbella varians</i> , 20			

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. C. Hedley .....	....	<p>Mollusca—continued.</p> <p>9 <i>Acmaea</i> sp., 2 <i>Acmaea</i> sp., 4 <i>Donax juba</i>, 1 <i>Pythinia deshayesiana</i>, 2 <i>Plicatula ramosa</i>, 3 <i>Megerlia sanguinea</i>, 1 <i>Cardium mindanense</i>, 1 <i>Lucina</i> sp., 1 <i>Lucina</i> sp., 1 <i>Dosinia</i> sp., 1 <i>Paphia</i> sp., 1 <i>Corbula</i> sp., 1 <i>Cardita</i> sp., 2 <i>Ervilia sandwichensis</i>, 1 <i>Mytilus</i> sp., 1 <i>Lucina</i> sp., 1 <i>Montacuta</i> sp., 1 <i>Daphnella pupoidea</i>, 1 <i>Columbella</i> sp., 1 <i>Mangilia saniwicensis</i>, 1 <i>Mangilia</i> sp., 1 <i>Trivia oryza</i>, 2 <i>Melampus stutchburyi</i>, 9 <i>Ophiocardelus layardi</i>, 30 <i>Plecotrema typicum</i>, 8 <i>Plecotrema jouani</i>, 2 <i>Trochus fenestratus</i>, 2 <i>Liotia peronii</i>, 1 <i>Trochus thomasi</i>, 1 <i>Phasianella variegata</i>, 1 <i>Natica marochiensis</i>, 1 <i>Mitra cadaverosa</i>, 3 <i>Siphonaria</i> sp., 1 <i>Conus generalis</i>, 1 <i>Liotia</i> sp., 3 <i>Risella gaidea</i>, 3 <i>Columbella varians</i>, 1 <i>Mangilia</i> sp., 1 <i>Eulima peasei</i>, 1 <i>Mangilia angicostata</i>, 1 <i>Pyramidella</i> sp., 1 <i>Vanikoro</i> sp., 1 <i>Odostomia</i> sp., 1 <i>Rissoa</i> sp., 2 <i>Arca domingensis</i>, 2 <i>Clathurella albofuniculata</i>, 10 <i>Clathurella felina</i>, 1 <i>Clathurella</i> sp., 1 <i>Mangilia gibbosa</i>, 1 <i>Mangilia biclathra</i> var., 1 <i>Mangilia</i> sp., 2 <i>Mangilia</i> sp., 2 <i>Mangilia</i> pura, 1 <i>Mangilia</i> sp., 6 <i>Chiton obscurellus</i>, 1 <i>Chiton</i> sp., 1 <i>Columbella plicaria</i>, 3 <i>Columbella atrata</i>, 1 <i>Columbella troglodytes</i>, 4 <i>Columbella</i> sp., 2 <i>Dentalium longirostrum</i>, 1 <i>Caecum</i> sp., 2 <i>Mitra deshayesi</i>, 1 <i>Mitra typha</i>, 12 <i>Mitra wuolenta</i>, 10 <i>Trochus calcaratus</i>, 1 <i>Cantharidus fourrieri</i>, 5 <i>Cantharidus gibberti</i>, 1 <i>Trochus thomasi</i>, 20 <i>Gibbula phasianella</i>, 2 <i>Littorina melanacme</i>, 1 <i>Amathina angustata</i>, 6 <i>Alys cylindrica</i>, 1 <i>Alys naucum</i>, 6 <i>Tornatina voluta</i>, 10 <i>Solidula solidula</i>, 8 <i>Solidula nitidula</i>, 1 <i>Actaeon fabreanus</i>, 2 <i>Ringicula fossulata</i>, 1 <i>Turricula rufomaculata</i>, 4 <i>Turricula amanda</i>, 8 <i>Acmaea</i> sp., 1 <i>Mangilia pessulata</i>, 2 <i>Mangilia stromboides</i>, 1 <i>Columbella varians</i>, 1 <i>Submarginula</i> sp., 1 <i>Cylindra crenulata</i>, 2 <i>Torina dorsuosa</i>, 1 <i>Plecotrema typicum</i>, 1 <i>Trivia oryza</i>, 1 <i>Schismope ferriezi</i>, 1 <i>Erato guttula</i>, 3 <i>Gena caledonica</i>, 4 <i>Fenella pyrhracme</i>, 8 <i>Diala semistriata</i>, 1 <i>Barlecia chasteri</i>, 2 <i>Rissoia</i> sp., 3 <i>Rissoia exasperata</i>, 5 <i>Odostomia pupaformis</i>, 1 <i>Rissoia semicarinta</i>, 1 <i>Syrnola</i> sp., 2 <i>Turbonilla</i> sp., 4 <i>Pyramidella turrata</i>, 20 <i>Eulima caledonica</i>, 1 <i>Eulima</i> sp., 20 <i>Eulimella</i> sp., 3 <i>Vanikoro cancellata</i>, 4 <i>Natica chinensis</i>, 1 <i>Natica picta</i>, 1 <i>Cantharus crosseanus</i>, 2 <i>Peristernia pulchella v. mariei</i>, 2 <i>Strombus variabilis</i>, 1 <i>Strombus dentatus v. erythrinus</i>, 4 <i>Phasianella variegata</i>, 1 <i>Mitra</i> sp., 2 <i>Scalaria</i> sp., 5 <i>Marginella</i> sp., 2 <i>Nassa paupera</i>, 1 <i>Rhenea multisulcata v. unicolor</i>, 4 <i>Flammulina bazini</i>, 1 <i>Flammulina corymbus</i>, 10 <i>Flammulina turneri v. oclusa</i>, 1 <i>Endodonta vetula</i>, 2 <i>Endodonta noumeensis</i>, 2 <i>Diplomphalus mariei</i>, 1 <i>Trochonania subfulva</i>, 6 <i>Helicina benigna</i>, 5 <i>Omphalotropis coturnix</i>, 1 <i>Tornatina hadfieldi</i>, 2 <i>Triforis connatum</i>, 1 <i>Triforis ruber</i>, 2 <i>Triforis funebris</i>, 8 <i>Bittium glareosum</i>, 6 <i>Bittium</i> sp., 1 <i>Libitina angulata</i>, 1 <i>Pecten janus</i>, 2 <i>Pecten</i> sp., 2 <i>Cardita</i> sp., 1 <i>Venus</i> sp., 1 <i>Cytherea florida</i>, 1 <i>Cytherea picta</i>, 1 <i>Dosinia</i> sp., 1 <i>Lucina</i> sp., 1 <i>Drillia barkliensis</i>, 1 <i>Perna cumingi</i>, 6 <i>Acanthopleura spiniger</i>, 10 <i>Heterozona n. sp.</i>, 1 <i>Oncidium</i> sp., 2 <i>Placostylus souvillei</i>, 2 <i>Mitra scutulata</i>, 1 <i>Cerithium trailii</i>, 1 <i>Cerithium tuberculatum</i>, 1 <i>Ricinula undata</i>, 2 <i>Mitra</i> sp., 6 <i>Columbella</i> sp., 8 <i>Rhytida</i></p>	Mr. C. Hedley .....	....	<p>Mollusca—continued.</p> <p><i>inaequalis</i>, 12 <i>Isidora nasuta</i>, 10 <i>Isidora hispida</i>, 16 <i>Planorbis montrouzieri</i>, 3 <i>Melanopsis elegans</i>, 40 <i>Amphicyclotus couderti</i>, 12 <i>Helicina primiana</i>, 6 <i>Endodonta costulifera</i>, 6 <i>Scintilla</i> sp., 5 <i>Columbella</i> sp., 1 <i>Dosinia nitens</i>, 2 <i>Teredo edax</i>, 1 <i>Adeorbis angasi</i>, 2 <i>Cirsonella australis</i>, 1 <i>Venus alatus</i>, 2 <i>Cryptodon globosum</i>, 1 <i>Mytilus tasmanica</i>, 3 <i>Lucina ramsayi</i>, 4 <i>Syndosmya elliptica</i>, 3 <i>Teinostoma australe</i>, 3 <i>Liotia clathrata</i>, 1 <i>Liotia angasi</i>, 12 <i>Liotia speciosa</i>, 3 <i>Liotia loaderae</i>, 4 <i>Liotia gowllandi</i>, 1 <i>Vitri-nella liricincta</i>, 1 <i>Teinostoma cala</i>, 2 <i>Endodonta segregata</i>, 2 <i>Endodonta jessica</i>, 4 <i>Endodonta barbatula</i>, <i>Endodonta subantialba</i>, 6 <i>Endodonta lucetta</i>, 3 <i>Endodonta humuensis</i>, 3 <i>Flammulina perdita</i>, 2 <i>Flammulina propinqua</i>, 2 <i>Flammulina valeria</i>, 2 <i>Flammulina thaisa</i>, 2 <i>Laoma pumila</i>, 7 <i>Columbella terpsichore</i>, 4 <i>Terebra nitida</i>, 1 <i>Erato gallinacea</i>, 1 <i>Pinna angustata</i>, 1 <i>Crassatella pulchra</i>, 1 <i>Dosinia affinis</i>, 1 <i>Chamostraea albida</i>, 1 <i>Pectunculus grayanus</i>, 1 <i>Cardita excavata</i>, 2 <i>Lasaea rubra</i>, 1 <i>Saxicava arctica</i>, 1 <i>Cardium unicolor</i>, 1 <i>Maetra depressa</i>, 1 <i>Tellina albinella</i>, 3 <i>Tapes fabagella</i>, 1 <i>Tapes undulata</i>, 1 <i>Tellina delloidalis</i>, 1 <i>Thersites frazeri v. flavescens</i>, 6 <i>Tornatellina wakefieldiae</i>, 1 <i>Endodonta</i> sp., 4 <i>Nassa peritrema</i>, 2 <i>Planispira leucochilus</i>, 2 <i>Papuina con-scendens</i>, 1 <i>Cancellaria costifera</i>, 2 <i>Cancellaria undulata</i>, 1 <i>Cancellaria laevigata</i>, 3 <i>Conus innotabilis</i>, 1 <i>Conus angasi</i>, 2 <i>Conus aplustre</i>, 2 <i>Conus vexillum</i>, 2 <i>Calliostoma speciosum</i>, 1 <i>Calliostoma decorata</i>, 1 <i>Trochus scitulus</i>, 1 <i>Cypraea subviridis</i>, 2 <i>Cypraea xanthodon</i>, 1 <i>Cypraea teres</i>, 1 <i>Cypraea flaveola</i>, 3 <i>Latirus brazieri</i>, 1 <i>Latirus</i> sp., 3 <i>Peristernia australiensis</i>, 3 <i>Sistrum amygdala</i>, 4 <i>Nassa gemmulata</i>, 1 <i>Nassa glans</i>, 3 <i>Nassa paupera</i>, 4 <i>Nassa jonasi</i>, 2 <i>Tritonium caudatum</i>, 4 <i>Tritonium excavatum</i>, 2 <i>Tritonium olearium</i>, 5 <i>Zemira australis</i>, 3 <i>Purpura neglecta</i>, 5 <i>Tylospira scutulata</i>, 4 <i>Comminella filicea</i>, 2 <i>Murex contractus</i>, 1 <i>Murex australis</i>, 1 <i>Fusus</i> sp., 2 <i>Pyrula reticulata</i>, 2 <i>Mitra solida</i>, 1 <i>Cassidula zonata</i>, 3 <i>Natica incei</i>, 2 <i>Natica melastoma</i>, 2 <i>Natica didyma</i>, 1 <i>Urosalpinx tritoni-formis</i>, 4 <i>Scalaria ballinensis</i>, 6 <i>Scalaria jukesiana</i>, 1 <i>Voluta marmorata</i>, 1 <i>Voluta zebra</i>, 1 <i>Cassis nana</i>, 1 <i>Cassis saburon</i>, 5 <i>Cassis pyrum</i>, 2 <i>Dolium variegatum</i>, 3 <i>Columbella pardalina</i>, 1 <i>Columbella versicolor</i>, 4 <i>Columbella lineolata</i>, 2 <i>Columbella tayloriana</i>, 1 <i>Turritella</i> sp., 1 <i>Pleurotoma</i> sp., 4 <i>Daphnella jacksonensis</i>, 3 <i>Typhis cleryi</i>, 3 <i>Ringicula doliaris</i>, 6 <i>Drillia oweni</i>, 2 <i>Odostomia angasi</i>, 1 <i>Olivella nympha</i>, 2 <i>Alaba</i> sp., 1 <i>Naticina nitida</i>, 2 <i>Euchelus baccatus</i>, 2 <i>Terebra</i> sp., 1 <i>Solarium reevei</i>, 1 <i>Helicacis cingulum</i>, 1 <i>Gibbula</i> sp., 2 <i>Larval Shells</i>, 5 <i>Marginella</i> sp., 1 <i>Venus alatus</i>, 8 <i>Donax brazieri</i>, 2 <i>Eastonia aegyptiaca</i>, 18 <i>Hemidonax donaciforme</i>, 2 <i>Venus roborata</i>, 4 <i>Tellina senegalensis</i>, 12 <i>Venus scabra</i>, 12 <i>Donax brazieri</i>, 3 <i>Corbula</i> sp., 1 <i>Cardium unicolor</i>, 1 <i>Lima bullata</i>, 1 <i>Kellia adamsi</i>, 1 <i>Modiola australis</i>, 2 <i>Modiolaria cumingiana</i>, 2 <i>Cardium multispinosum</i>, 3 <i>Dosinia affinis</i>, 2 <i>Leda crassa</i>, 2 <i>Venerupis crenata</i>, 3 <i>Mesodesma elongata</i>, 1 <i>Tellina deltoidalis</i>, 2 <i>Tellina albinella</i>, 3 <i>Maetra jacksonensis</i>, 1 <i>Maetra ezimia</i>, 1 <i>Maetra rufescens</i>, 1</p>

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. C. Hedley	.....	Mollusca—continued. <i>Tapes inflata</i> , 1 <i>Donax nitida</i> , 3 <i>Donax deltoides</i> , 1 <i>Myodora brevis</i> , 4 <i>Hemidonax donaciformis</i> , 1 <i>Myodora pandoriformis</i> , 5 <i>Myodora elegantula</i> , 1 <i>Cucullaea concamerata</i> , 2 <i>Spisula parva</i> , 1 <i>Pecten tegula</i> , 2 <i>Pholas australasiae</i> , 1 <i>Arca scapha</i> , 1 <i>Mytilus hirsutus</i> , 2 <i>Pecten fumatus</i> , 1 <i>Lima multicosata</i> , 1 <i>Arca fasciata</i> , 2 <i>Pectunculus grayanus</i> , 3 <i>Venus paucimellata</i> , 1 <i>Diplodonta adamsi</i> , 1 <i>Lasaea rubra</i> , 3 <i>Tellina unifasciata</i> , 1 <i>Lepton</i> sp., 2 <i>Turbo undulatus</i> , 2 <i>Scutus anatinus</i> , 3 <i>Purpura succincta</i> , 3 <i>Monodonta zebra</i> , 4 <i>Monodonta multicarinata</i> , 4 <i>Nerita punctata</i> , 3 <i>Voluta zebra</i> , 4 <i>Risella melanastoma</i> , 4 <i>Ricinula marginata</i> , 8 <i>Natica incei</i> , 3 <i>Tectarius nodulosus</i> , 2 <i>Littorina mauritiana</i> , 1 <i>Haliotis cocoradiata</i> , 30 <i>Gibbula strangei</i> , 5 <i>Submargininula intermedia</i> , 12 <i>Submarginula rugosa</i> , 1 <i>Liolophura gaimardi</i> , 2 <i>Ischnochiton australis</i> , 2 <i>Ischnochiton smaragdinus</i> , 2 <i>Glyphis lineata</i> , 1 <i>Lucapinella nigrata</i> , 4 <i>Gadinia conica</i> , 1 <i>Calyptraea calyptraeformis</i> , 2 <i>Solarium reevei</i> , 1 <i>Lamellaria tongana</i> , 1 <i>Cypraea clandestina</i> , 1 <i>Tritonium spengleri</i> , 2 <i>Operculatum aurantium</i> , 3 <i>Helcioniscus tramosericus</i> , 2 <i>Siphonaria denticulata</i> , 2 <i>Aemaea</i> sp., 1 <i>Aemaea</i> sp., 2 <i>Olivella nympha</i> , 1 <i>Odostomia angasi</i> , 1 <i>Bullina scabra</i> , 1 <i>Purpura neglecta</i> , 1 <i>Trivia scabriscula</i> , 2 <i>Ianthina exigua</i> , 1 <i>Agadina</i> sp., 2 <i>Terebra</i> sp., 1 <i>Euchelus haccatus</i> , 1 <i>Cantharus australis</i> , 2 <i>Nassa jonasi</i> , 7 <i>Nassa peritrema</i> , 12 <i>Diala</i> sp., 5 <i>Marginella</i> sp., 1 <i>Cylichna</i> sp., 2 <i>Scala granulosa</i> , 1 <i>Hyalæa tridentata</i> , 1 <i>Cantharidus fasciatus</i> , 1 <i>Odostomia</i> sp., 2 <i>Turritela</i> sp., 6 <i>Sepia cultrata</i> (? male), 3 <i>Sepia cultrata</i> (? female), <i>Sepia mestus</i> .	Mr. C. Hedley	.....	Stony Corals—continued. <i>træa robusta</i> , 2 <i>Orbicella</i> sp., 4 <i>Astræa denticulata</i> , 9 <i>Cœloria stricta</i> , 1 <i>Cyphastrea microphthalma</i> , 4 <i>Fungia confertifolia</i> , 1 <i>Fungia patella</i> , 2 <i>Herpetolithes crassa</i> , 4 <i>Mussa costata</i> , 2 <i>Rhodaræa calicularis</i> , 2 <i>Porites arenosa</i> , 1 <i>Porites lutea</i> , 2 <i>Porites crassa</i> , 9 <i>Porites solida</i> , 6 <i>Stylophora digitata</i> , 4 <i>Montipora grandiflora</i> , 2 <i>Montipora verrucosa</i> , 2 <i>Madrepora securis</i> , 2 <i>Madrepora gravigida</i> , 6 <i>Madrepora formosa</i> , 6 <i>Madrepora secunda</i> , 1 <i>Madrepora bæodactyla</i> , 2 <i>Madrepora hebes</i> , 1 <i>Madrepora rosaria</i> var <i>diffusa</i> , 1 <i>Madrepora gemmifera</i> , 1 <i>Madrepora cymbicyathus</i> , 1 <i>Madrepora echinata</i> , 2 <i>Montipora erosa</i> , 2 <i>Seriatopora hystrix</i> , 1 <i>Seriatopora gracilis</i> , 1 <i>Pocillopora caspitosa</i> , 2 <i>Millepora tortuosa</i> .
Do	.....	1 Flower Beetle— <i>Aulicus corallipes</i> .	Do	.....	1 Worked Flint from a kitchen midden at Sandy Bay, Hobart, Tasmania.
Do	.....	2 Caddis-worm cases— <i>Limnophilides</i> sp.	Do	.....	1 Sample of twine from Santa Cruz.
Do	.....	2 Bugs— <i>Arma</i> sp.	Do	.....	1 Flying fox— <i>Pteropus vetulus</i> .
Do	.....	5 Fossils—1 <i>Aviculopecten</i> sp., 1 <i>Spirifera tasmaniensis</i> , 3 <i>Strophalosia jukesii</i> .	Do	.....	1 Mouse— <i>Mus</i> sp.
Do	.....	2 Earthworms— <i>Perichæta</i> sp.	Mrs. C. Hedley	.....	2 Lady-birds— <i>Polychalcea variolosa</i> .
Do	.....	12 Schizopod— <i>Anaspis tasmanica</i> .	Mr. A. U. Henn	.....	127 Marine Shells—3 <i>Euchelus atratus</i> , 3 <i>Euchelus</i> sp., 3 <i>Diala</i> sp., 3 <i>Phasianella ventricosa</i> , 4 <i>Phasianella variegata</i> , 5 <i>Drillia</i> sp., 4 <i>Marginella sagittata</i> , 8 <i>Monilea preissiana</i> , 2 <i>Monodonta crinita</i> , 1 <i>Triton exaratus</i> , 2 <i>Cantharidus badius</i> , 12 <i>Cantharidus pulcherrimus</i> , 4 <i>Ringicula australis</i> , 6 <i>Tornatina hadfieldi</i> , <i>Pleurotoma abbreviata</i> , 2 <i>Pleurotoma bijubata</i> , 4 <i>Pleurotoma pupoidea</i> , 3 <i>Pleurotoma vidua</i> , 2 <i>Pleurotoma vidua</i> var., 1 <i>Mangilia alicia</i> , 2 <i>Mangilia rugosa</i> , 2 <i>Mangilia theskela</i> , 2 <i>Mangilia matakuana</i> , 2 <i>Mangilia conohelicoides</i> , 1 <i>Mangilia cithara</i> , 2 <i>Mangilia himerodes</i> , 1 <i>Mangilia trigonostomum</i> , 2 <i>Daphnella bella</i> , 2 <i>Tornatina voluta</i> , 1 <i>Cancellaria contabulata</i> , 2 <i>Atys debilis</i> , 2 <i>Margiella suavis</i> , 3 <i>Marginella lifuana</i> , 2 <i>Mitra eximia</i> , 1 <i>Mitra texturata</i> , 3 <i>Mitra rubra</i> , 2 <i>Mitra armiger</i> , 1 <i>Mitra cadaverosa</i> , 2 <i>Mitra discoloria</i> , 1 <i>Mitra exasperata</i> , 3 <i>Mitra nitidissima</i> , 1 <i>Mitra muriculata</i> , 2 <i>Mitra tuberosa</i> , 2 <i>Engina lineata</i> , 2 <i>Engina sinensis</i> , 1 <i>Nassa cestilba</i> , 1 <i>Nassa shacklefordi</i> , 1 <i>Nassa callospira</i> , 1 <i>Nassa albescens</i> , 1 <i>Nassa plebicula</i> , 2 <i>Columbella tururina</i> , 2 <i>Columbella varians</i> , 2 <i>Columbella ligula</i> , 2 <i>Columbella marquesa</i> , 2 <i>Columbella tyleri</i> , 2 <i>Nassa monilis</i> , 1 <i>Ricinula chrysostruma</i> , 2 <i>Cypraea microdon</i> , 2 <i>Cypraea clandestina v. artuffeli</i> , 2 <i>Trivia insecta</i> , 2 <i>Erato corrugata</i> , 2 <i>Cerithium nassoides</i> , 3 <i>Cerithium zebrum</i> , 2 <i>Cerithium lacteum</i> , 1 <i>Cerithium piperitum</i> , 2 <i>Planaxis virgatus</i> , 2 <i>Plesiotrochus souverbianus</i> , 1 <i>Pyramidella nitida</i> , 3 <i>Synola mossiana</i> , 1 <i>Natica robillardi</i> , 1 <i>Natica gualteriana</i> , 1 <i>Natica gaidei</i> , 3 <i>Natica picta</i> , 1 <i>Natica simia</i> , 3 <i>Truncatella conspicua</i> , 2 <i>Neritina morosa</i> , 2 <i>Gibbula nucleus</i> , 2 <i>Margarita striatula</i> .
Do	.....	2 Sea-eggs—1 <i>Tripneustes angulosus</i> , 1 <i>Heterocentrotus mammillatus</i> .	Mr. E. Henry	.....	1 Bullrout— <i>Centropogon robustus</i> .
Do	.....	5 Star-fishes—1 <i>Nardoa nova-caledoniae</i> , 4 <i>Archaster typicus</i> .	Mr. J. B. Henson	.....	29 Remains of <i>Cingularia</i> or <i>Phyllotheca</i> .
Do	.....	10 Trepangs—2 <i>Holothuria atra</i> , 3 <i>Holothuria Martensii</i> , 1 <i>Phyllophorus</i> sp., 2 <i>Holothuria impatiens</i> , 2 <i>Holothuria signatus</i> .	Do	.....	2 Ditto with <i>Glossopteris</i> .
Do	.....	29 Crabs—4 <i>Gelasimus tetragonon</i> , 1 <i>Thalamita danae</i> , 2 <i>Macrophthalmus quadratus</i> , 9 <i>Macrophthalmus graffii</i> , 4 <i>Thalamita crenata</i> , 3 <i>Calappa hepatica</i> , 3 <i>Metopograpsus latifrons</i> , 1 <i>Plumnus vespertilio</i> , 2 <i>Petrolisthes Haswelli</i> .	Mr. W. C. Heron	.....	1 Gigantic Salamander— <i>Megalobatrachus maximus</i> .
Do	.....	33 Hermit Crabs—6 <i>Clibanarius striolatus</i> , 12 <i>Clibanarius</i> sp., 11 <i>Clibanarius</i> sp., 4 <i>Calcinus</i> sp.	Mr. George Hislop	.....	1 Bennett's Tree Kangaroo— <i>Dendrolagus bennettianus</i> .
Do	.....	41 Fresh-water Prawns—24 <i>Atya robusta</i> , 16 <i>Palamon vagus</i> , 1 <i>Palamon</i> sp.	Capt. E. C. Hore	.....	1 Stone adze-head from Cook Islands.
Do	.....	3 Crabs— <i>Trapezia cymodoce</i> .	Mr. W. Horn	.....	87 Ordovician Fossils from Central Australia.
Do	.....	1 Glass Crab— <i>Gonodactylus chiragra</i> .	Mr. J. C. Hoskins	.....	1 Crayfish— <i>Astacopsis serratus</i> , Shaw.
Do	.....	1 Fresh-water Crab— <i>Hymenosoma pilosa</i> .	Mrs. C. E. Hotham	.....	1 Impeyan Pheasant— <i>Lophophorus impeyanus</i> .
Do	.....	3 Sponge— <i>Petrosia</i> sp.	Mr. Jno. Hourigan	.....	1 Leaf Insect— <i>Extatosoma tiaratum</i> .
Do	.....	100 Stony Corals—1 <i>Turbinaria venusta</i> , 1 <i>Echinopora rosularia</i> , 2 <i>Siderastræa</i> sp., 5 <i>Plesiastrea urvillei</i> , 5 <i>Prionas-</i>	Mr. W. Howchin	.....	2 — <i>Ptychoparia Howchini</i> .
			Mr. J. G. Hunter	.....	1 Gang Gang— <i>Callocephalon galcatum</i> .



Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. E. Huntley .....	3	Telluride of Gold— <i>Calaverite</i> .	Mr. Craig Maginnis.	3	Bone and tortoise-shell fish-hooks.
Dr. G. Hurst .....	1	Flying Mouse— <i>Acrobates pygmaeus</i> .	Do	1	Stone and shell bait for catching octopus.
Rev. W. G. Ivens ...	1	Snake— <i>Denisonia melanura</i> , 1 <i>Micropechis elapoides</i> .	Do	4	Stone axes.
Mr. F. Ives .....	1	Sea "Centipede"— <i>Eumice aphroditois</i> .	Do	1	Shell necklace.
Mr. R. L. Jack .....	2	Middle Devonian Corals—1 <i>Pachypora meridionalis</i> , 1 <i>Favosites</i> , <i>sp.</i>	Do	1	Wooden pillow.
Mr. H. O. Jackson...	2	Spiders—1 <i>Dinopis bicornis</i> , 1 <i>Dinopis bicornis</i> , ♂.	Do	2	Mats.
Mr. F. C. Janson ...	1	Delicate Owl— <i>Strix delicatula</i> .	Do	2	Tappa.
Do	1	Pondicherry Francolin— <i>Francolinus pondicerianus</i> .	Do	2	Tappa mallet.
Do	2	Great Flying Opossums— <i>Petauroides volans</i> .	Do	1	Pandanus leaf.
Do	1	Californian Quail— <i>Lophortyx californicus</i> .	Do	1	Web, fabricated by some species of spider ( <i>Retitularia</i> ), the individuals of which live in communities.
Do	1	Red-necked Wallaby— <i>Macropus ruficollis</i> .	Master Stephen Mahony.	1	Dragon-fly— <i>Agriion sp.</i>
Do	1	Wombat— <i>Phascalomys mitchelli</i> .	Master H. H. Maiden.	1	Rabbit— <i>Lepus cuniculus</i> .
Mr. John Jennings...	1	Phasma— <i>Platycrania phelans</i> .	Mr. A. Gibb Maitland.	1	Magnesian Limestone.
Do	1	Shell— <i>Lima alata</i> .	Mr. Edward C. Mann	1	George III Penny, 1797.
Mr. Edward Jordan	1	Metallic Arsenic.	Mr. J. Stuart-Mason	1	Longicorn beetle— <i>Phoracantha semicincta</i>
Mr. S. J. Johnston...	1	Plague Locust— <i>Pachytylus australis</i> .	Mr. L. Matthews ...	1	Gecko— <i>Oedura robusta</i> .
Do	1	Locust— <i>Choriphistes conspersa</i> .	Mr. R. M'Burney ...	1	Australian Goshawk— <i>Astur approximans</i> .
Mr. G. A. Keartland	1	Short-winged Frog-mouth— <i>Podargus brachypterus</i> .	Do	1	Sharp-nosed Bat— <i>Taphozous australis</i> .
Mr. A. P. Kemp.....	3	"Rhinoeceros" Beetles— <i>Scapanes solidus</i> (1 ♂, 2 ♀).	Mr. H. J. M'Cooney...	1	Banded Skink— <i>Hemisphaeriodon gerrardi</i> .
Do	1	Larva of Staghorn Beetle attacked by entomogenous fungi— <i>Rhyssonotus nebulosus</i> — <i>Cordiceps scottianus</i> .	Do	1	Gecko— <i>Gymnodactylus</i> .
Master M. F. Kemp	2	Pseudo-imagines of Cicada, "Yellow Monday"— <i>Cyclochila australasiae</i> .	Do	1	Water Lizard— <i>Physignathus lesueurii</i> .
Do	1	Prickly Lizard— <i>Amphibolurus muricatus</i> .	Do	1	Black-bellied Snake— <i>Denisonia signata</i> .
Mr. H. L. Kesteven..	1	Crest Fish— <i>Cristiceps sp.</i>	Do	1	Beetle— <i>Schizorrhina dorsalis</i> .
Do	2	Water-scorpions— <i>Nepa tristis</i> .	Do	1	Pod of Black Bean.
Do	6	Shells— <i>Rissoa sp.</i>	Miss M'Donald .....	1	"Vegetable" Caterpillar— <i>Cordyceps sellkirki</i> .
Do	2	— <i>Acmea borneensis</i> .	Mr. J. M'Ghee .....	1	Ring-tailed Opossum— <i>Pseudochirus peregrinus</i> .
Do	1	— <i>Submarginula notata</i> .	Do	1	Laugur Monkey— <i>Semnopithecus maurus</i> .
Mr. King .....	1	Centipede— <i>Heterostoma sulcidens</i> .	Mr. George McKee.	1	Red-naped Snake— <i>Pseudelaps diadema</i> .
Mr. Francis W. King	1	Danaid (butterfly) cocoon— <i>Danais eripus</i> .	Do	6	Crickets— <i>Gryllus fuliginosus</i> .
Rev. J. D. Landells..	2	Calcite.	Mr. P. McManus ...	1	Ringed Snake— <i>Furina occipitalis</i> .
Mr. S. R. L. Learmonth.	1	Native Porcupine— <i>Echidna aculeata</i> .	Mrs. Merewether ...	1	Rufous-necked Hornbill— <i>Buceros ruficollis</i> .
Do	3	Rabbit Bandicoots— <i>Peragale lagotis</i> .	Dr. P. H. Metcalfe..	1	Porcupine Fish— <i>Dicotylichthys punctulatus</i> .
Mr. E. Le Bihen ...	1	Rove Beetle— <i>Creophilus erythrocephalus</i> .	Do	1	Long-tailed Petrel (albino)— <i>Puffinus chlororhynchus</i> .
Mr. J. Leslie .....	1	— <i>Plesiosaurus sp.</i> (cervical vertebra), from Queensland.	Mr. A. Mills .....	1	Nest of the Mistletoe-bird— <i>Dicaeum hirundinaceum</i> .
Mr. Geo. W. D. Leslie	1	Black-headed Superb Warbler— <i>Malurus melanocephalus</i> .	Mr. E. Mitchell.....	1	Spider's cocoon of the family <i>Drassidae</i> .
Do	1	Sanguineous Honey-eater— <i>Myzomela sanguinolenta</i> .	Mr. John Mitchell..	10	Limestone (some Oolitic.)
Mr. de Courcy Lewis	1	Boxfish— <i>Aracana lenticularis</i>	Mr. F. H. Moore ...	2	2 Bags made from Kangaroo skins, and used by the Aboriginal women of the Gascoigne District, West Australia, for carrying their infants.
Mr. Cavendish	1	Hermit Crab— <i>Diogenes custos</i> .	Mr. S. W. Moore, M.L.A.	1	Nest of Restless Flycatcher— <i>Sisura inquieta</i> .
Liardet	1	Shell— <i>Bulla ampulla</i> , Linne.	Mr. E. J. E. Morris.	...	Grey Copper Ore.
Do	1	Golden-fly— <i>Chrysopa ramburi</i> .	Mr. S. Mort .....	2	Perrino-Carboniferous Bivalves—1 <i>Maonia n. sp.</i> , 1 <i>Chaenomya sp.</i>
Do	1	Beetle— <i>Diaphonia dorsalis</i> .	Do	11	Silurian Fossils—3 <i>Favosites sp.</i> , 2 <i>Heliolites sp.</i> , 2 <i>Mucophyllum crateroides</i> , 3 <i>Leptana subquicostata</i> , 1 <i>Diphyphyllum sp.</i>
Do	1	Dragon-fly— <i>Agriion sp.</i>	Master Wm. Geo. Mortimer.	1	Mottled Flathead— <i>Platycephalus cirro-nasus</i> .
Mr. A. Llewellyn ...	1	Boxfish— <i>Ostracion cornutus</i> .	Mr. Wm. Moss .....	100	Bugs (mature and immature examples)— <i>Coramis sp.</i>
Mr. John Loader	1	Red Gurnard Perch— <i>Sebastes percooides</i> .	Do	1	Wasp— <i>Diamma bicolor</i> ♀.
Miss M. Lodder .....	3	"Harvestmen"— <i>Dampetrus tuberculatus</i> (?).	Mr. R.A.F. Murray..	1	Opalised wood.
Do	76	Spiders—1 <i>Araneus sp.</i> , 1 <i>Heteropoda venataria</i> (imature), 1 <i>Isopoda villosa</i> , 2 <i>Lycosa obscura</i> (imature), <i>Marptusa jovialis</i> (damaged), 34 <i>Araneus variabilis</i> , 4 <i>Araneus lodiculus</i> , 4 <i>Araneus fuliginatus</i> , 3 <i>Araneus mamillanus</i> , 4 <i>Araneus eburnus</i> , 1 <i>Arcys alatus</i> , 5 <i>Tholia peltata</i> , 8 <i>Argiope plana</i> , 5 ("Scorpion" or "Tailed spiders") <i>Arachnura feredayi</i> , 1 ("Worm spider") <i>Ariamnes colubrinus</i> , 1 <i>Lampona murina</i> .	Do	4	Silver Lead Ore— <i>Argentiferous galena</i> .
Do	26	Marine Shells—2 <i>Odostomia tasmanica</i> , 6 <i>Cadulus acuminatus</i> , 6 <i>Folwula rostrata</i> , 2 <i>Stylifer lodderae</i> , 2 <i>Schismope pulchra</i> , 2 <i>Schismope atkinsoni</i> , 6 <i>Columbella speciosa</i> .	Mr. A. E. Murrell...	1	Skylark— <i>Alauda arvensis</i> .
Miss Kate Long ...	1	Starling— <i>Sturnus vulgaris</i> .	Mr. W. Musgrove ...	1	Moth— <i>Zeuzera eucalypti</i> .
Mr. Albert H. Lowe.	1	Channel-bill Cuckoo— <i>Scythrops novaehollandiae</i> .	Mr. R. Nancarrow...	1	Rock Gecko— <i>Gymnodactylus platurus</i> .
Mr. B. Lucas .....	1	Kerosene Shale.	Mr. A. D. Nelson, M.L.A.	1	Hairworm— <i>Gordius sp.</i>
Do	...	Queensland Nuts— <i>Macademia ternifolia</i> .	Mr. F. Newby .....	1	Rabbit Bandicoot— <i>Peragale lagotis</i> .
Mr. G. Lyell, junior.	5	Spiders—1 <i>Argiope symmactica</i> , 3 <i>Araneus productus</i> , 1 <i>Acompse modesta</i> .	Do	2	Do (Fetus)—do
			Mr. H. Newcombe...	1	Sucker Fish— <i>Echeneis naucrates</i> .
			Do	2	Black-fronted Dotterels— <i>Egialitis melanops</i> .
			Do	1	Pectoral Rail— <i>Hypotaenidia philippensis</i> .
			Do	1	Australian Bittern— <i>Botaurus poicilopterus</i> .
			N.S.W. Government	376	Birds' Eggs (part of the "Dobroyde" Collection).
			Do	3	Lesser Flying Opossum— <i>Petaurus breviceps</i> .
			N.S. Wales Zoological Society.	1	Great Kangaroo (albino)— <i>Macropus giganteus</i> .
			Do	1	Raccoon— <i>Procyon lotor</i> .

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
N.S. Wales Zoological Society.	2	Marmosets— <i>Hapale jacchus</i> .	Mr. A. J. North.....	5	Eggs of the Black-backed Water-hen— <i>Porphyrio melanonotus</i> .
Do	1	Spotted Cuscus— <i>Phalanger maculatus</i> .	Do	3	Eggs of the White-fronted Heron— <i>Ardea nova-hollandiae</i> .
Do	1	Rusa Deer— <i>Cervus aristotelis</i> .	Do	8	Eggs of the Brown Duck— <i>Anas superciliosa</i> .
Do	1	Skunk— <i>Mephitis putorius</i> .	Do	2	Eggs of the Stone Plover— <i>Edicnemus grallarius</i> .
Do	1	Black Leopard— <i>Felis pardus</i> .	Do	3	Eggs of the Nankeen Kestrel— <i>Tinnunculus cenchroides</i> .
Do	1	Soudan Ass— <i>Equus asinus</i> .	Do	2	Eggs of the Frogmouth— <i>Podargus strigoides</i> .
Do	1	Puma (Young)— <i>Felis concolor</i> .	Do	5	Eggs of the Land Rail— <i>Hypotaenidia philippensis</i> .
Do	5	Pumas— <i>Felis concolor</i> .	Do	3	Eggs of the Black-cheeked Falcon— <i>Falco melanogenys</i> .
Do	1	Orang Utan (Young)— <i>Simia satyrus</i> .	Do	2	Eggs of the Australian Goshawk— <i>Astur approximans</i> .
Do	1	Orang Utan— <i>Simia satyrus</i> .	Do	3	Eggs of the Pacific Gull— <i>Larus pacificus</i> .
Do	1	Lion (Cub)— <i>Felis leo</i> .	Do	2	Eggs of the Laughing Jackass— <i>Dacelo gigas</i> .
Do	1	Coati-mundi— <i>Nasua nasica</i> .	Do	1	Australian Bee-eater— <i>Merops ornatus</i> .
Do	1	Japanese Spaniel— <i>Canis familiaris</i> .	Do	1	Sacred Kingfisher— <i>Halcyon sanctus</i> .
Do	1	Golden Pheasant— <i>Thaumalea picta</i> .	Do	2	Fawn-breasted Kingfishers— <i>Dacelo ceruina</i> .
Do	2	1 Kagu— <i>Rhynochetos jubatus</i> ; 1 Ostrich— <i>Struthio camelus</i> .	Do	1	Delicate Owl— <i>Strix delicatula</i> .
Do	1	Chukar Partridge— <i>Caccabis chukar</i> .	Do	1	Crested Bronze-wing— <i>Ocyphaps lophotes</i> .
Captain Nielsen.....	2	1 <i>Murex tenuispina</i> , Lamk; 1 <i>Murex cavicornis</i> , Lamk.	Do	2	Eastern Pratincoles— <i>Glareola orientalis</i> .
Mr. A. J. North.....	3	Eggs of the Harmonious Thrush— <i>Collyriocincla harmonica</i> .	Do	1	Varied Lorikeet— <i>Trichoglossus versicolor</i> .
Do	4	Eggs of the Pied Grallina— <i>Grallina picata</i> .	Do	2	Crimson-winged Lories— <i>Aprosmictus erythropterus</i> .
Do	3	Eggs of the Black-faced Cuckoo-shrike— <i>Graucalus melanops</i> .	Do	1	Sulphur-crested Cockatoo— <i>Cacatua galerita</i> .
Do	2	Eggs of the Whip-bird— <i>Psophodes crepitans</i> .	Do	2	Great Bower-birds— <i>Chlamydotera nuchalis</i> .
Do	5	Eggs of the Australian Bee-eater— <i>Merops ornatus</i> .	Do	2	Black-tailed Tree-creepers— <i>Climacteris melanura</i> .
Do	3	Eggs of the Rufous-rumped Singing Lark— <i>Ptenocedus rufescens</i> .	Do	2	Painted Finches— <i>Emblema picta</i> .
Do	3	Eggs of the Black and White Fantail— <i>Sauloprocta motacilloides</i> .	Do	2	Long-tailed Finches— <i>Poephila acuticauda</i> .
Do	5	Eggs of the Red eye-browed Finch— <i>Aegintha temporalis</i> .	Do	2	Red-tailed Finches— <i>Bathilda ruficauda</i> .
Do	3	Eggs of the Yellow-breasted Robin— <i>Eopsaltria australis</i> .	Do	1	Crimson Finch— <i>Neochmia phaeon</i> .
Do	3	Eggs of the Orange-winged Bark-pecker— <i>Sittella chrysoptera</i> .	Do	1	Horsfield's Bush Lark— <i>Mirafra horsfieldi</i> .
Do	3	Eggs of the White-fronted Ephthianura— <i>Ephthianura albifrons</i> .	Do	2	Yellow-tinted Scrub-tits— <i>Smicrorhis flavescens</i> .
Do	3	Eggs of the Reed Warbler— <i>Acrocephalus australis</i> .	Do	1	Brown's Superb Warbler— <i>Malurus cruentatus</i> .
Do	3	Eggs of the Rufous-breasted Thickhead— <i>Pachycephala rufiventris</i> .	Do	2	Sordid Friar-birds— <i>Philemon sordidus</i> .
Do	3	Eggs of the Dusky Wood-swallow— <i>Artamus sordidus</i> .	Do	1	Uniform-coloured Honey-eater— <i>Stomiopera unicolor</i> .
Do	3	Eggs of the Yellow-rumped Thornbill— <i>Geobasileus chrysorrhoa</i> .	Do	2	Yellow-tinted Honey-eaters— <i>Ptilotis flavescens</i> .
Do	1	Egg of the Bronze Cuckoo— <i>Lamprococcyx plagosus</i> .	Do	1	Singing Honey-eater— <i>Ptilotis sonora</i> .
Do	2	Eggs of the Yellow-tufted Honey-eater— <i>Ptilotis auricomis</i> .	Do	1	Red-throated Honey-eater— <i>Entomophila ruficularis</i> .
Do	1	Egg of the Pallid Cuckoo— <i>Cuculus pallidus</i> .	Do	1	Banded Honey-eater— <i>Myzomela pectoralis</i> .
Do	3	Eggs of the Yellow-breasted Thornbill— <i>Acanthiza nana</i> .	Do	1	Yellow-backed Honey-eater— <i>Melithreptus laevis</i> .
Do	1	Eggs of the Bronze Cuckoo— <i>Lamprococcyx plagosus</i> .	Do	1	White-shouldered Caterpillar-eater— <i>Lalage tricolor</i> .
Do	4	Eggs of the Grey-backed Silver-eye— <i>Zosterops caerulea</i> .	Do	1	Crested Bell-bird— <i>Oreocica cristata</i> .
Do	3	Eggs of the Australian Pipit— <i>Anthus australis</i> .	Do	2	Pheasant Coucals— <i>Centropus phasianus</i> .
Do	2	Eggs of the Brown Flycatcher— <i>Micræca fascians</i> .	Do	3	Eggs of the Red-throated Honey-eater— <i>Entomophila ruficularis</i> .
Do	4	Eggs of the Superb Warbler— <i>Malurus cyaneus</i> .	Do	1	Nest of the Brown Fly-catcher— <i>Micræca fascians</i> .
Do	1	Egg of the Rufous-tailed Bronze Cuckoo— <i>Lamprococcyx basalis</i> .	Do	2	Eggs of the Brown Fly-catcher— <i>Micræca fascians</i> .
Do	2	Eggs of the Fuscous Honey-eater— <i>Ptilotis fusca</i> .	Do	1	Nest of the Yellow-breasted Robin— <i>Eopsaltria australis</i> .
Do	2	Eggs of the Yellow-faced Honey-eater— <i>Ptilotis chrysops</i> .	Do	2	Eggs of the Yellow-breasted Robin— <i>Eopsaltria australis</i> .
Do	5	Eggs of the Sacred Kingfisher— <i>Halcyon sanctus</i> .	Do	1	Nest of the Little Brown Thornbill— <i>Acanthiza pusilla</i> .
Do	5	Eggs of Macleay's Kingfisher— <i>Halcyon macleayi</i> .	Do	1	Nest of the Lewin's Honey-eater— <i>Ptilotis lewinii</i> .
Do	3	Eggs of the Collared Crow-shrike— <i>Cracticus torquatus</i> .	Do	1	Nest of Black and White Fantail— <i>Sauloprocta motacilloides</i> .
Do	2	Eggs of the Black-fronted Dotterel— <i>Aegialitis melanops</i> .	Do	1	Nest of the Yellow-breasted Thickhead— <i>Pachycephala gutturalis</i> .
Do	2	Eggs of the Crested Bronze-wing— <i>Ocyphaps lophotes</i> .	Do	1	Spine-billed Honey-eater— <i>Acanthorhynchus tenuirostris</i> .
Do	4	Eggs of the Australian Raven— <i>Corone australis</i> .	Do	1	Fan-tailed Cuckoo— <i>C. comantis stabelliformis</i> .
Do	4	Eggs of the Australian Roller— <i>Eurystomus australis</i> .	Do	1	Nest of the Olive-backed Oriole— <i>Oriolus viridis</i> .
			Do	1	White-throated Gerygone— <i>Gerygone albigularis</i> .

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. A. J. North.....	1	Nest of Lewin's Honey-eater— <i>Ptilotis lewintii</i> .	Mr. John Oliver.....	5	Shells— <i>Sepia cultrata</i> .
Do .....	1	Nest of Southern Sphecotheres— <i>Sphecotheres maxillaris</i> .	Mr. J. Padley.....	1	Nepaulese Kookerie.
Do .....	1	Nest of the Black-faced Cuckoo Shrike— <i>Graucalus melanops</i> .	Mr. E. G. W. Palmer	12	Beetles—3 <i>Telephorus pulchellus</i> , 3 <i>Cardiothorax distinctus</i> , 6 <i>Aulacocyclus edentulus</i> .
Do .....	2	Eggs of the Black-faced Cuckoo Shrike— <i>Graucalus melanops</i> .	Do .....	1	Spider— <i>Celaenia excavata</i> .
Do .....	1	Nest of the White-shafted Fantail— <i>Rhipidura albiscapa</i> .	Do .....	2	Spider Egg-bags— <i>Celaenia excavata</i> .
Do .....	1	Nest of the Yellow-tufted Honey-eater— <i>Ptilotis auricomis</i> .	Do .....	2	Venomous Spiders— <i>Latrodectus scelio</i> .
Do .....	1	Nest of the Dusky Wood Swallow— <i>Artamus sordidus</i> .	Do .....	4	Cocoons— <i>Latrodectus scelio</i> .
Do .....	1	Nest of the Rock Warbler— <i>Origma rubricata</i> .	Do .....	1	Huntsman Spider— <i>Voconia immanis</i> .
Do .....	1	Nest of the White-shouldered Caterpillar-eater— <i>Lalage tricolor</i> .	Do .....	1	Spider— <i>Amaurobius</i> sp.
Do .....	1	Spider— <i>Araneus</i> sp.	Do .....	1	Spider Cocoon— <i>Amaurobius</i> sp.
Do .....	1	Praying Mantis— <i>Mantis</i> sp.	Do .....	3	Beetles—1 <i>Notonotus tubericauda</i> , 1 <i>Hellus costatus</i> , 1 <i>Cardiothorax</i> sp.
Do .....	1	Plant Bug— <i>Peltophora picta</i> .	Do .....	1	Spider— <i>Lycosa godeffroyi</i> .
Do .....	4	Moths—3 <i>Darala</i> , sp., 1 <i>Thudaca obliquella</i> .	Do .....	1	Ant-lion Fly— <i>Osmylus</i> sp.
Do .....	1	Moth— <i>Pseudoterpna inuscosaria</i> .	Do .....	1	Spider— <i>Habronestes annulipes</i> ♂
Hon. Dr. Jas. Norton, M.L.C.	100	Plague Caterpillars of Noctuid Moth— <i>Phlegonia carbo</i> .	Do .....	1	Spider— <i>Amaurobius scalaris</i> .
Mr. J. B. Nutting ...	10	Fish, Turtle, and Saurian Remains—6 <i>Portheus australis</i> , 2 <i>Ichthyosaurus australis</i> , 1 <i>Plesiosaurus</i> , sp., 1 <i>Notochilone</i> .	Do .....	1	Spider Cocoon— <i>Amaurobius scalaris</i> .
Mr. J. D. Ogilby ...	6	1 <i>Arctus ursus</i> , 4 <i>Palinurus hugelia</i> , 1 <i>Isopoda. Nerocila</i> sp.	Do .....	1	Rock-Gecko— <i>Gymnodactylus platyrus</i> .
Do .....	1	Crawfish (young).	Do .....	1	Yellow-footed Pouched Mouse— <i>Phascogale flavipes</i> .
Do .....	3	Sipunculus— <i>Sipunculus</i> sp.	Do .....	1	Native Cat— <i>Dasyurus viverrinus</i> .
Do .....	3	1 <i>Umbrella</i> , sp., 2 <i>Theuties incei</i> .	Do .....	1	Grey Crow-Shrike— <i>Strepera cuneicaudata</i> .
Do .....	3	2 <i>Octopus pictus</i> , 1 <i>Lepidolea lineolata</i> .	Mr. W. Parkin .....	1	Shark-hook found in old well while digging foundations for additions to G.P.O. near site of Old Tank Stream.
Do .....	1	"Tree Lobster"— <i>Eurycanthus australis</i> .	Master Thos. Parr...	1	Larva of Moth— <i>Macrosila casuarina</i> .
Do .....	10	Spider—1 <i>Araneus productus</i> , 1 <i>Araneus indagatrix</i> , 2 <i>Tetragnatha lupata</i> , 1 <i>Amaurobius silvanus</i> , 1 <i>Clubiona notabilis</i> , 2 <i>Voconia immanis</i> , 1 <i>Dolomedes facetus</i> , 1 <i>Lycosa godeffroyi</i> .	Mr. H. D. Parry .....	1	Nankeen Night-heron— <i>Nycticorax caldonicus</i> .
Do .....	2	Beetles— <i>Paropsis</i> 6-pustulata.	Mr. P. R. Pedley ...	1	Skull of Aboriginal.
Do .....	2	Earwigs— <i>Forficula</i> sp.	Mr. H. Peir .....	1	Rufous-tailed Bronze Cuckoo— <i>Lamprococeyx basalis</i> .
Do .....	1	Parasitic Bug— <i>Reduvius</i> sp.	Mr. P. Peir.....	1	Masked Grass Finch— <i>Poephila personata</i> .
Do .....	50	Beetle—1 <i>Chlaenius australis</i> , 1 <i>Aterpus cultratus</i> , 1 <i>Cecephalus collaris</i> , 1 <i>Paropsis</i> sp., 1 <i>Epilachna</i> 28-punctata, 3 <i>Coccinella</i> sp., 1 <i>Orcus lafertei</i> , 4 <i>Aspidomorpha ramulopicta</i> , 5 <i>Clivina</i> sp., 5 <i>Enhydrus oblongus</i> , 2 <i>Copelatus elongatus</i> , 1 <i>Hygrotrichus nitans</i> , 5 <i>Cyclonotum mastersi</i> , 1 <i>Diphucephala aurolobata</i> , 1 <i>Orthophagus cuniculus</i> , 1 <i>Ammecius nitidicollis</i> , 1 <i>Argutor nitidipennis</i> , 1 <i>Monocrepidius atratus</i> , 6 <i>Cestrinus</i> sp., 6 <i>Aphodius granarius</i> , 2 <i>Heteronychus</i> sp.	Mr. W. G. Peiry ...	1	Wasp— <i>Evania</i> sp.
Do .....	1	Cockroach— <i>Blatta</i> sp.	Mr. G. H. Perry ...	1	Wireworm— <i>Monocrepidius</i> sp.
Do .....	1	Wasp— <i>Stilbum amethystinum</i> .	Do .....	1	Cicada ("locust") Larva—? gen. et sp.
Do .....	2	Water-boatmen— <i>Anisops australis</i> .	Miss Annie Petrie...	1	Waxbill— <i>Estrilda astrilda</i> .
Do .....	2	Water-measures— <i>Hydrometra</i> sp.	Mr. J. W. Pidgeon...	2	Rifle-birds— <i>Ptilorhis paradisea</i> .
Do .....	3	Water-bugs— <i>Galgulus</i> sp.	Mr. F. P. Pines.....	1	Food-bowl (broken)
Do .....	1	Moth— <i>Deiopeia pulchella</i> .	Do .....	1	Armour for body.
Do .....	15	Spiders—4 <i>Cyrtophora moluccensis</i> , 1 <i>Araneus wagneri</i> , 2 <i>Argyropeira celebesiana</i> , 1 <i>Argyrodes gracilis</i> , 2 <i>Latrodectus scelio</i> , var. <i>indica</i> , 1 <i>Anane pallida</i> , 3 <i>Voconia insignis</i> , 1 <i>Hemiclaea cineracea</i> .	Do .....	1	Coat of coconut fibre.
Do .....	3	Scorpions— <i>Isometrus thorelli</i> .	Mr. J. A. Pfeffer ...	1	Pair of trousers of coconut fibre.
Do .....	1	Plotter— <i>Hydrometra cursitans</i> .	Miss Stella Pollard..	1	Australian Pelican— <i>Pelecanus conspicillatus</i> .
Do .....	1	Parasitic bug— <i>Reduvius</i> sp.	Mr. D. A. Porter ...	1	Hawk Moth Larva— <i>Macrosila casuarinae</i> .
Do .....	1	Ant— <i>Bothroponera piliventris</i> .	Do .....	1	Stilbite.
Do .....	2	Cockroaches— <i>Panesthia athops</i> .	Do .....	1	Hyalite.
Do .....	1	Cricket— <i>Gryllus serveillei</i> .	Do .....	1	Mispickel.
Do .....	9	Centipedes— <i>Scolopendra morsicans</i> , 2 <i>Scolopendra</i> sp., 3 <i>Julus rubripes</i> .	Do .....	1	Mispickel and Quartz.
Mr. John Oliver.....	3	Sea mat— <i>Carbasea dissimilis</i> .	Do .....	1	Rutile.
Do .....	5	Bryozoa-sea mosses— <i>Catenicella ventricosa</i> .	Do .....	1	Rutile in Quartz.
Do .....	4	Sea mosses—2 <i>Amathia</i> sp., 1 <i>Bugula neritina</i> , 1 <i>B.</i> sp.	Do .....	2	Tourmaline.
Do .....	1	Sea-fir— <i>Sertularia elongata</i> .	Do .....	1	Agates.
Do .....	9	Sponges—1 <i>Plectispa macropora</i> , 1 <i>Euchalina exigua</i> , 2 <i>Axinella</i> sp., 1 <i>Clathria australis</i> , 1 <i>Clathriopsamma reticulata</i> , 3 <i>Euspongia officinalis</i> .	Do .....	1	Quartz (moulded on Calcite?).
			Do .....	1	Superb snake— <i>Denisonia superba</i> .
			Do .....	1	Siluro-Devonian Coral— <i>Syringopora autotoporoides</i> .
			Do .....	2	Impressions of fruits in ironstone, Mt. Pleasant— <i>Syringopora</i> sp.
			Rev. Thos. Porter ...	1	Shells— <i>Tellina lata</i> .
			Do .....	1	<i>Trochus jussieuvi</i> T., <i>payrandeau</i> .
			Do .....	1	<i>Eulima articulata</i> .
			Mr. Wm. J. J. Poulton	1	Spider— <i>Celaenia excavata</i> .
			Mr. W. J. Powell ...	1	Lepidopterous puparium— <i>Danais erippus</i> .
			Mr. Edward H. Prince.	1	Piping Crow (Albino)— <i>Gymnorhina tibicen</i> .
			Public Schools Athletic Association of N. S. Wales.	1	Silver Medal, crown in wreath surmounted by Maltese cross, Diamond Jubilee, 1897.
			Do .....	1	do do Diamond Jubilee, Australian Celebration, 1897.
			Dr. R. Pulleine .....	222	Shells—3 <i>Vulsella ovata</i> , 1 <i>Clavagella multangularis</i> , 1 <i>Lima multicostata</i> , 1 <i>Lima bullata</i> , 2 <i>Leda crassa</i> , 1 <i>Tapes galactites</i> , 2 <i>Modiolaria eumingiana</i> , 1 <i>Magellania flavescens</i> , 1 <i>Mytilus ater</i> , 1 <i>Mytilus hirsutus</i> , 2 <i>Mytilus menkeanus</i> , 4 <i>Chione scalarina</i> , 4 <i>Chione strigosa</i> , 4 <i>Chione gallinula</i> , 1 <i>Chione aphrodina</i> , 1 <i>Cardium tenuicostatum</i> , 3 <i>Macoma mariae</i> , 2 <i>Lucina concentrica</i> , 1 <i>Pectunculus obliquus</i> , 4 <i>Tellina decussata</i> , 2 <i>Soletellina biradiata</i> , 3 <i>Mactra rufescens</i> , 12 <i>Donax brazieri</i> , 4 <i>Pecten bifrons</i> , 2 <i>Pecten asperrimus</i> , 1 <i>Cypuraea thersites</i> , 2 <i>Triton subdistortus</i> , 5

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Dr. R. Palleine .....	...	Shells— <i>continued</i> .	Mr. Percy Ramsay...	2	Grey-backed Silver-eyes— <i>Zosterops caerulelescens</i> .
		<i>Triton waterhousei</i> , 1 <i>Fusus pyralata</i> , 1 <i>Fusus tasmaniensis</i> , 3 <i>Fusus australis</i> v. <i>crebriliratus</i> , 1 <i>Fasciolaria fusiformis</i> , 5 <i>Cominella costata</i> , 1 <i>Cominella lineolata</i> , 1 <i>Haliotis rugosoplicata</i> , 2 <i>Haliotis excavata</i> , 1 <i>Conus anemone</i> , 4 <i>Conus rutilus</i> , 1 <i>Cassiss pyrum</i> v. <i>paucisrugis</i> , 1 <i>Cassiss fimbriata</i> var., 3 <i>Cancellaria spengleriana</i> , 7 <i>Cancellaria spirata</i> , 2 <i>Lyria mitraformis</i> , 1 <i>Natica beddomei</i> , 2 <i>Natica sagitata</i> , 2 <i>Natica incei</i> , 2 <i>Natica conica</i> , 4 <i>Natica picta</i> , 7 <i>Naticina nitida</i> , 3 <i>Sigaretus levigatus</i> , 2 <i>Stomatella imbricata</i> , 1 <i>Murex triformis</i> , 2 <i>Murex umbilicatus</i> , 2 <i>Nassa jonasi</i> , 5 <i>Monodonta melanolema</i> , 7 <i>Cantharidus leucostigma</i> , 2 <i>Cantharidus badius</i> , 1 <i>Monilea preissiana</i> , 1 <i>Cantharidus neglectus</i> , 2 <i>Euchelus baccatus</i> , 1 <i>Cantharidus lesueri</i> v. <i>ramburi</i> , 1 <i>Risella plana</i> , 1 <i>Torcula clathrata</i> , 1 <i>Terebra ustulata</i> , 3 <i>Mitra rosettae</i> , 4 <i>Drillia harpularia</i> , 1 <i>Eulima augur</i> , 1 1 <i>Erato bimaculata</i> , 2 <i>Marginella metcalfei</i> , 3 <i>Marginella turbinata</i> , 17 <i>Marginella pisum</i> , 1 <i>Bulla oblonga</i> , 1 <i>Macrochisma producta</i> , 2 <i>Acmaea gealei</i> , 1 <i>Platiphora petiolata</i> , 1 <i>Philine aperta</i> , 2 <i>Akera solata</i> , 13 <i>Xanthomelon jodinalis</i> , 1 <i>Xanthomelon hooringensis</i> , 7 <i>Liparus mastersi</i> , 1 <i>Thersites bednalli</i> , 6 <i>Helicella erectorum</i> .	Mr. A. S. Reid .....	1	Spiny-cheeked Honey-eater— <i>Acanthogenys rufigularis</i> .
			Do	2	Spotted Bower-birds— <i>Chlamydochloa maculata</i> .
			Mr. A. Reid .....	1	Tiger Snake— <i>Notechis scutatus</i> .
			Mr. Henry Richards	11	Golden Frog— <i>Hyla aurea</i> .
			Do	8	Tree Frog— <i>Hyla</i> sp.
			Do	1	Frog— <i>Hylella bicolor</i> .
			Do	1	Jew Lizard— <i>Amphibolurus barbatus</i> .
			Do	1	Slow Worm— <i>Lialis burtoni</i> .
			Do	1	Two-toed Skink— <i>Lygosoma quadrilineatum</i> .
			Do	2	Legless Lizard— <i>Aprasia pulchella</i> .
			Do	1	Blind Snake— <i>Typhlops australis</i> .
			Do	1	Whip Snake— <i>Diemenia psammophis</i> .
			Do	1	Western Ringed Snake— <i>Rhynchelaps bertholdi</i> .
			Do	1	Rainbow Snake— <i>Furina calonota</i> .
			Do	1	Striated Diamond-bird— <i>Pardalotus ornatus</i> .
			Do	2	Scorpion—1 <i>Hormurus flavicruris</i> , 1 <i>Urodacus nova hollandica</i> .
			Do	1	Trap-door Spider— <i>Erioden formidabile</i> .
			Do	19	Spiders—4 <i>Heteropoda venatoria</i> , 5 <i>Araneus thyridotus</i> , 6 <i>Araneus productus</i> , 1 <i>Araneus</i> sp., 1 <i>Argiope protensa</i> , 2 <i>Gasteracantha flavomaculata</i> .
			Do	3	Centipedes— <i>Scolopendra morsicans</i> .
			Do	19	Beetles—2 <i>Catadromus lacordairei</i> , 3 <i>Carenum lacustre</i> , 3 <i>Euryscaphus bipunctata</i> , 1 <i>Scitula</i> sp., 1 <i>Heteronychus</i> sp., 1 <i>Chalcolampra verrucosa</i> , 5 <i>Diphucephala beryllina</i> , 1 <i>Trogodendron fasciculatum</i> , 1 <i>Phoracantha semipunctata</i> , 1 <i>Stigmodera fortunei</i> .
Dr. J. Rabe .....	1	Sponge— <i>Euspongia</i> sp.	Do	18	Weevils—6 <i>Amycterus schonherri</i> , 2 <i>Acantholophus crassidens</i> , 2 <i>Acantholophus humeralis</i> , 8 <i>Oxyops meles</i> .
Do .....	2	Sulphur.	Do	1	Praying Mantis— <i>Mantis</i> sp.
Do .....	1	Siliceous Sinter, with leaf impressions.	Do	8	Locusts—4 <i>Gryllacris billinghursti</i> , 2 <i>Truxalis</i> sp., 2 <i>Locusta</i> sp.
Do .....	467	Shells—60 <i>Partula faba</i> , 4 <i>Partula dentifera</i> , 300 <i>Partula hebe</i> , 9 <i>Trochomorpha eurydice</i> , 4 <i>Melania arthurii</i> , 30 <i>Melania</i> sp., 25 <i>Neritina ziczac</i> , 25 <i>Neritina pulligera</i> , 3 <i>Cyclophorus herklotsi</i> , 5 <i>Eulota luhuaana</i> , 2 <i>Helix aspersa</i> .	Do	1	Mole Cricket— <i>Gryllotalpa nitidula</i> .
Mr. W. J. Rainbow..	1	Scale-eating Moth— <i>Thalpocharis cocophaga</i> .	Do	12	Bugs—10 <i>Scutellera sagata</i> , 2 <i>Reduvius</i> sp.
Do .....	1	Scale-eating Moth (Cocoon)— <i>Thalpocharis cocophaga</i> .	Do	3	Cicadas (Locusts)— <i>Fevicina</i> sp.
Do .....	23	Spiders—3 <i>Araneus variabilis</i> (type), 4 <i>Araneus crassipes</i> (type), 2 <i>Araneus sylvicola</i> (type), 2 <i>Araneus pallida</i> (type), 1 <i>Argiope pallida</i> (type), 1 <i>Argiope gracilis</i> (type), 2 <i>Argiope extensa</i> (type), 1 <i>Cheiracanthium silaceum</i> (type), 7 <i>Araneus crassipes</i> .	Dr. R. Riches.....	3	Caterpillars— <i>Calogramma festiva</i> .
Do .....	2	Venomous Spiders— <i>Latrodectus scelio</i> .	Do	2	Moths—do do
Do .....	2	Cocoons— <i>Latrodectus scelio</i> .	Mr. A. E. Riley.....	1	Nest of the Garrulous Honey-eater— <i>Myzantha garrula</i>
Do .....	2	Moths— <i>Pinara fervens</i> .	Do	3	Eggs of the Garrulous Honey-eater— <i>Myzantha garrula</i> .
Do .....	2	do larvae— <i>Pinara fervens</i> .	Master Russell Riley	1	Warbling Grass Parrakeet— <i>Melopsittacus undulatus</i> .
Do .....	2	do cocoons— <i>Pinara fervens</i> .	Sir Alfred Roberts...	1	Wasp— <i>Diamma bicolor</i> ♀
Do .....	3	Butterflies— <i>Euploea corinna</i> .	Do	3	Diatomaceous Earth.
Do .....	6	Moths— <i>Hydrusa annulata</i> .	Mr. C.H. Roberts, J.P	6	Cocoons of Spider— <i>Celania excavata</i> .
Do .....	2	Butterflies—1 <i>Danais plexippus</i> , 1 <i>Euploea corinna</i> .	Rev. H. A. Robertson	5	Pebbles of Augite porphyrite?
Do .....	6	Moths— <i>Hydrusa annulata</i> .	Do	8	Coral Rock.
Do .....	1	Spider (parasitic)— <i>Argyrodes antipodiana</i> .	Do	1	Navelah, or Erromanga Fetish.
Do .....	1	Spider— <i>Hemicloea sundevallii</i> .	Do	1	Stone Ring or Navelah.
Do .....	1	Moth— <i>Procris dolens</i> .	Do	18	Pieces of carbonate of lime, from which Navelahs are made.
Do .....	1	Whip Spider— <i>Ariamnes flagellum</i> .	Do	1	Basket, made from <i>Pandanus</i> leaves.
Do .....	13	Spiders—4 <i>Leptorchestes striatipes</i> , 1 <i>Araneus biapicatus</i> , 1 <i>Araneus collinus</i> , 1 <i>Araneus inquietus</i> , 1 <i>Arachnura higginsii</i> , 2 <i>Nephila edwardsi</i> , ♂ et ♀ 1 <i>Cheiracanthium gilvum</i> , 1 <i>Cheiracanthium silaceum</i> , 1 <i>Opisthoneus alborufescens</i> .	Do	6	Carved cocoa-nut shell armlets.
Mr. Allan Ramsay...	1	Carpet Snake— <i>Python spilotes</i> var. <i>variegata</i> .	Do	1	Tortoise-shell armet.
Dr. E. P. Ramsay ...	30	Beetles—1 <i>Chlamys gayndalensis</i> , 2 <i>Promecoderus brunnicornis</i> , 1 <i>Pterostichus comes</i> , 5 <i>Polystigma punctata</i> , 1 <i>Schizorrhina</i> sp., 1 <i>Hypaulax tenuistriata</i> , 1 <i>Cardiothorax cordicollis</i> , 14 <i>Cardiothorax egerius</i> , 1 <i>Adelium</i> sp., 1 <i>Oxyops excavata</i> , 1 <i>Hipporrhinus</i> sp., 1 <i>Orthorrhinus meleagris</i> .	Do	11	Strings of candle-nuts.
Master Jack Ramsay	1	Skink— <i>Lygosoma tenue</i> .	Do	1	Packet of candle-nut foliage.
Do	1	"Milk White" Spider— <i>Misumena lactea</i> .	Do	3	Shells used to grate down taro, &c.
			Do	4	Shells ( <i>Cypræa mauritiana</i> ) used as sinkers.
			Do	2	Shells— <i>Ovulum ovum</i> .
			Do	3	Combs.
			Do	2	Beach-worn stones, from which axes are made.
			Do	1	Operculums from which axes are made.
			Do	1	Piece of coral from which axes are made.
			Do	2	Beaters.
			Do	1	Tonga, or wooden bell.
			Do	2	Malekulan images.
			Do	2	Bone-tipped arrows.
			Do	1	Earthen cooking pot.
			Do	5	Spiders—1 <i>Dictis striatipes</i> , 1 <i>Clubiona</i> sp., 2 <i>Oecobius</i> sp., 1 <i>Theridium albatratum</i> .

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Rev. H. A. Robertson	26	Shells—1 <i>Turbo marmoratus</i> , 2 <i>Pteroceras lambis</i> , 2 <i>Trochus niloticus</i> , 1 <i>Trochus concavus</i> , 1 <i>Tridacna elongata</i> , 2 <i>Tridacna gigas</i> , 1 <i>Conus auratus</i> , 1 <i>Conus geographicus</i> , 2 <i>Conus textile</i> , 2 <i>Fusus filamentosus</i> , 3 <i>Purpura persicum</i> , 4 <i>Ovula ovum</i> , 1 <i>Cypraea talpa</i> , 3 <i>Cypraea arabica</i> .	Mr. G. Savidge	1	Gould's Flycatcher — <i>Piezorhynchus gouldi</i> .
Do	2	Bivalves— <i>Hippopus maculatus</i> .	Do	2	Minute Bitterns— <i>Ardetta pusilla</i> .
Do	1	Bivalves—Portion do.	Do	1	Nest of Wonga Pigeon — <i>Leucosarcia picata</i> .
Mr. R. Robinson	1	Pilot Fish— <i>Naucrates ductor</i> .	Do	1	Egg of the Magnificent Fruit Pigeon— <i>Megaloprepia magnifica</i> .
Mr. S. Robinson	12	Eggs of the Grey Struthidea— <i>Struthidea cinerea</i> .	Do	2	Eggs of Black-fronted Fly-catcher— <i>Piezorhynchus gouldi</i> .
Do	10	Eggs of Australian Bee-eater— <i>Merops ornatus</i> .	Do	5	Eggs of Chestnut-breasted Finch— <i>Donacicola castaneothorax</i> .
Do	4	Eggs Australian Raven— <i>Corone Australis</i> .	Dr. C. G. Seligmann		Shells—12 <i>Cantharidus</i> sp., 10 <i>Cantharidus</i> sp., 3 <i>Cantharidus</i> sp., 2 <i>Minolia</i> sp., 1 <i>Monodonta labio</i> , 10 <i>Monodonta</i> sp., 1 (?) <i>Leptothyra</i> sp., 1 <i>Hyalaea longivostris</i> , 12 <i>Cerithium torresi</i> , 20 <i>Cerithium morus</i> , 3 <i>Cerithium</i> sp., 3 <i>Cerithium</i> sp., 20 <i>Potamides layardi</i> , 5 <i>Cerithium</i> sp., 1 <i>Triforis</i> sp., 2 <i>Triforis dolicha</i> , 3 <i>Bittium xanthum</i> , 3 <i>Bittium pupiforme</i> , 3 <i>Bittium</i> sp., 3 <i>Bittium</i> sp., 5 <i>Bittium diplox</i> , 3 <i>Bittium</i> sp., 3 <i>Bittium</i> sp., 10 <i>Bittium</i> sp., 6 <i>Marginella alta</i> , 15 <i>Marginella brachia</i> , 3 <i>Marginella</i> sp., 1 <i>Marginella</i> sp., 5 <i>Solidula nitidula</i> , 4 <i>Melampus albus</i> , 2 <i>Melampus</i> sp., 36 <i>Ringicula pusilla</i> , 6 <i>Ringicula assularum</i> , 2 <i>Plectotrema typicum</i> , 1 <i>Teinostoma</i> sp., 3 <i>Teinostoma oppletum</i> , 3 <i>Neritina ovalanensis</i> , 3 <i>Nerita reticulata</i> , 2 <i>Pyrgulina gliriella</i> , 5 <i>Synola</i> sp., 3 <i>Synola</i> sp., 6 <i>Turbonilla</i> sp., 2 <i>Pyramidella typica</i> , 15 <i>Pyramidella</i> sp., 2 <i>Odostomia pupa</i> , 8 <i>Odostomia rhabdoides</i> , 1 <i>Odostomia</i> sp., 1 <i>Odostomia</i> sp., 1 <i>Odostomia aciculina</i> , 23 <i>Odostomia</i> sp., 1 <i>Odostomia oodes</i> , 1 <i>Odostomia</i> sp., 1 <i>Odostomia oxia</i> , 2 <i>Pleurotoma torresi</i> , 1 <i>Pleurotoma</i> sp., 1 <i>Pleurotoma brevicaudata</i> , 4 <i>Pleurotoma</i> sp., 1 <i>Mangelia</i> sp., 12 <i>Mangelia</i> sp., 1 <i>Rissoina spirata</i> , 30 <i>Rissoina</i> (?) <i>clathrata</i> , 3 <i>Rissoia trajectus</i> , 30 <i>Rissoia</i> sp., 25 <i>Rissoia</i> sp., 8 <i>Rissoia</i> sp., 20 <i>Alys cylindrica</i> , 3 <i>Alys dentifera</i> , 4 <i>Haminea vitrea</i> , 1 <i>Haminea ambigua</i> , 6 <i>Cylichna reticulata</i> , 6 <i>Cylichna acrobelles</i> , 10 <i>Utriculus amphystosus</i> , 2 <i>Utriculus leptekes</i> , 30 <i>Alaba fulva</i> , 8 <i>Alaba striata</i> , 24 <i>Diala semistriata</i> , 30 <i>Diala</i> sp., 11 <i>Diala hardyi</i> , 2 <i>Diala albago</i> , <i>Eulimella angustata</i> , 1 <i>Eulima</i> sp., 1 <i>Phasianella</i> sp., 7 <i>Phasianella</i> sp., 14 <i>Columbella essingtonensis</i> , 3 <i>Columbella</i> sp., 7 <i>Columbella</i> sp., 20 <i>Liotia</i> sp., 2 <i>Liotia peronii</i> , 2 <i>Liotia</i> sp., 3 <i>Phenacolepas n. sp.</i> , 4 <i>Emerginula</i> sp., 2 <i>Glyphis</i> sp., 3 <i>Helcioniscus</i> sp., 12 <i>Siphonaria</i> sp., 13 <i>Conus trailii</i> , 2 <i>Mitra luculenta</i> , 1 <i>Triton n. sp.</i> , 10 <i>Truncatella valida</i> , 2 <i>Nassa</i> sp., 2 <i>Natica</i> sp., 1 <i>Scalaria lineolata</i> , 1 <i>Scalaria</i> sp., 30 <i>Scaliola caledonica</i> , 5 <i>Caecum</i> sp., 1 <i>Dentalium</i> sp., 1 <i>Cadulus similimus</i> , 1 <i>Tellina</i> sp., 4 <i>Tellina casta</i> , 2 <i>Tellina</i> sp., 1 <i>Tellina</i> sp., 1 <i>Tellina virgulata</i> , 4 <i>Tellina</i> sp., 2 <i>Tellina</i> sp., 2 <i>Arca</i> sp., 1 <i>Lucina irpex</i> , 1 <i>Lucina</i> sp., 2 <i>Circe scripta</i> , 3 <i>Cardita excavata</i> , 4 <i>Cardium unedo</i> , 2 <i>Cardium suezense</i> , 1 <i>Martesia striata</i> , 1 <i>Venus levukensis</i> , 1 <i>Venus infans</i> .
Do	4	Eggs White-headed Stilt— <i>Himantopus leucocephalus</i> .			
Do	10	Eggs Grey-crowned Pomatostomus— <i>Pomatostomus temporalis</i> .			
Do	6	Eggs Crested Bronze-wing— <i>Ocyphaps lophotes</i> .			
Do	12	Eggs Pied Grallina— <i>Grallina picata</i> .			
Do	8	Eggs Black-backed Piping Crow— <i>Gymnorhina tibicen</i> .			
Do	8	Eggs White-winged Chough— <i>Corcorax melanorhamphus</i> .			
Do	7	Eggs Friar-bird— <i>Tropidorhynchus corniculatus</i> .			
Do	5	Eggs Rose-hill Parrakeet— <i>Platyercus eximius</i> .			
Do	4	Eggs Collared Crow-Shrike— <i>Cracticus torquatus</i> .			
Do	2	Eggs Musk Lorikeet — <i>Trichoglossus concinnus</i> .			
Do	5	Eggs Cockatoo Parrakeet— <i>Calopsittacus novaehollandiae</i> .			
Do	4	Eggs Black-throated Crow Shrike— <i>Cracticus nigrigularis</i> .			
Do	8	Eggs Yellow-throated Miners— <i>Myzantha flavigula</i> .			
Do	4	Eggs Laughing Jackass— <i>Dacelo gigas</i> .			
Do	12	Eggs Rose-breasted Cockatoo— <i>Cacatua roseicapilla</i> .			
Do	4	Eggs of the Red-kneed Dotterel— <i>Erythronyx cinctus</i> .			
Do	1	Knob-tailed Gecko— <i>Nephurus lewis</i> .			
Mr. H. Rosales	2	Iridosmine.			
Do	1	Mesquite.			
Mr. A. M. N. Rose	1	Tick from <i>Echidna</i> — <i>Ixodes</i> sp.			
Do	6	Spiders—2 <i>Voconia immanis</i> , 1 <i>Araeus herione</i> , 1 <i>Storena braccatus</i> , 1 <i>Cheiracanthium silaeum</i> , 1 <i>Marpusa complanata</i> .			
Do	4	Centipedes— <i>Scolopendra morsicans</i> .			
Do	5	Beetles—1 <i>Anoplognathus analis</i> , 1 <i>Amblypterus cicatricosus</i> , 1 <i>Amarygmus</i> sp., 1 <i>Chrysolophus spectabilis</i> , 1 <i>Orthorhinus</i> sp.			
Do	1	Bug— <i>Arma sibelanbergi</i> .			
Do	1	Wasp— <i>Sphex carbonaria</i> .			
Do	1	Platypus— <i>Ornithorhynchus anatinus</i> .			
Do	1	Native Porcupine— <i>Echidna aculeata</i> .			
Do	1	Brown Snake— <i>Diemenia textilis</i> .			
Do	1	Legless Lizard— <i>Pygopus lepidopus</i> .			
Do	1	Diamond Snake— <i>Python spilotes</i> .			
Mr. Jno. Rossiter	...	Batch—Eggs of Carpet Snake— <i>Python spilotes</i> , var <i>variegata</i> .			
Mr. Alfred Royce	2	Rainbow Fish— <i>Heteroscarus filamentosus</i> .			
Do	1	Flathead— <i>Platycephalus cirronasus</i> .			
Mr. B. G. Rye	58	Beetles—1 <i>Brachinus quadrimaculatus</i> , 1 <i>Brachinus</i> sp., 2 <i>Dyschirius strumosus</i> , 5 <i>Platynus illocatus</i> , 3 <i>Necrodes</i> sp., 2 <i>Hololepta baulnyi</i> , 1 <i>Monocrepidius angustitarsus</i> , 1 <i>Monocrepidius</i> sp., 4 <i>Lucus geminus</i> , 2 <i>Trichodes</i> sp., 2 <i>Opatrum</i> sp., 3 <i>Toxicum biluna</i> , 2 <i>Alphitobius picipes</i> , 2 <i>Alphitobius</i> sp., 6 <i>Nyctobates</i> sp., 7 <i>Amarygmus chrysoloides</i> , 2 <i>Mordella composita</i> , 3 <i>Crioceris impressa</i> , 4 <i>Crioceris</i> sp., 8 <i>Arrhines destructor</i> , 2 <i>Balaninus</i> sp., 2 <i>Sphenophorus panops</i> , 2 <i>Myphasia torrida</i> , 1 <i>Coccinella</i> sp.	Mr. Percy Seymour	1	Ground Graucalus— <i>Pteropodocys phasianella</i> .
			Do	1	Grey-crowned Pomatostomus— <i>Pomatostomus temporalis</i> .
			Mr. G. Sharp	3	Telluride ore— <i>Calaverite</i> .
			Do	1	Piece of Shale.
			Mr. Henry Sherwood	1	Calcareous Deposit.
			Do	1	Scorpion— <i>Isometrus melanophysa</i> .
			Dr. E. Sinclair	1	Rhinoceros beetle— <i>Zygotrupes australicus</i> .
			Mr. R. Sinclair	1	Fossil Wood.
			Mr. J. G. Skeet	5	Stalactitic limestone.
			Do	1	Gravel washings.
			Do	2	
Miss Kate H. Salter	1	Warty-faced Honey-cater — <i>Meliplaga phrygia</i> .			

Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. J. G. Skeet .....	1	Limonite.	Mr. J. A. Thorpe ...	325	Beetles—18 <i>Anoplognathus analis</i> , 9 <i>Anoplognathus porosus</i> , 65 <i>Liparetrus marginipennis</i> , 200 <i>Liparetrus depressus</i> , 9 <i>Phylotocus palliatus</i> , 5 <i>Chrysolophus spectabilis</i> , 8 <i>Hipporhinus sp.</i> , 9 <i>Lepidoptera hopei</i> , 1 <i>Stigmodera maculata</i> , 1 <i>Aulocopriss reichei</i> .
Do .....	1	Jasper.	Do .....	2	Locusts—1 <i>Acridium aeruginosum</i> , 1 <i>Phaneroptera tringitiduoguttata</i> .
Mrs. A. A. Smart .....	1	Model of Canoe.	Do .....	2	Moths— <i>Antheraea eucalypti</i> .
Do .....	2	Pieces of Tappa.	Do .....	2	Yellow-cross bugs— <i>Mictis symbolica</i> .
Do .....	2	Yackis.	Do .....	130	Beetles—2 <i>Cestrinus trivialis</i> , 9 <i>Pterohelæus vicarius</i> , 6 <i>Saragus lævicollis</i> , 1 <i>Promethis angulatus</i> , 7 <i>Meneristes laticollis</i> , 9 <i>Adelium geniale</i> , 2 <i>Adelium sp.</i> , 7 <i>Adelium porcatum</i> , 4 <i>Amarygmus cupripennis</i> , 4 <i>Amarygmus picipes</i> , 4 <i>Amarygmus obsoletus</i> .
Do .....	1	Shield.	Do .....	29	Weevils—1 <i>Talaurinus rugosus</i> , 26 <i>Cubicorrhynchus maculatus</i> , 2 <i>Sosytelus lobatus</i> .
Do .....	1	Womerah.	Do .....	36	Beetles—1 <i>Paropsis reticulata</i> , 3 <i>Paropsis oclopunctata</i> , 2 <i>Paropsis sp.</i> , 1 <i>Lacon caliginosus</i> , 2 <i>Lacon sp.</i> , 4 <i>Monocrepidius striatus</i> , 3 <i>Monocrepidius brucki</i> , 3 <i>Monocrepidius sp.</i> (wire worms), 4 <i>Promecoderus brunnicornis</i> , 8 <i>Harpalus ignobilis</i> , 1 <i>Harpalus sp.</i> , 1 <i>Notonomus varicollis</i> , 1 <i>Platynus marginicollis</i> , 10 <i>Aulacocyclus edentulus</i> , 1 <i>Mastichilus puncticollis</i> , 1 <i>Ceralognathus niger</i> , 1 <i>Cryptodus creberrimus</i> , 1 <i>Cryptodus sp.</i> , 1 <i>Onthophagus granulatus</i> .
Do .....	2	Yacki Clubs.	Do .....	1	Wasp, "Solitary Ant"— <i>Mutilla rugicollis</i> .
Do .....	1	Circular-headed club.	Do .....	2	Bull-dog Ants— <i>Myrmecia tarsata</i> .
Do .....	1	Boomerang.	Do .....	6	Parasitic Bugs— <i>Reduvius sp.</i>
Do .....	1	Paddle.	Do .....	10	Cockroaches—4 <i>Panesthia brevicollis</i> , 6 <i>Panesthia sp.</i>
Do .....	2	Bows.	Do .....	2	Earwigs— <i>Forficula sp.</i>
Do .....	2	Spears.	Do .....	1	Scorpion— <i>Isometrus melanophysa</i> .
Do .....	1	Club with grass covering.	Do .....	1	Pseudo-scorpion— <i>Chelifer ramosus</i> .
Do .....	3	Carved waddies.	Do .....	12	Spiders— <i>Tetragnatha cylindrica</i> , 4 <i>Latrodectus scelio</i> , 1 <i>Stoerina braccata</i> , 1 <i>Lampona obsœna</i> , 1 <i>Liocranum sp.</i> , 1 <i>Voconia immanis</i> , 1 <i>Marpusia elegans</i> , 2 <i>Hasarius obscurus</i> .
Do .....	1	Plain waddie with iron bands.	Do .....	1	Puparium of moth—? <i>gen. et sp.</i>
Do .....	1	Crutch-headed club.	Do .....	1	Ladybird— <i>Epilachna 28-punctata</i> .
Mr. Edgar A. Smith.	2	Photos of <i>Pleurotomaria Beyrichi</i> with Mollusc.	Do .....	4	Nest and Eggs of the Little Grass-bird— <i>Megalurus gramineus</i> .
Mr. F. W. Smithurst	1	Giant Toado— <i>Tetrodon inermis</i> .	Do .....	1	Nest of Pied Grallina— <i>Grallina picata</i> .
Mr. F. W. Smythe...	1	Velvet Fish— <i>Haploactis milesii</i> .	Do .....	1	Black-faced Cuckoo-shrike— <i>Graucalus melanops</i> .
Prof. W. B. Spencer	12	Pouched Rats— <i>Thylacomys cervinus</i> .	Do .....	1	Yellow-rumped Thorn-bill— <i>Geobasileus chrysoorhoa</i> .
Do .....	1	Thick-tailed Rat— <i>Conilurus pedunculatus</i> .	Do .....	1	Australian Raven— <i>Corone australis</i> .
Do .....	2	Long-tailed Rats— <i>Podanomalous longicaudatus</i> .	Do .....	1	Marsh Tringa— <i>Limnocinclus acuminatus</i> .
Do .....	1	Long-haired Rat— <i>Mus villosissimus</i> .	Do .....	1	Bittern— <i>Botaurus poicilopterus</i> .
Do .....	2	Little Rats— <i>Mus nanus</i> .	Do .....	1	Spiny Skink— <i>Amphibolurus muricatus</i> .
Mr. W. Stalkarrt, Junr.	1	Plaited box.	Do .....	2	Three-toed Lizards— <i>Lygosoma decresense</i> .
Do .....	1	Turned box.	Do .....	2	Three-striped Lizards— <i>Lygosoma trilineatum</i> .
Miss Stanfield .....	1	Barraband's Parrakeet— <i>Polytelis barrabandi</i> .	Do .....	1	Frog— <i>Limnodynastes tasmaniensis</i> .
Mr. W. D. Stanford.	2	Long-eared Bats— <i>Nyctophilus timoriensis</i> .	Do .....	1	<i>Tettys Sowerbyi</i> .
Do .....	1	Flying Mouse— <i>Acrobates pygmaeus</i> .	Dr. Tidswell	1	Cast Green-tree Frog— <i>Hyla carulæa</i> .
Mr. Thos. Steel .....	1	Tree Snake— <i>Dendrelaphis schlenckeri</i>	Mr. C. Toms	1	Ferruginous sandstone showing form due to weathering.
Do .....	8	Silkworms— <i>Bombyx mori</i> .	Mr. J. B. Toovey ...	1	Beetle— <i>Calloodes greyanus</i> .
Do .....	8	Cocoons— <i>Bombyx mori</i> .	Town and Country Journal.	1	Banded Sea Snake— <i>Platurus colubrinus</i> .
Do .....	2	<i>Calobates fluviatilis</i> .	Mr. W. A. Tulloch...	1	Cicada (locust)— <i>Cyclochila australasiæ</i> .
Do .....	1	Slug.	Mr. H. Underwood	1	Short-legged Lizard— <i>Lygosoma verreauxii</i> .
Do .....	1	Block perforated wood.	Unknown .....	1	Malachite and Azurite.
Do .....	3	<i>Lingula anatina</i> .	Mr. E. Veron.....	1	Boobook Owl— <i>Ninox boobook</i> .
Do .....	3	Prawns— <i>Palamon affinis</i> .	Mr. Edgar R. Waite	1	Pheasant Coucal— <i>Centropus phasianus</i> .
Mr. James Stein.....	1	Sugar Squirrel— <i>Petaurus sciureus</i> .	Do .....	1	Sooty Owl— <i>Strix tenebrosa</i> .
Do .....	5	Flying Mouse— <i>Acrobates pygmaeus</i> .	Do .....	2	Nests of the Friar-bird— <i>Tropidorhynchus corniculatus</i> .
Do .....	1	Spiny Skink— <i>Egernia cunninghami</i> .	Do .....	1	Nest of the Black and White Fantail— <i>Sauloprocta motacilloides</i> .
Do .....	1	Sugar Squirrel— <i>Petaurus sciureus</i> .	Do .....	2	Eggs of the Black and White Fantail— <i>Sauloprocta motacilloides</i> .
Mr. T. Stephens.....	4	Flint arrow-heads.			
Do .....	1	Flint chip.			
Do .....	1	Flint cone.			
Do .....	4	Worked flint chips.			
Do .....	1	Tin Ore.			
Do .....	1	Tasmanite.			
Do .....	6	<i>Strophomena</i> or <i>Leptæna</i> , <i>Myalina sp.</i> (Carboniferous), Chert with univalve shells (Cretaceous)			
Do .....	65	Collection of Tasmanian Mesozoic, Permian, Carboniferous, and Silurian fossils.			
Mr. F. R. Stockall...	1	Moth— <i>Macrosila casuarina</i> .			
Master Wm. Stone...	1	Nest and two eggs of the Reed Warbler— <i>Acrocephalus australis</i> .			
Do .....	1	Nest and two eggs of the White shouldered Caterpillar-eater— <i>Lalage tricolor</i> .			
Mrs. A. Stringer ...	1	Caterpillar— <i>Macrosila casuarina</i> .			
Do .....	1	Vernal Loriquet— <i>Loriculus vernalis</i> .			
Mr. Geo. Sweet .....	1	Block of Pumice.			
Mr. A. J. Taylor .....	3	Latham's Snipes— <i>Gallinago australis</i> .			
Do .....	1	Pennant's Parrakeet— <i>Platycercus elegans</i> .			
Do .....	1	Land Rail— <i>Hypotaenidia philippensis</i> .			
Do .....	4	Varied Turnix— <i>Turnix varia</i> .			
Do .....	1	Stubble Quail— <i>Coturnix pectoralis</i> .			
Do .....	1	Swamp Quail— <i>Synœcus australis</i> .			
Mr. J. Taylor.....	1	Spider— <i>Argiope atherea</i> .			
Prof. R. Tate.....	2	Fossils— <i>Archœocyathina</i> , 1 Honeysuckle— <i>Banksia integrifolia</i> (leaves).			
Mr. W. M. Thomas..	1	Native Orange— <i>Citris australis</i> .			
Do .....	2	Native Pomegranates— <i>Capparis nobilis</i> .			
Do .....	...	Fruits of <i>Capparis lasiantha</i> , R. Br., locally known by native name of "Napine."			
Do .....	1	Group of nests conjoined of the Yellow-throated Scrub Wren— <i>Sericornis citreogularis</i> .			
Mr. Ernest Thornton	1	Gigantic Water Scorpion— <i>Belostoma indicum</i> .			
Mr. H. Thorpe .....	2	Eggs of Superb Warbler— <i>Malurus cyaneus</i> .			



Donor.	No. of Specimens.	Common and Scientific Names.	Donor.	No. of Specimens.	Common and Scientific Names.
Mr. Edgar R. Waite	1	Bower of the Satin Bower-bird— <i>Ptilonorhynchus violaceus</i> .	Mr. G. A. Waterhouse.	2	Spiders—1 (venomous) <i>Latrodectus scelio</i> , 1 <i>Amaurobius senilis</i> .
Do	1	Peaceful Dove— <i>Geopelia tranquilla</i> .	Mr. E. H. Webb	1	Nest of Yellow-throated Scrub-wren— <i>Sericornis citreogularis</i> .
Do	12	Chocolate Bats— <i>Chalinolobus morio</i> .	Do	2	Eggs of Yellow-throated Scrub-wren— <i>Sericornis citreogularis</i> .
Do	1	Flying Fox— <i>Pteropus poliocephalus</i> .	Do	1	Nest of Large-billed Scrub-wren— <i>Sericornis magnirostris</i> .
Do	1	Wonga Pigeon— <i>Leucosarcia picata</i> .	Do	1	Nest of Brown Gerygone— <i>Gerygone fusca</i> .
Do	2	Spiders— <i>Sarotes procerus</i> .	Do	1	Nest of Little Brown Thornbill— <i>Acanthiza pusilla</i> .
Do	1	Spider's Egg-bag.	Rev. T. Whan	55	Shells—6 <i>Assimineia australis</i> , 19 <i>Potamopyrgus buccinoides</i> , 9 <i>Littorina diemenense</i> , 6 <i>Rissoa hulli</i> , 2 <i>Cingulina australis</i> , 3 <i>Odostomia sp.</i> , 10 <i>Venus sp.</i>
Do	2	Tumble-dung Beetles— <i>Aulacopris reichei</i> .	Mrs. J. Babington White.	38	Butterflies—8 <i>Ornithoptera pronomus</i> , 2 <i>Papilio capaneus</i> , 1 <i>Papilio polydorus</i> , 2 <i>Papilio agamemnon</i> , 1 <i>Delias argenthona</i> , 1 <i>Callidryas gorgophone</i> , 1 <i>Mynes geoffroyi</i> , 1 <i>Danais hamata</i> , 1 <i>Euploea corinna</i> , 2 <i>Euploea tulliolus</i> , 1 <i>Neptis Shepperdi</i> , 1 <i>Cynthia ada</i> , 1 <i>Melanitis leda</i> , 1 <i>Diadema bolina</i> , 5 <i>Amblypoda micale</i> , 2 <i>Ismene exclamatoris</i> , 2 <i>Ismene discolor</i> , 1 <i>Ismene doleschallii</i> , 1 <i>Pamphila augiades</i> , 1 <i>Pamphila augius</i> , 2 <i>Tagiades gamelia</i> .
Do	13	Tumble-dung Beetles' Dung-balls— <i>Aulacopris reichei</i> .	Do	5	Moths—4 <i>Euchema mais</i> , 1 <i>Euchromia sp.</i>
Do	2	Mason Wasps— <i>Eumenes arcuatus</i> .	Do	1	Egg of Red-tailed Tropic-bird— <i>Phaeton rubricauda</i> .
Do	8	Mason Wasps' Nests— <i>Eumenes arcuatus</i> .	Do	1	Egg of White-capped Tern— <i>Micranous leucocapillus</i> .
Do	1	Fly— <i>Pangonia maculipennis</i> .	Do	22	Eggs of Large-crested Tern— <i>Sterna bergi</i> .
Do	1	"Whip" Spider— <i>Ariamnes flagellum</i> .	Mr. H. L. White	1	Nest of White-winged Chough— <i>Corcorax melanoramphus</i> .
Do	5	Spiders—1 <i>Tetragnatha cylindrica</i> , 1 <i>Argyrodes gracilis</i> , 1 <i>Opisthoncus quadratus</i> , 1 <i>Acompse valida</i> , 1 <i>Thorellia migriceps</i> .	Do	1	Flying Mouse— <i>Acrobates pygmaeus</i> .
Do	2	Beetles—1 <i>Chalcophora lei</i> , 1 <i>Orthopagus granulatus</i> .	Mr. Voss Wiburd	3	Bat Guano.
Do	1	Wasp— <i>Pompilus molestus</i> .	Do	4	Phosphatic earth.
Mr. A. Wansey	1	Weevil— <i>Orthorrhinus cylindrirostris</i> .	Do	1	Porphyry enclosing small pieces of limestone.
Mr. E. E. Ward	1	Parasitic Bug— <i>Coranus pictus</i> .	Do	1	Gypsum.
Mr. G. A. Waterhouse.	96	Butterflies—1 <i>Athyma selenophora</i> , 2 <i>Athyma peruis</i> , 1 <i>Athyma opalina</i> , 2 <i>Athyma inara</i> , 2 <i>Athyma cama</i> , 1 <i>Euthalia francaia</i> , 1 <i>Euthalia appiades</i> , 1 <i>Euthalia kesava</i> , 2 <i>Zemerus fegyvas</i> , 1 <i>Neptis zaida</i> , 1 <i>Neptis ananata</i> , 1 <i>Neptis miah</i> , 1 <i>Neptis soma</i> , 1 <i>Neptis ophiana</i> , 1 <i>Neptis sp.</i> , 1 <i>Virapa anaxias</i> , 1 <i>Rahinda hordonia</i> , 1 <i>Atella alcippe</i> , 1 <i>Acræa vesta</i> , 1 <i>Charaxes dolon</i> , 1 <i>Charaxes hierax</i> , 2 <i>Charaxes athamas</i> , 1 <i>Papilio choan</i> , 2 <i>Papilio ganessa</i> , 2 <i>Papilio androgeus</i> , 1 <i>Papilio castor</i> , 2 <i>Papilio paris</i> , 1 <i>Papilio anticrates</i> , 1 <i>Papilio paphos</i> , 2 <i>Papilio sarpedon</i> , 1 <i>Papilio agamemnon</i> , 1 <i>Papilio euryphilus</i> , 1 <i>Papilio bathycles</i> , 1 <i>Appias hippoides</i> , 1 <i>Appias vacans</i> , 1 <i>Pioneris thestylis</i> , 3 <i>Catophaga lalage</i> , 1 <i>Catopsilia pyranthe</i> , 1 <i>Nepheronia avarar</i> , 1 <i>Pieris brassicae</i> , 1 <i>Pieris sp.</i> , 1 <i>Delias agostina</i> , 1 <i>Delias pasilloe</i> , 1 <i>Ixias pyrene</i> , 2 <i>Ixias sp.</i> , 1 <i>Terias hecabe</i> , 3 <i>Lycæna sp.</i> , 1 <i>Jamides hochus</i> , 1 <i>Gonepteryx cleobule</i> , 1 <i>Lycæna sp.</i> , 1 <i>Mycælesis santonana</i> , 1 <i>Mycælesis gopa</i> , 1 <i>Mycælesis mineus</i> , 2 <i>Mycælesis malsara</i> , 1 <i>Mycælesis visala</i> , 1 <i>Mycælesis visala</i> , var., 1 <i>Rangbia scanda</i> , 1 <i>Rhaphicera satricus</i> , 2 <i>Elymnias undularis</i> , 1 <i>Cirrochroa aoris</i> ♂, 1 <i>Cirrochroa aoris</i> ♀, 1 <i>Cynthia erota</i> , 1 <i>Lethe chaudica</i> , 1 <i>Lethe kansa</i> , 1 <i>Lethe serbonis</i> , 2 <i>Lethe dinarbas</i> , 1 <i>Lethe nictella</i> , 1 <i>Lethe maitrya</i> , 1 <i>Zophæssa jalaurida</i> , 2 <i>Zophæssa goalpara</i> , 1 <i>Zophæssa mælleri</i> , 1 <i>Zophæssa atkinsonia</i> , 1 <i>Neorina hilda</i> , 1 <i>Danais tytia</i> , 1 <i>Danais aglea</i> , 1 <i>Danais melanoides</i> , 2 <i>Danais genulia</i> , 1 <i>Danais chryssippus</i> , 3 <i>Euploea midamus</i> , 1 <i>Euploea rhadamanthus</i> , 2 <i>Euploea hopi</i> , 1 <i>Euploea leucocyma</i> , 1 <i>Lethe mekara</i> , 1 <i>Lethe rohria</i> .			
Do	46	Pupaskins of Butterflies—3 <i>Papilio erectheus</i> , 1 <i>Papilio anactus</i> , 3 <i>Lampides boeticus</i> , 20 (2 webs) <i>Jalmenus evagoras</i> , 3 <i>Pamphila augiade</i> , 1 <i>Pamphila augias</i> , 4 <i>Hesperilla picta</i> , 3 <i>Hesperilla ornata</i> , 3 <i>Apaustus lascivia</i> , 3 <i>Epinephile abeona</i> , 1 larva and 1 pupa, <i>Danais erippus</i> .	Do	1	Coleopterous larvæ.
Do	16	Butterflies—2 <i>Apatura parysatis</i> , 1 <i>Blinida pulaha</i> , 2 <i>Symbrenthia hypoclus</i> , 1 <i>Symbrenthia hypselis</i> , 1 <i>Symbrenthia niphanda</i> , 2 <i>Precis iphita</i> , 1 <i>Doleschalia po'ibete</i> , 1 <i>Limnitis zayla</i> , 2 <i>Limnitis procris</i> , 1 <i>Limnitis darara</i> , 2 <i>Adelpha mah'sa</i> .	Do	6	Venomous Spider— <i>Latrodectus scelio</i> .
			Do	1	Plant Bug— <i>Pentatoma sp.</i>
			Do	1	Retitelarian or "Shawl" web.
			Do	5	Spiders—1 <i>Lampona murina</i> , 4 <i>Amaurobius sp.</i> , ♂ et ♀.
			Do	1	Hairworm— <i>Gordius sp.</i>
			Mr. T. Wilkins	1	Gold in talcose slate.
			Mr. L. Wilkinson	1	Egg of Masked Parrakeet— <i>Platycercus personatus</i> .
			Mr. Edward Williams	1	Tapeworm— <i>Tæni sp.</i>
			Mr. H. A. Wilshire	1	Rock Gecko— <i>Gymnodactylus platurus</i> .
			Dr. G. Wilson	...	Australian Mud-fish, eggs, and fry— <i>Ceratodus forsteri</i> .
			Do	1	Native Porcupine (young) — <i>Echidna aculeata</i> .
			Mr. J. Wilson	2	Blind Snakes— <i>Typhlops proximus</i> .
			Prof. J. T. Wilson	1	Brown Snake— <i>Diemenia textilis</i> .
			Mr. J. W. Woodhead	1	Moth— <i>Darala ocellata</i>
			Do	2	Larva cases— <i>Aphrophora sp.</i>
			Do	1	Blue-tongued Lizard— <i>Tiliqua scincoides</i> .
			Mr. C. Wooller	4	Telluride of Gold.
			Do	1	Cobaltiferous Manganese.
			Mrs. J. D. Young	1	Brown's Parrakeet— <i>Platycercus browni</i> .
			Do	1	Masked Grass Finch— <i>Poephila personata</i>
			Do	1	Crimson Finch— <i>Neckmia phaeton</i> .
			Mr. W. R. Young	1	Spider — <i>Gasteracantha flavomaculata</i> .

## APPENDIX IX.

## EXCHANGES, 1898.

Specimens received.	Specimens forwarded.	Specimens received.	Specimens forwarded.
Mr. W. T. Angove. (57) Birds (eggs)—13 specimens.	Birds (eggs)—12 specimens.	Mr. A. J. Prentice. (41) Loan of specimen for moulding.	Casts—3 specimens.
Botanic Gardens, Sydney. (54) Ethnological—2 specimens.	Historical—2 specimens.	Mr. Thomas Rogers, Manchester. (31) Echinodermata—5 specimens.	Mollusca—4 specimens.
British Museum, London. (12) Mammals—5 specimens. Mollusca—393 specimens.		Royal Geological Institution, Berlin. (36) ..... .....	Minerals—100 specimens. Casts—3 specimens.
Mr. A. W. Butler, Indianapolis, U.S.A. (39) Ethnological—152 specimens.	Ethnological—47 specimens.	Royal Zoological Museum, Florence. (22) Mammals—5 specimens. Skeleton—1 specimen.	Mammals—1 specimen.
Mr. H. Coutiere, Paris. (40) .....	Crustacea—1 specimen.	Mr. S. Sinclair, Sydney. Numismatical—Specimens.	Pamphlet Cases—12 volumes.
Dr. J. C. Cox, Sydney. (55) Ethnological—5 specimens.	Ethnological—3 specimens.	Prof. Smitt, Stockholm, per Swedish Consul, Sydney. (16) Mammals—2 specimens.	
Mr. H. R. Elvery. (53) Birds (eggs)—2 specimens.	Birds (eggs)—4 specimens.	Stawell Technical College and School of Mines, Stawell, Vic. (49) .....	Minerals—50 specimens.
Mr. C. French, Melbourne. (27) Birds—2 specimens.	Birds—2 specimens.	Rev. T. R. R. Stebbing, Tunbridge Wells, Eng. (25) .....	Crustacea, &c.—129 specimens.
Mr. J. Gabriel. (28, 33) Birds (eggs)—37 specimens. Bryozoa—136 specimens.	Birds—6 specimens. Gorgonidæ—22 specimens.	Mr. H. Stockdale, Waverley. (29, 56) Ethnological—5 specimens.	Ethnological—49 specimens.
Geological Survey of N.S.W. (3) Mineral—1 specimen.		Tasmanian Museum, Hobart. (7) Ethnological—29 specimens.	
Geological Survey of Queensland. (42) Fossils—12 specimens.		Prof. Tate, Adelaide. (30) Fossils—7 specimens. Mollusca—97 specimens.	Mollusca—28 specimens.
Government Museum, Madras. (35) Bird—1 specimen.		Mr. Geo. M. Thomson. (48) Crustacea—14 specimens.	Crustacea—8 specimens.
Mr. E. Guerin, Maçon, France. (18) .....	Insects—115 specimens.	Technological Museum, Sydney. (2) Photographs—5 photos. Skeleton—1 specimen. Ethno-botanical—1 specimen. Mollusca—13 specimens. Birds—6 specimens.	Ethnological—2 specimens.
Mr. A. Haylock. (26) Echinodermata—18 specimens.	Echinodermata—25 specimens.	Technological Museum, Newcastle. (32) ..... .....	Fishes—24 specimens. Minerals—548 specimens. Birds—2 specimens.
Indian Museum, Calcutta. (23) Bird—1 specimen.	Bird—1 specimen.	University, Melbourne. (50) Books—7 volumes.	Books—5 volumes.
Mr. Thomas Illidge. (47) Fishes—14 specimens.	Bird—1 specimen.	University, Sydney. (1) .....	Anatomical—9 specimens.
Mr. John Jennings, Sydney. (20) Crustacea—19 specimens. Mollusca—16 specimens.		Mr. Edgar R. Waite, Sydney. (43) Insects—3,185 specimens. ..... .....	Books—7 volumes. 12 plates. 10 pamphlet cases.
Prof. Koehler, Lyons, France. (24) .....	Echinodermata—79 specimens.	Mr. G. A. Waterhouse. (38) Insects—24 specimens.	Insects—16 specimens.
Prof. Liversidge, Sydney. (37) Meteorite—1 specimen.	Meteorite—1 specimen.	Mr. John Waterhouse. (52) .....	Fossils—123 specimens.
Musée Colonial, Noumea. (11) ..... .....	Ethnological—64 specimens. Mollusca—470 specimens.	Zoologisk Museum, Christiania. (45) Mammals—5 specimens.	Mammals—4 specimens.
The Museum, Perth, W.A. (9) Mammals—4 specimens. Birds—27 specimens.	Mammals—18 specimens.		
New Hampshire State Library, Concord, U.S.A. (34) Books—4 volumes.	Books—12 volumes.		

## APPENDIX X.

## RETURN OF INFORMATION SUPPLIED TO THE PUBLIC, 1897.

Name.	Details.	Name.	Details.
Amateur Fisherman's Association.	Identification of and information respecting the Black King Fish, <i>Elacate nigra</i> .	Mr. H. J. McCooley ...	Identification of Mammals.
Mr. William Baldwin	Giving information on the life history, ravages, and prevention of Ship-Worms.	Mr. Selwyn Mort .....	Naming Collection of N.S. Wales Silurian and Permo-Carboniferous Fossils.
Lieut. C. E. Beddome	Showing Collection of Shells.	Newcastle Museum ...	Naming Natural History objects for the Museum.
Rev. T. Blackburn.....	Displaying Cabinet Collection of Australian Coleoptera	Mr. John Nobbs, M.L.A.	Displaying Cabinet Collections of Australian Insects and giving information <i>re</i> life histories of same.
Mr. C. C. Brittlebank	Exhibiting Ornithological Collections.	Hon. A. Norton .....	Naming shells; giving description of Collections and Museum.
Mr. T. Buckland .....	Exhibiting Ornithological and Oological Collections.	Mr. E. G. W. Palmer	Identification of Diamond Snake ( <i>Python spilotes</i> ).
Mr. A. G. Campbell ...	Displaying collections of Rhopalocera and Heterocera (Australian) and information <i>re</i> Insect Pests.	Mr. J. Parry .....	Identification of skin of <i>Varanus varius</i> .
Mr. F. R. Chapman ...	Giving information <i>re</i> Aboriginal Carved Trees.	Mr. Perkins .....	Giving information as to Sea Snakes, their habits, &c.
Master Clark .....	Naming Australian Coleoptera.	Dr. Posman .....	Giving information <i>re</i> cutting Opalised Wood.
Mr. Symonds Clark ...	Exhibiting Ornithological Collection.	Mr. Pritchard .....	Giving information on Ornithological Collections.
Mr. J. B. Cleland .....	Identification of Bird-skins.	Mrs. Ross .....	Giving information <i>re</i> life histories of Insects.
Miss Cookson .....	Exhibiting Ornithological and Cabinet Collections.	Misses Ross .....	Displaying Cabinet Collections of Australian and Exotic Butterflies.
Rev. A. H. Coombes ...	Identifying Birds' Eggs and making list of same.	Mr. B. G. Rye .....	Displaying Cabinet Collections of Elateridae and Buprestidae, and of Australian Coleoptera.
Mr. C. A. Copeland ...	Giving information <i>re</i> Finches, Fijian Parrots, &c.	Mr. Thomas Steel .....	Naming collection of New Guinea Insects; determining Fijian Arachnida; displaying method of preserving insects by means of the hot-air process; naming Collection of Queensland Arachnida.
Mr. J. M. Cross, M.L.A., Qd., and Party.	Description of Collections and Museum.	Dr. C. G. Seligman ...	Giving information about materials for collecting; general information on the Fauna, Flora, Geology, and Ethnology of British New Guinea, with especial reference to the plants and shells used by savages.
Enquirer .....	Giving information as to Diamond Snake of Tasmania.	Mr. John Single.....	Identification of Legless Lizard or Slow Worm ( <i>Pygopus lepidopus</i> ).
Mr. W. Farrer .....	Giving information <i>re</i> supposed new Mammal frequenting S.E. Waters.	Mr. C. McKay Smith	Giving information as to Killer Whales ( <i>Orca</i> ) and Thresher Sharks ( <i>Alopias</i> ).
Mr. J. Fitzhardinge ...	Identification of Green Tree Snake, <i>Dendrophis punctulatus</i> .	Mr. and Miss Sweet ..	Explaining and showing general Collections.
Mr. Milton Flood .....	Naming Lepidoptera.	<i>Sydney Mail</i> .....	Replies to Correspondents on various subjects.
Mr. C. French, junr....	Exhibiting Ornithological and Oological Collections.	Prof. R. Tate .....	Exhibiting Collection.
Mr. G. W. Froggatt ...	Identification of portion of jaw of Schnapper, <i>Pagrus unicolor</i> .	Technical College Students.	Facilities for sketching from Natural Objects.
Mr. W. W. Froggatt...	Naming Spider and displaying Collections of Buprestidae, Ornithoptera, and Coleoptera.	Technological Museum	Naming Shells, and explaining scheme and extent of displayed collection; naming Lizards and Snakes.
Dr. Godding .....	Displaying Collections of Membracidae and Coecopidae.	Mr. A. W. E. Tom ...	Determining Bones (Marsupial) from the Stuart Town Caves, near Mudgee.
Mr. William Harley ...	Determining small pebbles of Quartz.	<i>Town and Country Journal</i> .	Numerous replies to Correspondents on various subjects.
Miss E. M. Hayes .....	Use of room and specimens for sketching.	Mr. G. S. Turnbull ...	Giving information <i>re</i> Moth, and determining same.
Mr. Thomas Hickey ...	Information <i>re</i> Snake found on an ant-hill, showing a small lizard inside.	Dr. A. J. Turner .....	Displaying Meyrick's types of Micro-Lepidoptera.
Mr. R. H. Hogg .....	Displaying Collection of Arachnida and nests.	Lieut. Vaughn .....	Giving information <i>re</i> Birds' Eggs, &c.
Mr. A. W. Howitt and Daughter.	Describing Collections in Museum.	Visitor.....	Identification of Diadem Snake ( <i>Pseudelaps diadema</i> ).
Mr. J. G. Hunter .....	Identification of Brush-tailed Pouched Mouse, <i>Phascogale penicillata</i> .	Mr. J. A. Wall .....	Naming Snakes and Lizards, and information generally.
Prof. F. W. Hutton ...	Explaining construction of new workshops.	Mr. Harry Waugh.....	Inspection of Gould's "Mammals of Australia," and assistance with illustrations of Marsupials.
Capt. Hynes .....	Giving information about electric qualities of <i>Hypnos subnigrum</i> , exhibiting books on subject, and general information.	Prof. J. T. Wilson.....	Identification of three Snakes.
Mr. R. L. Jack .....	Determination of Fossil from No. 3 North Smithfield Mine, Gympie.	Mr. Charles J. Vyner, M.R.C.V.S.	Giving information <i>re</i> Bottling Specimens.
Messrs. Kerry and Co.	Supplying list of Anthropological Societies.		
Mr. E. H. Lane.....	Identifying Birds' Eggs and exhibiting Oological and Ornithological Cabinet Collections.		
Mr. O. Le Bon .....	Information <i>re</i> N.W. Austr. Finches.		
Mr. P. Le Garde .....	Naming Heterocera.		
Dr. Long.....	Identification of Black Snake, <i>Pseudechis porphyriacus</i> .		
Mrs. Lyden .....	Giving information <i>re</i> Structure of Birds.		
Miss McArthur and Friend.	Explaining Museum Collections.		

## APPENDIX XI.

## ADDITIONS TO THE LIBRARY.

Reg. No.	Books.	How acquired.	Reg. No.	Books.	How acquired.
PART I.—BOOKS.					
9158	ATLAS. Victoria Regina Atlas. Political, Physical, and Astronomical. W. and A. K. Johnston. 1 vol. 4to. Edinburgh and London, 1897.	Purchased	9129	FINSCH (Dr. Otto). Exploring Cruises of the "Samoa." Ethnological Atlas. Types from the Stone Age of New Guinea. 1 vol. 4to. Leipzig, 1888.	Presented
9205	BYNG (M.) and BELL (F. G.) A Popular Guide to Commercial and Domestic Telephony. First Edition, 1898. 1 vol. 8vo. London, 1893.	Purchased	9130	— Ethnologische Erfahrungen und Belegstücke aus der Sudsee. Beschreibender Katalog einer Sammlung im K. K. Naturhistorischen Hofmuseum in Wien. Abth. i. Bismarck Archipel. Abt. 2. Neu-Guinea. <i>An K. K. Nat. Hofmus. Wien</i> iii, and vi. In 1 vol. 8vo. Wien, 1888 and 1891.	Presented
9100	CARPENTER (C. W.) [Editor and Compiler.] The Mines of New South Wales. 1897. 1 vol. 8vo. Melbourne. Sydney, &c., 1897.	Purchased	9225	— Samoafahrten Reisen in Kaiser Wilhelms-Land und Englisch-Neu Guinea in den Jahren 1884 und 1885 an bord des Deutschen Dampfers "Samoa." 1 vol. 8vo. Leipzig, 1888.	Purchased
9017	CATECHISM and Hymal in the Language of Erromanga, New Hebrides. Fourth Edition. 1 vol. 8vo. Sydney, 1894.	Presented by Rev. H. A. Robertson.	9226	— Ethnologischer Atlas Typen aus der Steinzeit Neu-Guinea. 1 vol. 4to. Leipzig, 1883.	Purchased
9252	CHALMERS (James) and GILL (W. Wyatt). Work and Adventure in New Guinea. 1877-1885. 1 vol. 8vo. London, 1885.	Purchased	9128	FLOWER (W. H.) Inaugural Address, British Association, 1889. Subject—Museums. ( <i>Nature</i> , 12 Sept., 1889.) Suggestions for the formation and arrangement of a Museum of Natural History, in connection with a public school. ( <i>Nature</i> , 26 Dec., 1889.) 1 vol. 4to.	Purchased
9146	CUNNINGHAM (J. T.) The Natural History of the Marketable Marine Fishes of the British Islands. Prepared by order of . . . the Marine Biological Association . . . With a Preface by E. Ray Lankester. 1 vol. 8vo. London, 1896.	Purchased	9016	FOUR GOSPELS AND THE ACTS OF THE APOSTLES in the Language of Erromanga, New Hebrides. 1 vol. 8vo. Sydney, 1890.	Presented by Rev. H. A. Robertson
9251	CURRAN (J. Milne). Geology of Sydney and the Blue Mountains. 1 vol. 8vo. Sydney, 1898.	Purchased	9181	FROMENTAL (E. de). Introduction a l'Étude des Polypiers fossiles. 1 vol. 8vo. Paris, 1858-61.	Purchased
9102	CUTTER (Charles A.) Rules for a Dictionary Catalogue ( <i>U.S. Bureau of Education, Special Report on Public Libraries, part 2</i> ). Third Edition. 1 vol. 8vo. Washington, 1891.	Purchased	9136	GRAY (John Edward). Indian Zoology. A series of about 40* plates of Birds, Animals, Amphibia, and Fish, from the Collection of Major-General Hardwicke, with Names, executed under the Superintendence of John Edward Gray. 1 vol. Fol. London. Re-registered	
9344	COSMAN (Maurice). Revue Critique de Paléozoologie. Années I, 1897; II, 1898. 1 vol. 8vo. Paris, 1897-98.	Purchased		* There are 21 plates of mammals, 68 of birds, 15 of reptiles, 14 of fishes, 1 of shells, 1 of insects, in all 118 plates.	
173A C20	DAMES (W.) UND KOKEN (E.) Paläontologische Abhandlungen. Neue Folge Band IV (der ganzen Reihe Band VIII). Heft 1, Die Gastropoden der Maestrichter Kreide, von F. Kaunhowen. Jena, 1898.	Purchased	9244	HAZLITT (W. Carew). The Coinage of the European Continent. 1 vol. 8vo. London, 1893.	Purchased
9086	DENDY (Arthur). Studies in the Comparative Anatomy of Sponges. 1. On the Genera <i>Ridleya</i> and <i>Quasillina</i> . 2. On the Anatomy and Histology of <i>Stelospogus flabelliformis</i> . 3. On the Anatomy of Grantiabyrthina, and the so-called family Teichnidae. 4. On the Flagellated Chambers and Ova of <i>Halichondria panicea</i> . 5. On the Anatomy and Relationships of <i>Lelapia australis</i> , a living representative of the fossil <i>Pharetrotes</i> . <i>Qu. Journ. Micro. Sci.</i> 1888, and new series xxxii, xxxvii. In 1 vol. 8vo.	Presented	9247	HIGGINS (Frank C.) An Introduction to the Copper Coins of Modern Europe. ( <i>Young Collector Series</i> .) 1 vol. 8vo. London, 1892.	Purchased
9227	EUGENIE. Kongliga Svenska Fregatten Eugenie Botanic II, Zoologi VI. 4to.		9128	HIGGINS (H. H.) Museums of Natural History; a Paper read before the Literary and Philosophical Society of Liverpool. Also, a Phylogenetic Scheme of the Pedigree of Animals and Vegetables, by Professor Herdman. 1 vol. 8vo. Liverpool, 1884.	Purchased
9255	FAUNA OF BRITISH INDIA Birds. Vol. IV. By W. T. Blandford. 1 vol. 8vo. London, 1888.	Purchased	67A9	GODWIN-AUSTEN (H. H.) Land and Freshwater Mollusca of India. Vol. II. Part VII, Oct., 1897. Text and plates.	Purchased
9175	FAUNA CHILENSIS. Abhandlungen zur Kenntniss der Zoologie Chiles nach den Sammlungen. Von Dr. L. Plate. Heft I, Jena, 1897. 1 vol. 8vo. Jena, 1898.	Purchased	9246	HOWORTH (Daniel F.) Coins and Tokens of the English Colonies and Dependencies. With Introductory Chapter by Samuel Smith, jun. Second Edition. ( <i>Young Collector Series</i> .) 1 vol. 8vo. London, 1890.	Purchased
9235	— Heft 2 ( <i>Zool. Jahr. Sup. IV, heft 2</i> ). 1 vol. 8vo. Jena, 1898.	Purchased	9137	KEARTON (Richard). With Nature and a Camera, being the Adventures and Observations of a Field Naturalist and an Animal Photographer. 1 vol. 8vo. London, 1898.	Purchased
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9069	LONG (Mark Henry). List of Copper and Bronze Tokens, compiled by Mark Henry Long. ( <i>Type-written copy of M.S. Book.</i> ) 1 vol. 4to. Sydney, 1898.		9005	ORMEROD (Eleanor A.) Pamphlets :— Report of Observations of Attack of Turnip Fly in 1881 (1882). Warbles. Ox Warble Fly, <i>Hypoderma bovis</i> , De Geer. <i>Observ. Injur. Insects</i> , 1888. Ox Warble Fly, or Bot Fly, <i>Hypoderma bovis</i> , De Geer. May, 1888. New Edition, Feb., 1897. Third Report on Warble Fly, or Ox Bot Fly. <i>Report Injur. Insects</i> , 1888 (1889). Fourth Report on Warble Fly, or Ox Bot Fly. <i>Report Injur. Insects</i> , 1889 (1890). Paris Green, (or Emerald Green). Its Uses and Methods for its Application as a means of destruction of Orchard Moth Caterpillar, 1891. Turnip and Cabbage Root Attacks. <i>Report Injur. Insects</i> , 1892 (1893). Notes on Injurious Insects. Forest Fly, 1895. Wireworms, 1896. Daddy Longlegs, 1897. Stem Eel-worms, 1897. In 1 vol. 8vo. London, 1882-1897.	Purchased	Presented
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9004	Report of Observations of Injurious Insects and Common Farm Pests, with Methods of Prevention and Remedy. Seventeenth Report, 1893 (1894); Eighteenth Report, 1894 (1895); Nineteenth Report, 1895 (1896); Twentieth Report, 1896 (1897). In 4 vols. 8vo. London, 1877-1897.	Presented	9145	SOWERBY (G. B.) Marine Shells of South Africa, and Appendix. 1 vol. 4to. London, 1892 and 1897.		Purchased
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9253	STRACHAN (John). Explorations and Adventures in New Guinea. 1 vol. 8vo. London, 1888.	Purchased	9267	GEOLOGICAL SURVEY OF NEW SOUTH WALES. Memoirs. Palaeontology No. 6. Descriptions of the Palaeozoic Fossils of New South Wales (Australia) by the late L. G. de Koninck. Translated from the French by Prof. T. W. E. David, Mrs. David, and Mr. W. S. Dun. 1898.	
9245	THORBURN (W. Stewart). Guide to the History and Valuation of the Coins of Great Britain and Ireland, in Gold, Silver, and Copper. Third Edition. Revised and enlarged by Herbert A. Grueber. 1 vol. 8vo. London, 1898.	Purchased		— No. 7. The Mesozoic and Tertiary Insects of New South Wales, by R. Etheridge, junr., and A. Sidney Olliff. 1890. 1 vol. 4to. Sydney, 1890-98.	Presented
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9266	AGRICULTURE, DEPARTMENT OF. The Agricultural Gazette of New South Wales. Vol. IX. 1 vol. 8vo. Sydney, 1898.	Presented	A 6	NEW SOUTH WALES RAILWAY INSTITUTE. New South Wales Railway Budget. Vol. VI, Nos. 65 to 71. Vol. VII, Nos. 72 to 76. 1898.	Presented
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9087	ROYAL COMMISSION ON FISHERIES, NEW SOUTH WALES. Supplementary Report of the Royal Commission appointed 20th November, 1894, to inquire into and report upon the . . . Marine and other Fisheries of New South Wales, . . . with an abbreviated description of the principal Food Fishes of New South Wales.	Presented	A 14	ROYAL SOCIETY OF SOUTH AUSTRALIA. Transactions. Vol. XXII. Part 1. Adelaide, 1898.	Presented
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A 20	GEELOG FIELD NATURALISTS CLUB. The Geelong Naturalist. Vol. VI. Nos. 2, 3, 4. 1897-98.	Presented by Gordon Technical College.		— Official Report of the Proceedings of the Sixth Annual Conference of Producers. Perth, 1898.	
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	Fol. Melbourne, 1893.			AGRICULTURE—DEPARTMENT OF, QUEENSLAND. Queensland Agricultural Journal. Vol I, 1897. Vols. II and III, 1898.	Presented
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	Do 1897-98. Adelaide, 1898.	Presented			

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7272	GEOLOGICAL SURVEY OF QUEENSLAND. Various Reports— Annual Progress Report of the Geological Survey for 1893. 1894. Deep Lead, Pentland, Cape River Gold-field, by W. H. Rands. 1894. Towalla and Mareeba Gold-fields, by W. H. Rands. 1894. Ulam Gold-field, by A. Gibb Maitland. 1894. Report on Mount Morgan Gold Deposits, by R. L. Jack (reprint from a Report of 1884). Fol. Brisbane, 1894.	Presented	9153	ENTOMOLOGICAL SOCIETY OF LONDON. Transactions for the year 1897. 1 vol. 8vo. London, 1897. Purchased	
A 26	— Report on the Geology of the Basalt Workings, Mount Rainbow Gold-field, by Walter E. Cameron. 1897. — Report on the Big Hill Gold-mining Company's Lease, Taigai, by William H. Rands. 1898. — On the Geology of the Country round Stanthorpe and Warwick, South Queensland, with especial reference to the Tin and Gold Fields and the Silver Deposits, by Sydney B. J. Skertchly. Brisbane, 1898.	Presented	9287	ENTOMOLOGIST. Vol. XXXI. 1 vol. 8vo. London, 1898. Purchased	
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9068	QUEENSLAND MUSEUM. Annals No. 1. Synonymical Catalogue of the Lepidoptera Rhopalocera (Butterflies) of Australia, by W. H. Miskin. 1 vol. 8vo. Brisbane, 1898. Presented by Queensland Government, London.	Presented	9157	— General Index to the first fifty volumes of the Quarterly Journal. 1 vol. 8vo. London, 1897-98. Purchased	
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	NEW ZEALAND.		9113	— Descriptive Guide to the Museum of Practical Geology, with Notices of the Geological Survey of the United Kingdom, the Royal School of Mines, and the Mining Record Office. Fourth Edition, by Robert Hunt, and F. W. Rudler. 1 vol. 8vo. London, 1877. Presented by E. P. Ramsay.	
A 22	MINES DEPARTMENT, NEW ZEALAND. Thirty-first Annual Report of the Colonial Laboratory, by Wm. Skey. New Zealand, 1898.	Presented	9291	IBIS. A Quarterly Journal of Ornithology. Seventh Series, vol. IV. 1 vol. 8vo. London, 1898. Purchased	
9172	NEW ZEALAND INSTITUTE. Transactions and Proceedings, 1897. Vol. xxx, (thirteenth of new series.) 1 vol. 8vo., Wellington, 1898.	Presented	9013	— Index of Genera and Species referred to, and an Index to the plates in the "Ibis" (fourth, fifth, and sixth Series), 1877-1894. Edited by Osbert Salvin. 1 vol. 8vo. London, 1897. Purchased	
A 23	POLYNESIAN SOCIETY. Journal, containing the Transactions and Proceedings of the Society. Vol. VII, 1898.	Presented	9116	INTERNATIONAL FISHERIES EXHIBITION, LONDON, 1883. United States of America. A Preliminary Catalogue and Synopsis of the Collections exhibited by the United States Fish Commission and by Special Exhibitors. 1 vol. 8vo. Washington, 1883. Presented by E. P. Ramsay.	
A 29	WANGANUI PUBLIC MUSEUM. Annual Reports and Balance Sheet for year ending June, 1898. Presented by S. H. Drew.	Presented	9117	— Fishing and Hunting in Russian Waters, by O. Grimm. 1 vol. fol. 8vo. St. Petersburg, 1893. Presented by E. P. Ramsay.	
	BRITISH NEW GUINEA.		9119	— A Short Account of the Fisheries of the Bombay Presidency, with a Catalogue of the Exhibits forwarded by the Government of Bombay. 1 vol. fol. Bombay, 1833. Presented by E. P. Ramsay.	
9241	BRITISH NEW GUINEA. Report of British New Guinea from Data and Notes by the late Sir Peter Scratchley, Her Majesty's Special Commissioner, by G. Seymour Fort. 1886. — Report for the Year 1886 of Her Majesty's Special Commissioner for the protected Territory. 1887. in 1 vol. fol. Brisbane, 1886-87. Presented	Presented	9135	JOURNAL OF SCIENCE, and Annals of Biology, Astronomy, Geology, &c. (formerly the Quarterly Journal of Science). Vol. I (Dec. part only), II (Jan. to May parts only). In 1 vol. 8vo. London, 1879-80. Found in old cupboard	
9270	— Annual Report 1894-95. Brisbane, 1896. — Annual Report 1895-96. Brisbane, 1897. — Annual Report 1896-97. Brisbane, 1897. in 1 vol. fol. Brisbane, 1896-97. Presented	Presented	9208	LIBRARY CONFERENCE—SECOND INTERNATIONAL. Transactions and Proceedings, 1897. 1 vol. fol. London, 1898. Purchased	
	GREAT BRITAIN.		9279	LINNEAN SOCIETY OF LONDON. Journal—Botany. Vol. XXXIII, 1897-98. 1 vol. 8vo London, 1897-98. Purchased	
9097	BRITISH MUSEUM (Natural History). Catalogue of the Madreporarian Corals in the British Museum. Vol. III, Montipora and Anacropora, by Henry M. Bernard. Vol. 4to. London, 1897. Presented	Presented	B 14	— List of the Linnean Society of London, 1897-98. London, 1897.	
B 36	— Annual Return for 1897. 1 vol. 8vo. London, 1898. Presented	Presented	B 14	— Proceedings. 1896-97. London, 1897.	
9285	ANNALS AND MAGAZINE OF NATURAL HISTORY. Series 7. Vols. I. II. 1878. 1 vol. 8vo. London, 1898. Purchased	Purchased	B 15	— Journal—Zoology. Vol. XXVI. Nos. 168, 169, 170, 171. London, 1897-98.	
9277	ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND. Journal, vol. XXVII, 1897-98. 1 vol. 8vo. London, 1898. Presented	Presented	B 17	— Transactions. 2nd Ser.—Zoology. Vol. VII. Part 4. London, 1898. Presented	
9210	BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Report of the Sixty-seventh Meeting, held at Toronto in 1897. 1 vol. 8vo. London, 1898. Purchased	Purchased	9275	MINERALOGICAL SOCIETY. The Mineralogical Magazine and Journal of the Mineralogical Society. Vol. XI, 1895-97. 1 vol. 8vo. London, 1897. Presented	
			B 6	— Vol. XII, No. 54. June, 1898. Presented	
			9292	NATURAL SCIENCE. A Monthly Review of Scientific Progress. Vols. XII, XIII. 1 vol. 8vo. London, 1898. Purchased	
			9228	NATURALIST. A Monthly Journal of Natural History for the North of England, edited by Wm. Demison Roebuck and others. Vol. x, 1884-85. 1 vol. 8vo. London, 1885. Presented	
			9229-9234	— 1886-1897. In 6 vols. 8vo. London, 1886-97. Presented	
			B 22	— June, July, August, September, 1898. Presented	
			9121	NATURE. A Weekly Illustrated Journal of Science. Vol. LVII. (Nos. 1462-1487.) 1897-98.	
			9293	— Vol. LVIII. (Nos. 1488-1513). 1898. 2 vols. 4to. London, 1898. Purchased	

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9265	PALAEONTOGRAPHICAL SOCIETY. Vol. I, issued for 1896. 1 vol. 4to. London, 1896.	Purchased	B 13	CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND. The Journal of Conchology. Vol. IX. Nos. 1, 2, 3, and 4, 1896.	Presented
	Contains:— The Crag Foraminifera. Part 3. By T. R. Jones. The Jurassic Gasteropoda. Inferior Oolite. Part 1, No. 9. Conclusion, by W. H. Hullestone. Carbonicola, Anthracomya, and Naiadites. Part 3. Conclusion, by Wheelton Hind. The Carboniferous Lamellibranchiata. Part 1. By Wheelton Hind. The Devonian Fauna of the South of England. Vol. iii. Part 1. By G. F. Whidborne.		9124-27	GEOLOGICAL AND POLYTECHNIC SOCIETY OF THE WEST RIDING OF YORKSHIRE. Proceedings. Vol. I. 1840-1843 (imperfect). Vol. II. 1842-48. Vol. III. 1849-1857 (imperfect). Vol. IV. 1858-1865 (imperfect, parts 1860, 1863-4, 1864-5 only). 4 vols. 8vo. Leeds, 1840-1865.	Re-registered
9112	— Vol. LI, issued for 1897. 1 vol. 4to. London, 1897.	Purchased	B 24	LANCASHIRE SEA FISHERIES LABORATORY. Report for 1897 of the Lancashire Sea Fisheries Laboratory at University College, Liverpool, and the Sea Fish Hatchery at Piel; drawn up by W. A. Herdman, assisted by And. Scott and James Johnstone, with an Appendix, Guide to Fisheries Exhibition at Liverpool. by Professor W. A. Herdman.	Presented
	Contains:— The Crag Foraminifera. Part iv. By T. R. Jones. The Carboniferous Lamellibranchiata. Part ii. By Wheelton Hind. The Carboniferous Cephalopoda of Ireland. Part 1. By A. H. Ford. The Devonian Fauna of the South of England. Vol. iii. Part 2. By G. F. Whidborne.		B 3	LEEDS GEOLOGICAL ASSOCIATION. Transactions. Part 10, 1894-95, 1895-96.	Presented
9289	QUARTERLY JOURNAL OF MICROSCOPICAL SCIENCE. New Series. Vol. XI, 1897-98. 1 vol. 8vo. London, 1898.	Purchased	B 3	LEEDS PHILOSOPHICAL AND LITERARY SOCIETY. The Seventy-eighth Annual Report (for 1897-98). Leeds, 1898.	Presented
9090	RAY SOCIETY. Volume for 1896. The Tailless Batrachians of Europe, by G. A. Boulenger. Part 1. 1 vol. 8vo. London, 1897.	Purchased	9019	LIVERPOOL BIOLOGICAL SOCIETY. Proceedings and Transactions. Vol. XI. Session 1896-97. 1 vol. 8vo. Liverpool, 1897.	Presented
9133	ROYAL GEOGRAPHICAL SOCIETY OF LONDON. Journal. Vol. V. 1835. Part 2.		B 2	LIVERPOOL GEOLOGICAL SOCIETY. Proceedings, Session 36th. Vol. VIII, part 1, Liverpool, 1897.	Presented
9134	— Journal. Vol. XXV. 1850. Part 1. 2 vols. 8vo. London, 1835 and 1850.	Re-registered	B 2	LIVERPOOL GEOLOGICAL ASSOCIATION. Journal. Vol. XVI. Session 1895-96.	Presented
9284	— The Geographical Journal, including Proceedings of the Royal Geographical Society. Vols. XI-XII. 1898. 1 vol. 8vo. London, 1898.	Presented	9274	MANCHESTER LITERARY AND PHILOSOPHICAL SOCIETY. Memoirs and Proceedings. (Manchester Memoirs.) Vol. XLII., 1897-98. 1 vol. 8vo. Manchester, 1898.	Presented
B 23	— Antarctic Exploration: A Plea for a National Expedition, by Sir Clements B. Markham. London, 1898.	Presented	B 5	MANCHESTER MICROSCOPICAL SOCIETY. Transactions and Annual Report, 1897. 8vo. Manchester, 1898.	Presented
9290	ROYAL MICROSCOPICAL SOCIETY. Journal. 1 vol. 8vo. London, 1898.	Purchased	B 4	MANCHESTER MUSEUM. Report for the year 1897-98. Manchester, 1898.	Presented
9093	ROYAL SOCIETY OF LONDON. Proceedings. Vol. LXII, 1897-1898. 1 vol. 8vo. London, 1898.	Presented	B 4	— Museum Handbook. The Nomenclature of the Seams of the Lancashire Lower Coal Measures. By Herbert Bolton. Manchester, 1898.	Presented
9076	— Year Book, 1897-98. 1 vol. 8vo. London, 1898.	Presented	B 4	— Museum Handbook, General Guide to the Contents of the Museum, Second Edition, 1893	Presented
B 1	— Proceedings. Vol. LXIII. Nos. 391-401.	Presented		— Museum Handbooks. Catalogue of the Hadfield Collection of Shells from Lifu and Uvea, Loyalty I-land, by James Cosmo Melville and Robert Standen. Parts 2 and 3. Manchester, 1897.	Presented
B 1	— Proceedings. Vol. LXIV. No. 402-403.	Presented	B 12	MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM. Journal, New Series. Vol. V, No. 2. April, 1898.	Presented
9212-13	— Philosophical Transactions. Vol. 189. Series A. and B. 1897. 2 vols. 4to. London, 1897.	Purchased	9091	MUSEUMS ASSOCIATION. Report of Proceedings, with the papers read at the Eighth Annual General Meeting, Oxford, 1897. 1 Vol. 8vo. London, 1897.	Purchased
3523	SCIENCE AND ART, DEPARTMENT OF. Prospectus of the Metropolitan School of Science applied to Mining and the Arts. Sixth Session, 1856-7. — Government School of Mines and of Science applied to the Arts. Eighth Session, 1858-59. In 1 vol. 8vo. London, 1856-1858.	Re-registered	B 24	NATURAL HISTORY TRANSACTIONS OF Northumberland, Durham, and Newcastle-upon-Tyne. Vol. XIII. Part, 2. Newcastle-upon-Tyne, 1898.	Presented
9280	ZOOLOGICAL SOCIETY OF LONDON. Proceedings of the General Meetings for Scientific Business, 1897. 1 vol. 8vo. London, 1897.	Presented	B 24	OXFORD UNIVERSITY MUSEUM. Catalogue of Books added to the Radcliffe Library, 1897. Oxford 1898.	
B 18	— Proceedings, 1898. Parts 1 and 2.	Presented	B 36	PLYMOUTH INSTITUTION AND DEVON AND CORNWALL NATURAL HISTORY SOCIETY. Annual Report and Transactions. Vol. XII. Part 4. 1897-98. 8vo. Plymouth, 1898.	Presented
9282	— List of the Fellows, May, 1898.	Presented	B 2	PUBLIC LIBRARIES, MUSEUMS, AND ART GALLERY OF THE CITY OF LIVERPOOL. Forty-fifth Annual Report of the Committee for 1897. Liverpool, 1898.	Presented
9131	— Transactions. Vol. XIV, 1896-98. 1 vol. 4to. London, 1898.	Presented	B 36	ROYAL CORNWALL POLYTECHNIC SOCIETY. Sixty-fifth Annual Report, 1897. 8vo. Falmouth and Truro, 1898.	Presented
9062	— Catalogue of the Mammalia preserved in the Museum, by G. R. Waterhouse, Curator. Second Edition. 1 vol. 8vo. London, 1838.	Re-registered	B 22	YORKSHIRE NATURALISTS UNION. Transactions, Part, 21, for 1895, Leeds, 1898. — The "Naturalist" January, February, April, May, 1898.	Presented
9063	— List of the Vertebrated Animals living in the Gardens. First Edition, 1862; Second Edition, 1863; Third Edition, 1865; Fourth Edition, 1866. In 1 vol. 8vo. London, 1862-66.	Presented	B 36	YORKSHIRE GEOLOGICAL AND POLYTECHNIC SOCIETY. Proceedings, New Series. Vol. XIII. Part 3, pages 279-374, 1893.	Presented
9064	— List of the Vertebrated Animals now or lately living in the Gardens. Sixth Edition, 1877; First Supplement to Seventh Edition, 1879. In 1 vol. 8vo. London, 1877-79.	Presented	3508	UNIVERSITY OF CAMBRIDGE. Annual Report of the Library Syndicate 1897.	Presented
9065	— Eighth Edition, 1883.		3508	— Thirty-second Annual Report of the Museum and Lecture Rooms Syndicate. for 1897.	Presented
9065	— Ninth Edition, 1896. 2 vols. 8vo. London, 1863-96.	Presented			
9066	ZOOLOGICAL RECORD. Vol. XXXIII. Being Records of Zoological Literature relating chiefly to the year 1898. Edited for the Zoological Society of London by David Sharp. 1 vol. 8vo. London, 1897.	Presented			
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B 36	BRISTOL NATURALISTS' SOCIETY. Proceedings. New Series. Vol. VIII. Part 1, 1895-96. Bristol, 1896.	Purchased			

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9278	ZOOLOGICAL MUSEUM, TRING. <i>Novitates Zoologicae</i> , A Journal of Zoology, edited by Walter Rothschild, Ernest Harteret, and K. Jordan. Vol. IV, 1897.	Presented	C 30	SOUTH AFRICAN MUSEUM. <i>Annals</i> Vol. I. Part I. Cape Town, 1898.	Presented
B 11	<i>Novitates Zoologicae</i> . A Journal of Zoology. Vol. V. No. 1, 2, 3, London, 1898.	Presented		Contents:— Descriptions of New South African Scorpions in the Collection of the South African Museum; by W. F. Purcell. Description of some new or little known South African Mutillidae, in the Collection of the South African Museum; by L. Péringuey. List of the Reptiles and Batrachians of South Africa, with descriptions of new species; by W. L. Sclater. Catalogue of the South African Hispinæ (Coleoptera) with descriptions of new species; by L. Péringuey.	
	GREAT BRITAIN.		9294	SOUTH AFRICAN PHILOSOPHICAL SOCIETY. Transactions—Vol. VIII. Part 1, 1890-92. Part 2, 1892-95. Vol. IX. Part 1, 1895-96. Part 2, 1896-97.	Presented
	Scotland.			1 vol. 8vo. Cape Town, 1893-98.	Presented
B 24	BERWICKSHIRE NATURALIST'S CLUB, History. Vol. XV. Part 2. Alnwick, 1897.	Presented		BRITISH COLONIES.	
9027-36	FISHERY BOARD FOR SCOTLAND. Annual Reports. Part III. Scientific Investigations. Sixth, being for 1887, to fifteenth, being for 1896. 10 vols. 8vo. Edinburgh, 1888-97.	Presented	9067	GEOLOGICAL SURVEY OF INDIA. <i>Memoirs</i> , Vol. XXVII. 1896-97.	Presented
	Through the Agent General for N.S.W.			1 vol. 8vo. Calcutta, 1898.	Presented
9173	GLASGOW UNIVERSITY. Calendar for the year 1898-99. 1 vol. 8vo. Glasgow, 1898.	Presented	9297	— <i>Memoirs</i> . Palaeontologia Indica. Ser. XIII. Vol. II. 1 vol. Fol. Calcutta, 1895.	Presented
9159	HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND. <i>Transactions</i> . Fifth Series. Vol. X. 1 vol. 8vo. Edinburgh, 1898.	Presented	C 4	— Series XV. Vol. 1, part 4. Calcutta, 1897.	Presented
B 9	NATURAL HISTORY SOCIETY OF GLASGOW. <i>Transactions</i> (including the Proceedings of the Society). Vol. V. (New series.) Part 1, 1896-97. Glasgow, 1897.	Presented	C 5	— Series XVI. Vol. 1, parts 2, 3. Calcutta, 1897.	Presented
9151	ROYAL SOCIETY OF EDINBURGH. <i>Proceedings</i> . Vol. XXI. 1895-97.	Presented	9169	INDIAN MUSEUM. Annual Report, 1895-96.	Presented
B 8	ROYAL PHYSICAL SOCIETY, EDINBURGH. <i>Proceedings</i> . Session 1896-97.	Presented	9170	— Annual Report, 1896-97.	Presented
B 7	ROYAL SCOTTISH GEOGRAPHICAL SOCIETY. <i>Scottish Geographical Magazine</i> . Vol. XIV., 1898. 1 vol. 8vo. Edinburgh, 1898.	Presented	3509	MADRAS GOVERNMENT MUSEUM. Administration Report for the year 1897-98.	Presented
3602	SCIENCE AND ART MUSEUM, EDINBURGH. Report of the Director for 1897.	Presented	C 7	— Bulletin, Vol. II, No. 2. Anthropology, by Edgar Thurston, Madras, 1898.	Presented
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9296	— Vol. III. Parts 1, 2, 3; by J. F. Whiteaves, Montreal, 1884, Ottawa, 1895, 1897.	Presented	9168	— Manual of the Coimbatore District in the Presidency of Madras, by F. A. Nicholson.	Exchange
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9207	MCGILL COLLEGE AND UNIVERSITY. Annual Calendar. Session 1898-99.	Presented	9154	ROYAL ASIATIC SOCIETY (China Branch of The). <i>Journal</i> , new series, Vol. XXVIII. 1898-94.	Presented
C 15	MCGILL UNIVERSITY. <i>Papers from the Department of Physiology</i> . Nos. 4, 5, 6. Geology. Nos. 3, 4, 5, 6, 7, 8. Botany. Nos. 4, 5, 6, 7. Philosophy. No. 2. Engineering. No. 1. Physics. Nos. 2, 3, 4, 5 and 6.	Presented	9150	UNITED STATES DEPARTMENT OF AGRICULTURE. Yearbook, 1897.	Presented
C 11	NATURAL HISTORY SOCIETY OF MONTREAL. <i>The Canadian Record of Science</i> . Vol. VII. Nos. 5, 6, 7.	Presented	9300	— Division of Entomology. <i>Bulletins</i> , New Series, Nos. 10, 11, 12, 13, 14, 16, 17, 18.	Presented
C 14	NATURAL HISTORY SOCIETY OF NEW BRUNSWICK. <i>Bulletin</i> No. XVI. Vol. IV. Part I. St. John, N.B., 1898.	Presented	9301-2	— Division of Entomology. <i>Bibliography of the More Important Contributions to American Economic Entomology</i> , prepared by Samuel Henshaw. Parts 1, 2, 3, Benjamin Dann Walsh and Charles Valentine Riley, 1890.	Presented
C 12	NOVA SCOTIAN INSTITUTE OF SCIENCE. <i>Proceedings and Transactions</i> . Session 1896-97. Vol. IX (II of new series). Part 3. Halifax, 1897.	Presented		— Part 4-5, Government and State Entomologists and other contributors, 1895-96.	
9015	ROYAL SOCIETY OF CANADA. <i>Proceedings and Transactions</i> . Second series. Volume II. 1 vol. 8vo. Ottawa, 1896.	Presented		— Part 6, June, 1883 to Dec., 1896, by Nathan Banks.	Presented
	BRITISH COLONIES.		9142	— Division of Ornithology and Mammology— <i>Bulletin</i> No. 1. The English Sparrow ( <i>Passer domesticus</i> ) in North America, by Walter B. Barrow. 1 vol. 8vo. Washington, 1899.	Presented
	Africa.		9143	— <i>Bulletin</i> No. 2. Report on Bird Migration in the Mississippi Valley in 1884 and 1885, by W. W. Cooke.	Presented
C 30	DURBAN BOTANIC SOCIETY. Report of the Natal Botanic Gardens for 1897; by J. Medley Wood, Durban, 1898.	Presented	9144	— <i>Bulletin</i> No. 3. The Hawks and Owls of the United States in their relation to Agriculture, by A. K. Fisher.	Presented
C 30	COLONIAL HERBARIUM (Natal). Report for the year 1897; by J. Medley Wood. Durham, 1898.	Presented		1 vol. 8vo. Washington, 1898.	Presented
3516	SOUTH AFRICAN MUSEUM. Report for the year ending December, 1897. Cape Town, 1898.	Presented			

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D 8	UNITED STATES DEPARTMENT OF AGRICULTURE. Bulletin No. 5. The Pocket Gophers, by Vernon Bailey. 1895.		8047	UNITED STATES GEOLOGICAL SURVEY. Monographs. Vol. xxv. The Glacial Lake Agassiz; by Warren Upham. 1895.	
	— Bulletin No. 7. Preliminary Report on Food of Woodpeckers, by F. E. L. Beal; and Tongues of Woodpeckers, by F. A. Lucas. 1895.	Presented	9048	— Vol. xxvi. The Flora of the Amboy Clays; by John Strong Mewberry. A posthumous work; edited by Arthur Hollock. 1895.	
D 8	— Farmers' Bulletin, No. 75. Grain Smuts, by W. T. Swingle. 1893.	Presented	9949	— Vol. xxvii. Geology of the Denver Basin in Colorado. By Samuel Franklin Emmons, Whitman Cross, and George Homans Eldridge. 1896.	
D 8	— Bulletin 15. Division of Vegetable Physiology and Pathology.	Presented		3 vols. 4to. Washington, 1895-96.	Presented
D 8	— Hybrids and their Utilisation in Plant Breeding, by Walter T. Swingle and Herbert A. Webber. <i>Year Book, Dep. Agric.</i> 1897.	Presented	9050-51	— Vol. xxviii. The Marquette Iron-bearing District of Michigan, with Atlas; by Charles Richard Van Hise and William Shirley Bayley. Including a chapter on the Republic Trough; by Henry Lloyd Smith. 1 vol. text 4to., and 1 vol. Atlas fol. Washington, 1897.	Presented
9012	UNITED STATES FISH COMMISSION. Bulletin, Vol. XVI, for 1896.	Presented	9052	— Bulletins; No. 87. 1897.	
	Contains:—		9053	— Do 127. 1896.	
	A Report upon Salmon Investigations in the head Waters of the Columbia River, by Barton W. Everton.		9054	— Do 128-134. 1895-96.	
	The Artificial Propagation of the Rainbow Trout, by Geo. A. Seagle.		9055	— Do 135-138. 1896.	
	The Russian Fur Seal Islands, by Leonhard Stejneger.		9056	— Do 139-141. 1896.	
	The Artificial Propagation of Salmon on the Pacific Coast of the United States, by Livingston Stone.		9057	— Do 142-147. 1896.	
	Deep Sea Exploration: A General Description of the steamer "Albatross," her Appliances and Methods, by Z. L. Tanner.			In 6 vols. 8vo. Washington, 1895-97.	Presented
9190	UNITED STATES COMMISSION OF FISH AND FISHERIES. Part XXII. Report of the Commissioner for the year ending June, 1896.	Presented	D 11	— Bulletin; No 148. 1897.	Presented
	Contains—		9107	UNITED STATES GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES. Bulletin No. 6. Second Series. 1876. Vol. vi, No. 2, 1881.	
	Report on the Propagation and Distribution of Food Fishes, by W. de C. Ravenel.			1 vol., 8vo. Washington, 1876, 1881.	Purchased
	Report upon the Inquiry respecting Food Fishes and the Fishing Grounds, by Richard Rathbun.		9.03	NAVY DEPARTMENT. Alphabetical Catalogue of the Library. Authors.	
	Report of the Division of Statistics and Methods of the Fisheries, by Hugh M. Smith.			1 Vol., 8vo. Washington, 1891.	Purchased
	Report of the Representatives of the United States Fish Commission at the Cotton States and International Exposition at Atlanta, by W. de C. Ravenel.		9176	UNITED STATES NATIONAL MUSEUM. Proceedings. Vol. XIX. 1 vol. 8vo. Washington, 1897.	Presented
	Notes on the Extension of the Recorded Range of Certain Fishes of United States Coasts, by Hugh M. Smith and William C. Kendall.			Contains:—	
	Notes on the Food of Four Species of the Cod Family, by William C. Kendall.			Descriptions of new Cynipidous Galls and Gall-Wasps in the United States National Museum; by William H. Ashmead.	
	Report of a Survey of the Oyster Regions of St Vincent Sound, Apalachicola Bay, and St. George Sound, Florida, by Lieut. Franklin Swift, United States Navy.			Contributions to the Natural History of the Commander Islands. XII. Fishes collected at Bering and Copper Islands by Nikolai A. Grebnitski and Leonard Stejneger; by Tarleton H. Bean and Barton A. Bean.	
	Report on the Fisheries of Indian River, by John J. Bruce, Barton W. Everman, Barton A. Bean, A. G. Maddren, and W. A. Wilcox.			Notes on Fishes collected in Kamchatka and Japan by Leonard Stejneger and Nikolai A. Grebnitski, with a description of a new Blenny; by T. H. Bean and B. A. Bean.	
	Report on the Fish and Fisheries of the Coastal Waters of Florida, by John J. Bruce.			The Food Plants of Scale Insects ( <i>Coccidæ</i> ); by T. D. A. Cockerell.	
	Publications of the United States Commission of Fish and Fisheries, available for distribution on June 30, 1897.			Report on the Fishes dredged in deep water near the Hawaiian Islands, with Descriptions and Figures of twenty-three new Species, by Frank Cramer.	
	Records of Observations made on board the U.S. Fish Commission steamer "Albatross" during the year ending June 30, 1896.			Report on the Mollusks collected by the International Boundary Commission of the United States and Mexico, by William Healey Dall.	
	Observations upon the Herring and Herring Fisheries of the North east Coast, with special reference to the vicinity of Passamaquoddy Bay, by H. F. Moore.			Descriptions of Tertiary Fossils from the Antillean Region; by William Healey Dall.	
	The Herring Industry of the Passamaquoddy Region, Maine, by Ansley Hall.			Report on the Fishes dredged in deep water near the Hawaiian Islands, with Descriptions and Figures of twenty-three new Species, by Charles Henry Gilbert and Frank Cramer.	
	Statistics of the Fisheries of the Interior Waters of the United States, by Hugh M. Smith			Descriptions of twenty-two new Species of Fishes collected by the Steamer "Albatross," of the United States Fish Commission, by Charles Henry Gilbert.	
	Notes on the Fisheries of the Pacific Coast in 1895, by William A. Wilcox.			Descriptions of Tertiary Fossils from the Antillean Region; by E. J. Lechmere Guppy and William Healey Dall.	
9038-39	UNITED STATES GEOLOGICAL SURVEY. Seventeenth Annual Report to the Secretary of Interior, by Charles D. Walcott, Director.	Presented		Description of new Species of North American Coleoptera in the Families <i>Cerambycidae</i> and <i>Scabroderidae</i> ; by Martin L. Linell.	
	2 vols. 8vo. Washington, 1896.			On the Insects collected by Dr. Abbott on the Seychelles, Aldabra, Glorioso, and Providence Islands, with Descriptions of nine new Species of Coleoptera; by Martin L. Linell.	
	Part 1, Director's Report and other Papers.			Notes on Larval Cestode Parasites of Fishes; by Edwin Linton.	
	Part 2, Economic Geology and Hydrography.			Is the Florida Box Tortoise a Distinct Species? By Einar Lounberg	
	Part I contains:—			Preliminary Diagnoses of New Mammals from the Mexican Border of the United States, by Edgar A. Mearns.	
	Magnetic Declination in the United States, by Henry Gannett.			Descriptions of six new Mammals from North America; by Edgar A. Mearns.	
	A Geological Reconnaissance in North-western Oregon, by J. S. Diller.			Description of a new Genus and four new Species of Crabs from the West Indies; by Mary J. Rathbun.	
	Further Contributions to the Geology of the Sierra Nevada, by H. W. Turner.			Catalogue of a Collection of Birds made by Dr. W. L. Abbott in Madagascar, with descriptions of three new Species; by Charles W. Richmond.	
	Report on Coal and Lignite of Alaska, by W. H. Dall.			Birds of the Galapagos Archipelago, by Robert Ridgway.	
	The Untate (Gilsonite) Deposits of Utah, by G. H. Eldridge.			On the Fossil Phyllopod Genera <i>Dipeltis</i> and <i>Protocaris</i> , of the Family <i>Apodidae</i> ; by Charles Schuchert	
	Glacial Brick Clays of Rhode Island and South-eastern Massachusetts, by N. S. Shaler, J. B. Woodworth, and C. F. Marbut.			On the Genus <i>Remondia</i> , Gabb, a group of Cretaceous Bivalve Mollusks, by Timothy W. Stanton	
	The Faunal Relations of the Eocene and Upper Cretaceous of the Pacific Coast, by T. W. Stanton.			A Revision of the Adult Tapeworms of Hares and Rabbits; by Ch. Wardell Stiles.	
	Part II contains:—			A Revision of the American Moles; by Frederick W. True	
	The Gold Quartz Veins of Nevada City and Grass Valley, California, by Waldemar Lindgren.			Summary of the Hemiptera of Japan presented to the United States National Museum by Professor Mizukuni, by Philip B. Uhler.	
	Geology of Silver Cliff and the Rosita Hills, Colorado, by Whitman Cross.			Cambrian Brachiopoda: Genera <i>Iphidea</i> and <i>Yorkia</i> , with descriptions of new species of each, and of the Genus <i>Acrothele</i> ; by Charles D. Walcott.	
	The Mines of Custer County, Colo., by S. E. Emmons.				
	Geologic Section along the New and Kanawha Rivers in West Virginia, by M. R. Campbell and W. C. Mendenhall				
	The Tennessee Phosphates, by C. W. Hayes				
	The Underground Water of the Arkansas Valley in Eastern Colorado, by G. K. Gilbert.				
	Preliminary Report on Artesian Waters of a Portion of the Dakotas, by N. H. Darton.				
	The Water Resources of Illinois, by Frank Leverett.				

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9216	UNITED STATES NATIONAL MUSEUM. Annual Report of the Smithsonian Institution for the year ending June, 1895. Report of the United States National Museum. 1 vol. Svo. Washington, 1897.	Presented	D 4	BIOLOGICAL SOCIETY OF WASHINGTON. Proceedings, Vol. XI, pp. 241-282, Dec., 1897; title page and contents. Vol. XII. 1898, pp. 1-170.	Presented
	Contains, besides reports:— The Social Organisation and the Secret Societies of the Kwakiutl Indians; by Franz Boas. The Graphic Art of the Eskimos; by Walter James Hoffman. Notes on the Geology and Natural History of the Peninsula of Lower California; by George P. Merrill. The Mineralogical Collections in the U. S. National Museum; by Wirt Tassin. The Tongues of Birds; by Frederick A. Lucas. The Ontonagon Copper Boulder in the U. S. National Museum; by Charles Moore. Taxidermical Methods in the Leyden Museum, Holland; by R. W. Shufeldt. The Antiquity of the Red Race in America; by Thomas Wilson.		D 23	BOSTON SOCIETY OF NATURAL HISTORY. Proceedings, Vol. XXVIII. Nos. 1-12.	Presented
7383	— Directions for Collecting and Preserving Scale Insects. By T. D. A. Cockerell. <i>Bulletin, U. S. National Museum</i> , 39. Washington, 1897.	Presented	D 39	BUFFALO SOCIETY OF NATURAL SCIENCES. Bulletin, Vol. V, Nos. 1, 2, 3, 4, 5 Buffalo, 1886-97. Vol. VI, No. 1, Buffalo, 1898.	Presented
9011	SMITHSONIAN INSTITUTION. Annual Report of the Board of Regents to July, 1895. 1 vol. Svo. Washington, 1896.	Presented	9191	BOSTON PUBLIC LIBRARY. Hand-book for Readers in the Boston Public Library. Ninth Edition. 1 vol. Svo. Boston, 1890.	Presented
	Contains:— Zoology, since Darwin; by Ludwig v. Graff. The Yellow Races; by E. T. Hamy. Compulsory Migrations in the Pacific Ocean; by Otto Sittig. The Old Settlements and Architectural Structures in Central North America; by Carl Sapper. The Cliff Villages of the Red Rock Country, &c.; by J. Walter Fewkes. Races and Civilisation. by W. M. Flinders Petrie. The Tusayan Ritual; by J. Walter Fewkes. And other Papers.		9192	— Brief Description of the Chamberlain Collection of Autographs in the Public Library. Texts of the Four Great Documents. A Supplement to a Brief Description of the Chamberlain Collection. In 1 vol. Svo. Boston, 1897 and 1898.	Presented
9037	BUREAU OF AMERICAN ETHNOLOGY. Sixteenth Annual Report to the Secretary of the Smithsonian Institution. 1894-95. J. W. Powell, Director. 1 vol. Svo. Washington, 1897.	Presented	9193	— Annual Report of the Trustees, 1897. 1 vol. Svo. Boston, 1898.	Presented
	Contains:— Primitive Trephining in Peru; by Manuel Antonio Muniz and W. J. McGee. Cliff Ruins of Canyon De Chelly, Arizona; by Cosmos Mindeleff. Day Symbols of the Maya Year; by Cyrus Thomas. Tusayan Snake Ceremonies; by Jesse Walter Fewkes.		9198	— The first letter of Christopher Columbus to the Noble Lord Raphael Sanchez announcing the Discovery of America, reproduced in facsimile from the copy of the Latin version of 1493 now in the Boston Public Library, with a new translation. 1 Vol. Svo. Boston, 1891	Presented
9304	ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA. Proceedings, 1897. 1 vol. Svo. Philadelphia, 1897.	Presented	9194	— Bibliographies of Special Subjects. No. 6. Some materials for a Bibliography of the Official Publications of the Continental Congress 1774-89. Collected and annotated by Paul Leicester Ford, 1890. No. 8 Contributions towards a Bibliography of the Higher Education of Women, 1897. In 1 vol. Svo. Boston, 1890 and 1897.	Presented
D 14	— Proceedings, 1898, Part 1.	Presented	9195	— List of Periodicals, Newspapers, Transactions, and other Serial Publications in the principal Libraries of Boston. 1 vol. Svo. Boston, 1897.	Presented
9306	ACADEMY OF SCIENCE OF ST. LOUIS. Transactions. Vol. VII. 1894-97. 1 Vol. Svo. St. Louis, 1898.	Presented	9196	— Catalogue of English Prose Fiction, and Books for the Young, in the Lower Hall of the Public Library, Boston. Eighth edition, 1893. — Catalogue of the English Prose Fiction added to the Public Library, Boston, since 1893. Supp. to Eighth edition, 1897. In 1 vol. Svo. Boston, 1893 and 1897.	Presented
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9122-23	AMERICAN ANTIQUARIAN SOCIETY. Proceedings Vol. X. New Series, 1885 (Index only.) Vol. XI. New Series, 1896-1897. 2 Vols. Svo. Worcester, 1896 and 1898.	Presented	9040	— Handbook of the New Public Library in Boston, compiled by Herbert Small. 1 vol. Svo. Boston, 1895.	Presented
D 22	— Proceedings, Vol XII, New Series, Parts 1, 2, 1897-98, Worcester, Mass, 1898. — Title Page and Index to Vol. XI.	Presented	D 2	CALIFORNIA ACADEMY OF SCIENCES. Proceedings. Third series. Botany. Vol. I No. 2. Zoology. Vol. I. Nos. 2, 3.	Presented
9214	AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Proceedings. Forty-sixth Meeting held at Detroit, Michigan, 1897. 1 Vol. Svo. Salem, 1898.	Presented	D 2	— Occasional Papers v. The Reptiles of the Pacific Coast and Great Basin; by John van Denburgh. San Francisco, 1897.	Presented
P 16 (23)	AMERICAN GEOLOGIST, Vol. VII, No. 5, May, 1897.	Purchased	D 26	CINCINNATI MUSEUM ASSOCIATION. Seventeenth Annual Report. 1897. Cincinnati, 1898.	Presented
D 30	AMERICAN MUSEUM OF NATURAL HISTORY. Annual Reports for the year 1897. New York, 1898.	Presented	D 20	DENISON UNIVERSITY. Bulletin of the Scientific Laboratories. Vol. IX. Part 2. by Denison Scientific Association.	Presented
D 29	— Memoirs Vol. I, Part 3. The Extinct Rhinoceroses, by Henry Fairfield Osborn. 1898.	Presented	D 10	FIELD COLUMBIAN MUSEUM. Publication No. 11. Anthropological Series Vol. II. No. 1. Observations on a collection of Papuan Crania; by Geo. A. Dorsey, with Notes on Preservation and Decorative Features; by Wm. H. Holmes. Chicago, 1897.	Presented
9096	— Bulletin, Vol. IX, 1897. 1 Vol. Svo. New York, 1897.	Presented	D 9	— Publications Nos. 22 and 27. Zoological Series. Vol. I. Nos. 8, 9, 10. Chicago, 1897-98.	Presented
9310	AMERICAN NATURALIST. An Illustrated Magazine of Natural History. Vol. XXXII. 1 Vol. Svo. Boston, 1898.	Purchased		— Publication No. 24. Report Series. Vol. I. No. 3. Chicago, 1897.	Presented
9303	AMERICAN ORNITHOLOGISTS' UNION. The Auk, a Quarterly Journal of Ornithology. Vol. XV. 1 Vol. Svo. New York, 1898.	Presented	D 10	— Publication 23. Anthropological Series. Vol. II. No. 2. 1898.	Presented
D 39	BERNICE PAUHI BISHOP MUSEUM, HONOLULU. Occasional Papers of the Bernice Pauhi Bishop Museum of Polynesian Ethnology and Natural History. Vol. I, No. 1. Director's Report. Honolulu, 1898.	Presented	D 9	Publication 25. Botanical Series. Vol. I. No. 4. Contribution III to the Coastal and Plain Flora of Yucatan; by Charles Frederick Millsbaugh. Chicago, 1898.	Presented
			D 39	FREE MUSEUM OF SCIENCE AND ART (University of Pennsylvania). Bulletin No. 4. June, 1898.	Presented



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9177-78	GEOLOGICAL AND NATURAL HISTORY SURVEY OF MINNESOTA. The Geology of Minnesota. 1885-1892. Vol. III. Parts 1 and 2 of the Final Report. Palaeontology. 2 vols. 4to. Minneapolis, Minn., 1895, 1897.	Presented	9307-8	MUSEUM OF COMPARATIVE ZOOLOGY AT HARVARD COLLEGE IN CAMBRIDGE. Bulletin, Vol. XXVIII. 1895-98. (Geological Series III). Vol. XXXI. 1897-98.	Presented
	Part 1 contains:—			2 vols. 8vo. Cambridge, Mass., 1898.	Presented
	Historical Sketch of Investigation of the Lower Silurian in the Upper Mississippi Valley; by N. H. Winchell and E. O. Ulrich.		D 17	— Bulletin, Vol. XXXII, Nos. 1-8.	Presented
	Cretaceous Fossil Plants from Minnesota; by Leo Lesquereux.		9309	— Memoirs. Vol. XIX. 1895-97.	Presented
	The Microscopical Fauna of the Cretaceous in Minnesota, with additions from Nebraska and Illinois; by Anthony Woodward and Benjamin W. Thomas.			1 vol. 4to. Cambridge, Mass., 1897.	Presented
	Note on other Cretaceous Fossils in Minnesota, by N. H. Winchell		D 18	— Memoirs. Vol. XXIII. No. 1, 1897.	Presented
	Sponges, Graptolites and Corals from the Lower Silurian in Minnesota; by N. H. Winchell and Charles Schuchert		D 19	— Annual Report of the Curator for 1896-97. Cambridge, 1897.	Presented
	On Lower Silurian Bryozoa of Minnesota; by E. O. Ulrich.		9104	NATIONAL ACADEMY OF SCIENCES. Memoirs. Vol. II, 1883 (1884).	
	The Lower Silurian Brachiopoda of Minnesota; by N. H. Winchell and Charles Schuchert.		9105	— Memoirs. Vol. III, Part 2 (1886).	
	Part 2 contains:—		9106	— Memoirs. Vol. IV, Part 1 (1888).	
	The Lower Silurian deposits of the Upper Mississippi province: A correlation of the strata with those in the Cincinnati, Tennessee, New York, and Canadian provinces, and the stratigraphic and geographic distribution of the fossils; by W. N. Winchell and E. O. Ulrich			3 vols. 4to. Washington, 1884-1888.	
	The Lower Silurian Lamellibranchiata of Minnesota; by E. O. Ulrich.		9215	NEW YORK ACADEMY OF SCIENCES. Transactions. Vol. XVI. 1896-97.	
	The Lower Silurian Ostracoda of Minnesota; by E. O. Ulrich.			1 vol. 8vo. New York, 1898.	Presented
	The Lower Silurian Trilobites of Minnesota; by John M. Clarke.		8918	— Annals. Vol. IX (Index)	
	The Lower Silurian Cephalopoda of Minnesota; by John M. Clarke.			— Annals. Vol. XI, Part 1. 1898.	Presented
	The Lower Silurian Gastropoda of Minnesota; by E. O. Ulrich and W. H. Scofield.		9299	NEW YORK MICROSCOPICAL SOCIETY. Journal. Vol. XIV. Jan., 1897. No. 1.	
9021-22	KANSAS UNIVERSITY QUARTERLY, devoted to the publication of the Results of Research by Members of the University of Kansas:—			1 vol. 8vo. New York, 1897.	Presented
	Vol. I. 1892 to 1893.		9078	GEOLOGY OF NEW HAMPSHIRE. A Report comprising the Results of Explorations ordered by the Legislature. C. H. Hitchcock, State Geologist. J. H. Huntington, Principal Assistant—	
	Vol. II. 1893 to 1894.			Part I. Physical Geography (1874).	
	Vol. III. 1894 to 1895.		9079	— Part II. Stratigraphical Geology (1877).	
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9305	— Vol. V. 1896.			Part V. Economic Geology (1878).	
	Vol. VI. 1897. Series A.		9081	— Atlas to accompany Report.	
	Vol. VI. 1897. Series B.			1 vol. imp. fol. Concord, 1878.	Presented
	1 vol. 8vo. Lawrence, Kansas, 1896-97.	Presented		by New Hampshire State Library	
D 13	Vol. VII. Series A. No. 1-2, 1898.	Presented	D 26	PUBLIC MUSEUM, CITY OF MILWAUKEE. Fifteenth Annual Report of the Board of Trustees, 1896-1897. Milwaukee, 1898.	Presented
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D 23	MICHIGAN COLLEGE OF MINES. Catalogue, 1896-98.	Presented		Cambridge, U.S.A., 1896-98.	Presented
	1 vol. 8vo. Houghton, Mich., 1898.	Presented	D 5	TUFT'S COLLEGE. Tuft's College Studies, No. 5. The Chondrocranium in the Ichthyopsida, by Guy M. Winslow. 1898.	Presented
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9189	MICHIGAN STATE BOARD OF AGRICULTURE. Thirty fourth Annual Report of the Secretary, 1894-95.	Presented		1 vol. 8vo. Berkeley, 1897.	Presented
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9109	— Thirty-fifth Annual Report of the Secretary of the State Board of Agriculture, and Ninth Annual Report of the Agricultural College Experiment Station, 1895-96. Bulletins of the Agricultural College Experiment Station issued during 1895-96.	Presented		1 vol. 8vo. Sacramento, 1896.	Presented
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9219	— Volume VII. Lead and Zinc Deposits (Section ii), by Arthur Winslow, 1894.	Presented		8vo. Philadelphia, 1898.	Presented
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9221	— Volume IX. Reports on Areal Geology (Sheets 1-4). 1896.	Presented		Philadelphia, 1897, 1898.	Presented
9222	— Volume X. Surface Features of Missouri and Bibliography. 1896.	Presented		AUSTRIA.	
9223	— Volume XI. Clay Deposits, by H. A. Wheeler. 1896.	Presented	F 47	ANTHROPOLOGISCHE GESELLSCHAFT IN WIEN. Mittheilungen. Band XXV, Neue Folge xv. Nos. 1 and 4, 1895. Mittheilungen. Band XXVI, Neue Folge XVI. Nos. 1 and 4, 1896. Mittheilungen. Band XXVII, Neue Folge XVII. Nos. 2, 3, and 4, 1897. Mittheilungen. Band XXVIII, Neue Folge XVIII. Nos. 1 and 2, 1898.	Presented
	6 vols. 8vo. Jefferson City, 1894-96.	Presented	9111	K. K. NATURHISTORISCHES Hofmuseum. Annalen, redigirt von Dr. Franz Ritter von Hauer. Band x, 1895.	Presented
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			F 40	— Annalen. Band XII. 1897.	Presented

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9199	K. K. NATURHISTORISCHES HOFMUSEUM. Die Meteoritensammlung des K. K. Naturhistorischen Hofmuseums am 1 Mai, 1895. Mit zwei Anhägen: 1 Berichte des Directors der Sternwarte Zacatecas, Prof. José A. y Bonilla über den Meteoriteneinfall von Mazapil. 2. Die Meteoritensammlung der Universität Tübingen von Aristides Brezina. <i>An. K. K. Nat. Hofmus. Wien</i> , z., 1895. 1 vol. 8vo. Wien, 1895.	Presented			
F 41	K. K. ZOOLOGISCH-BOTANISCHE GESELLSCHAFT, IN WIEN. Verhandlungen. Band XLVII. Heft 1-10, 1897. 8vo. Wien, 1897.	Presented			
F 42	ORNITHOLOGISCHER VEREIN IN WIEN. Mittheilungen "Die Schwalbe." Jahrgang XXI. Ergänzungs-Nummer. 1897.	Presented			
F 43	WIEN ENTOMOLOGISCHER VEREIN. VII, Jahresbericht, 1897. Wien, 1898.	Presented			
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9180	MUSEO DE LA PLATA. Revista. Tomo VIII. 1 vol. 8vo. La Plata, 1898.	Presented			
	Contains— Fines de Verano en la Tierra del Fuego, por F. Lahille Ofidios de Matto-Grosso (Brasil), por Julio Koslowsky. Catálogo de los Mamíferos fósiles conservados en el Museo de la Plata—Grupo Ungulata—Orden Toxodontia, por Santiago Roth. Enumeracion sistemática y Distribucion geográfica de los Reptiles Argentinos, por Julio Koslowsky. Reconocimiento de la Region andina de la Republica Argentina, i. Apuntes preliminares sobre una Excursion á los Territorios Neuquen, Rio Negro, Chubut y Santa Cruz, hecha por las Secciones topográfica y geológica, bajo la direccion de Francisco P. Moreno. Rapport préliminaire sur une Expédition géologique dans la Cordillère Argentino-Chilienne, entre le 33° et 36° latitude sud, par Leo Wehrli et Carl Burckhardt. Una Estacion Marítima provincial, por F. Lahille. Notes sur le nouveau genre Iheringia, par F. Lahille. Guayaquis y Anamitas, por F. Lahille.				
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9209	— Annales. Tomes XXVIII-XXXI. Années, 1893-1896. 4 vols. in 1. 8vo. Bruxelles, 1894-97.	Presented			
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9183	MUSEO NACIONAL DO RIO DE JANEIRO. Archivos. Vol. I. 1876. II. 1877 (1879). (861) III. 1878. (9162) IV. 1879. (1881). V. 1880 (1881). VII. 1887.				
9184	6 vols. in 3 vols. Rio de Janeiro, 1876-87.	Presented			
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F 79	— Boletim, Ano II. Nos. 1, 2., 1898.	Presented			
F 71	SOCIÉTÉ SCIENTIFIQUE DU CHILI. Actes. Tome VII. Santiago, 1897.	Presented			
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9318	KONGELIGE DANSKE VIDENSKABEENES SELSKABS. Oversigt, 1897. 1 vol. 8vo. Kobenhavn, 1897-98.	Presented			
F 18	— Oversigt. 1898. Nos. 1, 2, 3.	Presented			
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9312	ANNALES DES SCIENCES NATURELLES. Zoologie et Paléontologie. Tomes V, VI. 1897-98. 2 vols. 8vo. Paris, 1898.	Purchased			
F 3	ECOLE D'ANTROPOLOGIE DE PARIS. Revue Mensuelle. 1898.	Presented			
9313	FACULTÉ DES SCIENCES DE MARSEILLE. Annales, Tome VIII. 1897-98. 1 vol. 4to. Marseilles, 1898.	Presented			
F 1	FEUILLE DES JEUNES NATURALISTES. Revue Mensuelle d'Histoire Naturelle. Série 3 Année 28. 1898. Catalogue de la Bibliothèque. Fasc. 23.	Presented			
9311	JOURNAL DE CONCHYLIOLOGIE, Publié sous la Direction de H. Crosse et H. Fischer. 3e. Série. Tome XXVI. Vol. XLIV, 1896. Tome XXVII. Vol. XLV, 1897. 1 Vol. 8vo. Paris, 1896-97.	Purchased			
F 5	MUSEUM D'HISTOIRE NATURELLE, PARIS. Bulletin Année 1896. No. 8. Année 1897. Nos. 1-6.	Presented			
9041	CONGRÈS INTERNATIONALE DE GÉOLOGIE. Paris, 1878. Comptes Rendus Stenographique. No. 21 de la Serie. 1 Vol. 8vo. Paris, 1880.	Purchased			
9042	CONGRÈS GÉOLOGIQUE INTERNATIONAL. Compte Rendu de la 2me Session, Bologne, 1881. (1882).				
9043	Compte Rendu de la 3me Session, Berlin, 1885. (1888).				
9044	Compte Rendu de la 4me Session, Londres, 1888. (1891).				
9045	Compte Rendu de la 5me Session, Washington, 1891. (1893). 4 vols. 8vo.	Purchased			
9254	— 3me Session. Catalogue de l'Exposition Géologique. 1 vol. 8vo. Berlin, 1885.	Purchased			
9201	— Catalogue des Bibliographies Géologiques, rédigé par Emm. de Margerie. 1 vol. 8vo. Paris, 1896.	Purchased			
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F 7	— Spelunca. Bulletin de la Société. Tome III, No. 12. 1897. Tome IV, No. 13-14, 1898.	Purchased			
9059	SOCIÉTÉ LINNÉENNE DE BORDEAUX. Actes, vol. I, Cinquième série, Tome X. 1 vol. 8vo. Bordeaux, 1896.	Presented			
9060	SOCIÉTÉ ZOOLOGIQUE DE FRANCE. Bulletin pour l'Année, 1896. Tome XXI. 1 vol. 8vo. Paris, 1896.	Presented			
9061	— Mémoires pour l'Année, 1896. Tome IX. 1 vol. 8vo. Paris, 1896.	Presented			
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9329	ARCHIV FÜR NATURGESCHICHTE, gegründet von A. F. A. Wiegman. Jahrgang 63. Band I. 1 vol. 8vo. Berlin, 1897.	Purchased			
9236-37	BIBLIOGRAPHIA ZOOLOGICA (diario "Zoologischer Anzeiger" adnexa). Adjuvante concilio bibliographico quod Furici praeside H. H. Field institutum est editit J. Victor Carus. Vols. I, II. 2 vols. 8vo. Lipsiae, 1896, 1897.	Purchased			
9094	BERLINER GESELLSCHAFT FÜR ANTHROPOLOGIE, ETHNOLOGIE, UND URGESCHICHTE. Zeitschrift für Ethnologie. Organ der Gessellschaft. Jahrgang, 1897. Verhandlungen der Gesellschaft. Jahrgang, 1897. Nachrichten über Deutsche Alterthumsfunde, 1897. 1 vol. 8vo. Berlin, 1897.	Presented			
F 22	— Zeitschrift für Ethnologie. Jahrgang, XXX, 1898. Heft. 1, 2, 3. Berlin 1898.	Presented			
F 28	HAMBURGISCHER WISSENSCHAFTLICHER ANSTALT. Jahrbuch. Jahrgang, XIV. Hamburg, 1897.				
8054	— Jahrbuch. Jahrgang, XIV. Beiheft 1. Das Grundwasser in Hamburg. Heft 5.				

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P 7 (83)	— Heterocera from the Transvaal. ( <i>Ann. Mag. Nat. Hist.</i> [7], i, 98.)				
P 7 (87)	— On a collection of Heterocera made in the Transvaal. ( <i>Ann. Mag. Nat. Hist.</i> [7], i, 1898.)				
P 7 (89)	— Coleoptera collected in the Transvaal. ( <i>Ann. Mag. Nat. Hist.</i> [7], i, 1898.)	Presented			
P 7 (84)	HAMPSON (Geo. F.) On a collection of Heterocera made in the Transvaal. ( <i>Ann. Mag. Nat. Hist.</i> [7], i, 1898.)	Presented by W. L. Distant			
P 7 (88)	JACOBY (Martin). List of the Phytophagous Coleoptera obtained by Mr. W. L. Distant in the Transvaal, with descriptions of the new species. ( <i>Ann. Mag. Nat. Hist.</i> [7], i, 1898.)	Presented by W. L. Distant			
P 7 (85)	KOLBE (H. J.) Africanische Coleoptera des Königlichen Museums für Naturkunde zu Berlin. ( <i>Entom. Nachr.</i> , xxiii, 23, 1897.)	Presented by Kon. Mus., Berlin			
P 7 (91)	LECHNER (A. A. van Pelt). Lepidoptera om en bij Zevenhuizen (Z.—H.). ( <i>Tijdschr. v. Entomologie</i> , xl.)	Presented			
P 7 (90)	LIDGOTT (James). Notes and Observations on some Victorian Coccidæ. ( <i>The Wombat</i> , 1898.)	Presented			
P 7 (77)	RAINBOW (W. J.) The Insecta and Arachnida of the County of Cumberland. ( <i>Handb. of Syd. Aust. Ass. Adv. Sci.</i> , 1898.)	Presented			
P 7 (78)	— Descriptions of some New Araneidæ of New South Wales. No. 8. ( <i>Proc. Linn. Soc., N.S.W.</i> , 1897.)	Presented			
P 7 (92)	— Contribution to a Knowledge of the Arachnid Fauna of British New Guinea. ( <i>Proc. Linn. Soc., N.S.W.</i> , 1898.)	Presented			
P 7 (58-76)	SENNA (Dr. A.) 19 Pamphlets on Brentidi, &c.	Presented			
P 7 (86)	WANDOLLECK (Benno). Monographie der Dipteren-Gattungen Colax Wiedem, und Trichopsidea Westw. ( <i>Entom. Nachr.</i> , xxiii, 16, 1897.)	Presented by Kon. Mus., Berlin			
				TUNICATA, &c.	
P 8 (13)	HERDMAN (W. A.) Note on the Tunicate Fauna of Australian Seas. ( <i>Ann. Mag. Nat. Hist.</i> [7], i, 1898.)				Presented
P 8 (14)	— Description of some simple Ascidians collected in Pugot Sound, Pacific Coast. ( <i>Trans. Liverpool Biol. Soc.</i> , xii, 1898.)				Presented
				ARACHNIDA.	
P 9 (12)	POCOCK (R. I.) On the Arachnida taken in the Transvaal and in Nyassaland by Mr. W. L. Distant and Dr. Percy Rendall. ( <i>Ann. Mag. Nat. Hist.</i> , [7] 1, 1898.)				Presented by W. L. Distant
P 9 (11)	SIMON (E.) Arachnides de l'Archipel malais. ( <i>Rev. Suisse Zool. et Ann. Mus. Hist. Nat., Genève</i> ). Genève, 1893.				Presented by W. J. Rainbow
				CRUSTACEA.	
P 13 (6)	CHILTON (Charles). A new Amphipod from New Zealand (Family Pontoporeidæ). ( <i>Ann. Mag. Nat. Hist.</i> [6] xix, Jan. 1897.)				Presented
P 13 (7)	— A new Freshwater Amphipod from New Zealand. ( <i>Ann. Mag. Nat. Hist.</i> [7] i, June, 1898.)				Presented
P 32 (4)	DÖDERLEIN (L.) Ueber "Krystallkörper" bei Seesternen und über die Wachstumserscheinungen und Verwandtschaftsbeziehungen von Gomodiscus sebæ. ( <i>Jen. Denkschriften</i> , viii. <i>Semon, Zool. Forschungsreisen in Australien, &amp;c.</i> , v, 1898.)				Presented
P 13 (5)	RATHBUN (Mary J.) The Brachyura of the Biological Expedition to the Florida Keys and the Bahamas in 1893. ( <i>Bull. Laboratories Nat. Hist. State Univ., Iowa</i> , 1898.)				Presented
P 13 (3)	SARS (G. O.) On some additional Crustacea from the Caspian Sea. ( <i>Ann. Mus. Zool. Acad. Imp. Sci. St. Pétersbourg</i> , 1897.) St. Pétersbourg, 1897.				Presented
P 13 (4)	STEAD (David G.) Notes on the Habits of some of the Australian Malacostracous Crustacea. ( <i>The Zoologist</i> , May, 1898.)				Presented
				CELENTERATA.	
P 32 (5)	BURCHARDT (Eugen). Aleyonaceen von Thursday Island (Torres-Strasse) und von Amboina. ( <i>Jen. Denkschriften</i> , viii. <i>Semon, Zool. Forschungsreisen in Australien, &amp;c.</i> , v, 1898.)				
P 14 (7)	DENDY (Arthur). On the Sponges described in Dieffenbach's "New Zealand." ( <i>Trans. N.Z. Inst.</i> , 1897.)				
F 15 (12)	— On some Points in the Anatomy of <i>Caudina coriacea</i> Hutton. ( <i>Linn. Soc. Journ. Zool.</i> xvi, 1897.)				
P 14 (6)	— On Pontobolbos, a Remarkable Marine Organism from the Gulf of Manaar. ( <i>Linn. Soc. Journ. Zool.</i> xvi, 1897.)				Presented
				LOWER FORMS.	
P 15 (8)	BLANCHARD (Raphael). Pseudo-parasitisme d'un Gordius chez l'Homme. ( <i>Bull. Acad. Med.</i> , 1897.)				Presented
P 15 (9)	— Note IV. Hirudinées du Musée de Leyde. ( <i>Notes Leyden Museum</i> xix.)				Presented
P 15 (10)	— Hirudinées des Indes Néerlandaises. ( <i>Zool. Ergebnisse einer Reise in Nied. Ost-Indien</i> iv, 1897.)				Presented
P 15 (11)	McINTOSH (W.C.) On Early Stages in the Development of <i>Phydolloe maculata</i> , Johnston. ( <i>Ann. Mag. Nat. Hist.</i> , 1869.)				Presented by E. P. Ramsay
P 15 (12)	WATTS (H.) Foraminifera of Victoria. ( <i>Vict. Nat.</i> , 1883.)				Presented
P 32 (5)	DÖDERLEIN (L.) Bericht über die von Herrn Professor Semon bei Amboina und Thursday Island gesammelten Crinoidea. Ueber einige epizoisch-lebende Ophiuroidea. ( <i>Jen. Denkschriften</i> , viii. <i>Semon, Zool. Forschungsreisen Australien, &amp;c.</i> , v, 1898.)				Presented
P 32 (8)	HADDON (Alfred C.) The Actiniaria of Torres Straits. ( <i>Sci. Trans. Roy. Dublin Soc.</i> [2], vi, 16, Dublin, 1898.)				Presented
P 32 (19)	LEACH (William Elford). Observations on the Genus <i>Ocythoë</i> of Rafinesque, with a Description of a New Species. ( <i>Phil. Trans.</i> , 1817.) London, 1817.				Presented by E. P. Ramsay



Reg. No.	Books.	How acquired.	Reg. No.	Books.	How acquired.
PALEONTOLOGY.					
P 16 (26)	BRANNER (John O.) Thickness of the Paleozoic Sediments in Arkansas. ( <i>Silliman's Amer. Journ. Sci.</i> [41] ii. 9, 1896.)	Purchased	P 17 (14)	RAMOND (G.) Étude de Géologie sur le Bassin de Paris Aqueduc-Égout d'Achères et Pro-	
P 19 (18)	HOLM (Theo.) Studies upon the Cypræacæ ( <i>Silliman's Amer. Journ. Sci.</i> [41] ii. 9, 1896.)	Purchased		longements Terrains d'Épandages, &c. ( <i>Assoc. Fr. Avanc. Sci.</i> , 1897.)	Presented
P 16 (18)	HALL (T. S.) Stylasteridæ from the Victorian Tertiaries. ( <i>Roy. Soc. Vict.</i> 1897.)		P 17 (5)	STEEL (Thomas.) On Australian Coals. ( <i>Trans. Geol. Soc. Glw.</i> , 1893.)	Presented
P 16 (19)	— Appendix B of Geology of Coimadaí. Part 2; by G. Officer and E. G. Hogg. On the Graptolites of the district. ( <i>Roy. Soc. Vict.</i> 1897.)	Presented	P 17 (12)	WEED (Walter Harvey), and PRISON (Louis V.) The Bearpaw Mountains of Montana. Second paper. Part 2. ( <i>Silliman's Amer. Journ. ii.</i> 9, 1896.)	Purchased
P 16 (28)	HALL (T. S.) and PRITCHARD (G. B.) A contribution to our knowledge of the Tertiaries in the neighbourhood of Melbourne. ( <i>Roy. Soc. Vict.</i> , 1898.)		MINERALOGY.		
P 16 (29)	— Note on a Tooth of Palorchestes from Beaumaris. ( <i>Roy. Soc. Vict.</i> , 1897.)	Presented by G. B. Pritchard	P 18 (18)	KUNZ (George F.) Precious Stones. ( <i>Mineral Resources, U.S.</i> , 1885.)	Washington, 1886.
P 33 (17)	LORIOU (P. de) Étude sur les Mollusques et Brachiopodes de l'Oxfordien supérieur et moyen du Jura Bernois. 2me partie. ( <i>Mem. Soc. Pal. Suisse</i> , xxiv. 1897.)	1 vol. 4to. Genève, 1897.	P 35 (19)	— Precious Stones. ( <i>Report on Mineral Industries, U.S.</i> , at Eleventh Census, 1890.)	
P 33 (20)	OWEN (Prof. Richard) Description of the Cavern of Bruniquet and its Organic Contents. ( <i>Phil. Trans. clix.</i> , 1869.)		P 18 (20)	— Precious Stones. ( <i>Mineral Resources, U.S.</i> , 1892.)	Washington, 1893
	— Supplementary Remarks on Fossil Remains of Equines from Central and South America referable to Equus conversidens, Ow., Equus tau, Ow., and Equus arcidens, Ow. ( <i>Phil. Trans. clix.</i> , 1869.)	Presented by E. P. Ramsay	P 18 (23)	— The Genesis of the Diamond. ( <i>Science (N.S.)</i> , vi, 142, 1897.)	
P 16 (25)	POTONIE (H.) Lehrbuch der Pflanzenpalæontologie mit besonderer Rücksicht auf die Bedürfnisse des Geologen. Lief 3. Berlin, 1898.	Purchased	P 18 (26)	— Mineralogical Notes. ( <i>Proc. Amer. Assoc. Adv. Sci.</i> xxvii, 1885.)	Salem, 1886
P 16 (27)	PRITCHARD (G. B.) Contributions to the Palæontology of the Older Tertiaries of Victoria. Gastropoda Part I. ( <i>Roy. Soc. Vict.</i> , 1898.)	Presented	P 18 (22)	KUNZ (G. F.) and HUNTINGTON (O. W.) On the Diamond in the Canon Diablo Meteoric Iron, and on the Hardness of Carborundum. ( <i>Amer. Journ. Sci.</i> , xlvii, 1893.)	Presented
P 33 (21)	RILEY (Henry) and STUTCHBURY (Samuel.) Description of various Fossil Remains of three distinct Saurian Animals, recently discovered in the Magnesium Conglomerate near Bristol. ( <i>Geo. Soc. Tran.</i> [2] v., 1836.)	Presented by E. P. Ramsay.	P 18 (25)	KUNZ, PRISON, and PRATT. On the Sapphires from Montana, by Geo. F. Kunz; on the Corundum-bearing Rock from Yogo Gulch, Montana, by L. V. Prisson; on the Crystallography of the Montana Sapphires, by J. H. Pratt. ( <i>Amer. Journ. Sci.</i> iv, 1897.)	Presented
P 16 (22)	SHERZER (Will A.) A Revision and Monograph of the Genus Chonophyllum. ( <i>Bull. Geol. Soc. Amer.</i> iii, 1892.)	Purchased	P 21 (19)	LIVERSIDGE (A.) 1. Experiments on the Waterproofing of Bricks and Sandstones with Oils. 2. Experiments upon the Porosity of Plasters and Cements. ( <i>Austr. Assoc. Adv. Sci.</i> , Brisbane, 1895.)	Presented
P 16 (23)	— A chart of the Rugose Corals. ( <i>Amer. Geologist</i> , vii, 5, 1891.)	Purchased	P 18 (11)	— 1. Variation in the Amount of Free and Albuminoid Ammonia in Waters on keeping. 2. On the Corrosion of Aluminium. 3. Crystallised Carbon Dioxide. 4. On the Internal Structure of Gold Nuggets. 5. Contributions to the Bibliography of Gold. ( <i>Austr. Assoc. Adv. Sci.</i> , Brisbane, 1895.)	Presented
P 16 (24)	TATE (Ralph.) On two Deep-level Deposits of Newer Pleistocene in South Australia. ( <i>Trans. Roy. Soc., S.A.</i> , 1898.)	Presented	P 18 (12)	— On the Crystalline Structure of Gold and Platinum Nuggets and Gold Ingots. ( <i>Roy. Soc. N.S.W.</i> , 1894.)	List for Exchanges of Papers and Reports. Presented
GEOLOGY.					
P 17 (11)	AGASSIZ (A.) A visit to the Great Barrier Reef of Australia. Extract from a letter to the Editor. ( <i>Silliman's Amer. Journ. Sci.</i> 41 ii. 9, 1896.)	Purchased	P 18 (21)	TIFFANY & COMPANY, Collection of Rough Diamonds, 1883.	
P	CARD (George W.) Report on some West Australian Rocks. ( <i>Ann. Rep. Dep. Mines, N.S.W.</i> , 1897.)	Presented	P 18 (24)	— Catalogue of a Collection of Precious and Ornamental Stones of North America, exhibited at the Paris Exposition, 1889. New York, 1889.	
P 17 (2)	DAVILLE (—). Tremblements de Terre aux Nouvelles-Hébrides. ( <i>Compte rendu séances Soc. Géogr.</i> 12, 1894.)	Presented by Surgeon Bowie, H.M.S. "Tauranga."	P 18 (27)	— Boscoreale Collection.	
P 17 (7)	GARDINER (J. Stanley). The Geology of Rotuma. With an Appendix by W. Woods. ( <i>Qu. Journ. Geol. Soc.</i> , liv, 1898.)	Presented by C. Hedley.	P 18 (25)	— Catalogue of Old English Silver. by Geo. F. Kunz	Presented
P 17 (13)	HALL (T. S.) and PRITCHARD (G. B.) Geology of the Lower Moorabool. ( <i>Roy. Soc. Vict.</i> , 1897.)	Presented	P 18 (20)	WARD (Hy. A.) Fourth Rough List of Meteorites. Philadelphia, 1897.	Presented
P 17 (6)	HEDLEY (Charles). The Broadening of Atoll-Islets. ( <i>Natural Science</i> , xii, 1893.)	Presented	BOTANY.		
P 17 (9)	JUDD (J. W.) William Smith's Manuscript Maps. ( <i>Geol. Mag. n. s.</i> , Dec. iv, Vol. iv, 1897.)		P 19 (10)	BAILEY (F. Manson). 6 Pamphlets. Contributions to the Flora of Queensland. ( <i>Qd. Agric. Journ.</i> ii, 1, 2, 3, 4, 5, 6.)	Presented
P 17 (10)	— The Earliest Engraved Geological Maps of England and Wales. ( <i>Geol. Mag. n. s.</i> , Dec. iv, Vol. v, 1898.)		P 19 (20-2)	— Contributions to the Flora of New Guinea & Queensland. ( <i>Qd. Agric. Journ.</i> iii, 3, 4, 5, 1898.)	
P 17 (11)	— The Earliest Geological Maps of Scotland and Ireland. ( <i>Geol. Mag. n. s.</i> , Dec. iv, Vol. v, 1898.)	Presented	P 19 (19)	MAIDEN (J. H.) A Preliminary Study of the Prickly-pears naturalised in New South Wales. ( <i>Dep. Agric. N.S.W. Misc. Publ. No.</i> 253.)	Sydney, 1898. Presented
			P 19 (11)	MUELLER (Ferd. von.) Fragmenta Phytographiæ Australiæ. ( <i>Imperfect.</i> )	
			P 19 (12)	— Additional Note on Sterculiacæ. ( <i>Vict. Nat.</i> , 1886.)	
			P 19 (13)	— Record of a New Papuan Helicia. ( <i>Vict. Nat.</i> , 1886.)	Found in old cupboard
			P 19 (9)	WOOD (J. Medley) and EVANS (Maurice S.) New Natal Plants. Decade II. ( <i>Journ. Bot.</i> , 1897.)	Presented

Reg. No.	Books.	How acquired.	Reg. No.	Books.	How acquired.
<b>ETHNOLOGY.</b>					
P 19(24)	HARDY (Norman.) Note on Feathered Arrows from Espiritu Santo, New Hebrides. ( <i>Proc. Linn. Soc., N.S.W.</i> , 1897.)	Presented	P 21 (27)	LIDGETT (James) Natural Selection and Race Progress. ( <i>Gisborne Gazette</i> , 16 Sept., 1898.)	Presented
P 20(25)	KRAUSE (Wilhelm). Anthropologische Reise nach Australien. ( <i>Verh. Berlin Anthropol. Ges.</i> 1897.)	Presented	P 21 (26)	LIVERSIDGE, A. President's Address. ( <i>Austral. Assoc. Adv. Sci. Sydney</i> , 1898.)	Presented
P 20(23)	WALKER (James B.) Notes on the Aborigines of Tasmania, extracted from the Journals of George Washington Walker. ( <i>Roy. Soc., Tas.</i> , 1897.)	Presented by R. Etheridge. by A. Morton.	P 21 (24)	MOBIUS K. Ueber den Umfang und die Einrichtung des Zoologischen Museums zu Berlin. ( <i>Sitzungsb., K. Preus. Akad. Wiss.</i> 1898)	Presented by Zool. Sammlung, Berlin
<b>MISCELLANEOUS.</b>					
P 21 (21)	The Republic of Chili. ( <i>American Cyclopædia.</i> ) London, 1883.	Presented by E. P. Ramsay.	P 21 (22)	PRO BONO PUBLICO (? W. WALKER). Facts for Factories; being letters on Practical Subjects suggested by experiences in Bombay, originally published in the <i>Bombay Gazette</i> as letters to the Editor. Bombay, 1857.	found in old cupboard
P 21 (16)	DOLLFUS (Adrien). L'Histoire naturelle a l'Exposition universelle. ( <i>Feuille de Jeunes Nat.</i> 1889.)	Presented	P 21 (25)	SOUTHWELL (Thomas.) Memoir of the late John Henry Gurney. ( <i>Trans. Norf. &amp; Norw. Nat. Soc.</i> v. 1896.)	Presented by J. H. Gurney
P 21 (15)	Nomenclature of Zoology and Botany. ( <i>Report to the Am. Assoc. Adv. Sci.</i> , 1897.)	Presented by Amer. Assoc. Adv. Sci.	P 38 (24)	THOMAS (James Henry.) Report on the present condition of the Fitzroy Iron and Coal Mines, Mittagong, county of Camden, New South Wales. fol. Sydney, 1859.	Presented
P 21 (17)	JOHNSTON (R. M.) Reference List of various Books and Memoirs on Scientific and Social and Economic Subjects written and published since the year 1873. Hobart, 1893.	Presented	P 21 (33)	WILSON (Edward.) Acclimatisation ( <i>Journ. Roy. Col. Inst.</i> ), London, 1875.	found in old Cupboard.
P 12 (3)	KÖHLER (Rene.) Échinodermes recueillis par l'Investigateur dans l'Océan Indien. Deuxième Mémoire. Les Ophiures littorales. <i>Bul. Sci. Fr. et Belg. par A. Giard</i> , xxxi, Paris, 1898.	Presented per R. Etheridge	<b>MAPS.</b>		
Plan of Norfolk Island showing Grants and Sub-division. Scale 1 inch 12 chains, M.87.137.					
Continental Australia, prepared at Department of Lands and Survey, Melbourne, 1888. coloured and uncoloured copies.					
Presented by Dept. of Lands and Survey, Melbourne.					

## APPENDIX XII.

## PUBLICATIONS OF THE AUSTRALIAN MUSEUM UP TO THE END OF 1897.

## I.—CATALOGUES.

1. Catalogue of the Specimens of Natural History and Miscellaneous Curiosities in the Australian Museum, by G. Bennett. 1837. 8vo. pp. 71. (Out of print.)
2. Catalogue of Mammalia in the Collection of the Australian Museum, by G. Krefft. 1864. 12mo. pp. 133. (Out of print.)
3. Catalogue of the Minerals and Rocks in the Collection of the Australian Museum, by G. Krefft. 1873. 8vo. pp. xvii-115. (Out of print.)
4. Catalogue of the Australian Birds in the Australian Museum, by E. P. Ramsay, Part I, Accipitres, 1876. 8vo. pp. viii-64, and Supplement, 1890. Part II, Striges, 1890. 8vo. pp. 35. Second edition, revised by A. J. North, 1893. Part I, Accipitres. 8vo. pp. xii-74. Part II, Striges. 8vo. pp. vi-31. Part III, Psittaci, 1891. 8vo. pp. viii-110. Part IV, Halcyones, 1894. 8vo. pp. viii-24.
5. Catalogue of the Australian Stalk and Sessile-eyed Crustacea, by W. A. Haswell. 1892. 8vo. pp. xxiv-324, with 4 plates.
6. Catalogue of the Library of the Australian Museum. 1833. 8vo. pp. 178, with two supplements. (Out of print.) New edition. Part III, Pamphlets.
7. Catalogue of a Collection of Fossils in the Australian Museum, with Introductory Notes, by F. Ratte. 1883. 8vo. pp. xxviii-160.
8. Catalogue of the Australian Hydroid Zoophytes, by W. M. Bale. 1894. 8vo. pp. 198, with 19 plates.
9. Descriptive Catalogue of the General Collection of Minerals in the Australian Museum, by F. Ratte. 1885. 8vo. pp. 221, with a plate.
10. Catalogue of Echinodermata in the Australian Museum, by E. P. Ramsay. Part I, Echini, 1885. 2nd edition, 1890. 8vo. pp. viii-54, with 5 plates.
11. Descriptive Catalogue of the Medusæ of the Australian Seas. Part I, Scyphomedusæ. Part II, Hydromedusæ, by R. von Lendenfeld. 1887. 8vo. pp. 32 and 49.
12. Descriptive Catalogue of the Nests and Eggs of Australian Birds, by A. J. North. 1889. 8vo. pp. iv, v-407, with 21 plates.
13. Descriptive Catalogue of the Sponges in the Australian Museum, by R. von Lendenfeld. 1888. 8vo. pp. xiv-260, with 12 plates.
14. Catalogue of the Fishes in the Australian Museum. Part I, Palæichthyan Fishes, by J. Douglas Ogilby. 1888. 8vo. pp. 34.
15. Catalogue of the Marine Shells of Australia and Tasmania, by J. Brazier. Part I, Cephalopoda, 1892. 8vo. pp. 20. Part II, Pteropoda, 1892. 8vo. pp. 22. Part III, Gasteropoda (Murex), 1893. 8vo. pp. 32.
16. Catalogue of Australian Mammals, with Introductory Notes on General Mammalogy, by J. Douglas Ogilby. 1892. 8vo. pp. xvi-144.

## II.—MONOGRAPHS.

1. Australian Lepidoptera and their Transformations, by the late A. W. Scott, with Illustrations by his daughters, Mrs. Morgan and Mrs. Forde. Edited and revised by Mrs. Forde and A. S. Olliff. Vol. II, Parts 1, 2, 3, and 4, and index, fol., 1890-1898. pp. 36, and 12 plates.

## III.—MEMOIRS.

1. History and Description of the Skeleton of a new Sperm Whale in the Australian Museum, by W. S. Wall. 1851. 8vo. pp. 66, with plates. Reprint, 1887.
2. Lord Howe Island: its Zoology, Geology, and Physical Characters. 1889. 8vo. pp. viii-132, with 10 plates.
3. The Atoll of Funafuti, Ellice Group; its Zoology, Botany, and General Structure, based on Collections made by Mr. C. Hedley. Part 1, December, 1896. 8vo. Part 2, February, 1897. Part 3, July, 1897. Part 4, September, 1897. Part 5, November, 1897. Part 6, February, 1898.

## IV.—GUIDES.

1. Guide to the Australian Fossil Remains in the Australian Museum. 1870. 8vo. (Out of print.)
2. Guide to the Contents of the Australian Museum. 1883. 8vo. pp. iv-56. (Out of print.)
3. Guide to the Contents of the Australian Museum. 1890. 8vo. pp. 156.

## V.—MISCELLANEOUS.

1. List of old Documents and Relics in the Australian Museum. 1884. Reprinted with additions, 1890. 8vo. pp. 4.
2. Descriptive List of Aboriginal Weapons, Implements, &c., from the Darling and Lachlan Rivers, by K. H. Bennett, F.L.S. 1887. Reprinted, 1897. 8vo. pp. 8.
3. Notes for Collectors. 1887. 8vo. pp. 43.
4. Hints for Collectors of Geological and Mineralogical Specimens, by F. Ratte, pp. 26, with a plate.
5. Hints for the Preservation of Specimens of Natural History, by E. P. Ramsay. 1891. 4th Edition, pp. 32.

## VI.—RECORDS.

- Records of the Australian Museum, Vol. I, 1890-91. 8vo. pp. 220. 30 plates.  
 Vol. II, 1892-96. 8vo. pp. 112. 23 plates.  
 Vol. III, Part 1, January, 1897. Vol. III, Part 2, August, 1897. Vol. III, Part 3, November, 1897. Part 4, June, 1898.

May be obtained from the Attendants at the Museum, or from Messrs. Angus and Robertson, Castlereagh-street, Sydney; Messrs. Turner and Henderson, Hunter-street, Sydney; Mr. E. W. Cole, George-street, Sydney, Book Arcade, Melbourne, and Rundle-street, Adelaide; Messrs. Melville, Mullen, and Slade, Melbourne; Messrs. R. Friedlander and Son, Berlin; Messrs. Kegan, Paul, Trench, Trübner, & Co., Paternoster House, Charing Cross Road, London.

[Exchanges of Serials, Works, Reports, and other Publications are earnestly solicited on behalf of the Museum Library.]

## APPENDIX XIII.

PAPERS PUBLISHED BY MEMBERS OF THE AUSTRALIAN MUSEUM STAFF  
DURING THE YEAR 1898.

## ETHERIDGE, R. JUNR.

1. Plant Remains from the South Australian and Queensland Border, approximately Lat. 25° 55' S., Long. 139° 25' E. *S. Austr. Parl. Papers*, 1898, No. , p. 7, pl.
2. A New Form of *Syringopora*, allied to *Syringopora tabulata*, Van Cleve. *Rec. Geol. Survey N.S. Wales*, 1898 vol. v, pt. 4, pp. 149-153, pl. 16.
3. Palæontologia Novæ Cambriæ Meridionalis. Occasional Descriptions of N.S. Wales Fossils, No. 3. *Rec. Geol. Survey N.S. Wales*, 1898, vol. v, pt. 4, pp. 175-179, pl. 19.
4. On the Occurrence of the genus *Endophyllum*, Ed. and H. (Emend. Schlüter), in the Lower Palæozoic Rocks of N.S. Wales. *Rec. Geol. Survey N.S. Wales*, 1898, vol. vi, pt. 1, pp. 43-46, pls. 4 and 5.
5. A further Cambrian Trilobite from Yorke Peninsula [S. Australia]. *Trans. Roy. Soc. S. Austr.*, 1898, vol. XXII, pt. 1, pp. 1-3, pl. 4.
6. New or Little-known Lower Palæozoic Gasteropoda in the Collection of the Australian Museum. *Rec. Austr. Mus.*, 1898, vol. III, No. 4, pp. 71-77, pls. 15 and 16.
7. *Halysites* in New South Wales. *Rec. Austr. Mus.*, 1898, vol. III, No. 4, pp. 78-80, pl. 17.
8. On the Structure and Method of Preservation of *Receptaculites australis*, Salter. *Rec. Geol. Survey N.S. Wales*, 1898, vol. vi, pt. 1, pp. 62-75, pls. 8-10. [In conjunction with W. S. Dun].

## HEDLEY, CHARLES.

1. Description of a New Bivalve, *Lima alata*, from Santa Cruz. *Rec. Austr. Mus.*, vol. III, No. 4, 1898, p. 84.
2. Further Notes on Australian Shipworms. *Proc. Linn. Soc. N.S. Wales*, vol. XXIII, 1898, pp. 91-96, figs.
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## RAINBOW, W. J.

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## APPENDIX XIV.

## LIST OF THE MUSEUM STAFF, 1898.

No. at end of 1898.	Name and Office.	Date of appointment to present position.	Date of first appointment in the Museum.
1	Robert Etheridge, Junr., J.P., Curator ... ..	1 Jan., 1895	18 April, 1887
2	Sutherland Sinclair, Secretary ... ..	11 Sept., 1882	
3	Edw. P. Ramsay, Consulting Ornithologist, &c. ... ..	1 Jan., 1895	22 Sept., 1874
4	Thomas Whitelegge, Scientific Assistant ... ..	1 July, 1887	27 Aug., 1883
5	Alfred J. North, do do ... ..	4 Aug., 1891	22 Nov., 1886
6	Thomas Cooksey, do do ... ..	9 May, 1892	
7	Edgar R. Waite, do do ... ..	17 April, 1893	
8	Charles Hedley, do do ... ..	1 Jan., 1896	1 April, 1891
9	Wm. J. Rainbow, do do ... ..	3 Sept., 1896	July, 1896
10	Frank T. Clark, Clerk ... ..	1 Jan., 1896	
11	Joseph A. Spencer, Messenger ... ..	7 April, 1896	
12	John A. Thorpe, Taxidermist ... ..	3 June, 1869	
13	Robert Barnes, Carpenter ... ..	— 1866	
14	Henry Barnes, Articulator, &c. ... ..	11 Oct., 1897	— 1878
15	J. W. Woodhead, Printer ... ..	27 Sept., 1897	
16	Robert Grant, Assistant Taxidermist... ..	7 Feb., 1898	— 1888
17	Benton Lucas, Assistant Carpenter and Smith ... ..	10 May, 1887	1 March, 1883
18	A. B. Taylor, Assistant Articulator ... ..	7 Oct., 1897	
19	Richard Hillsdon, Attendant ... ..	1 Jan., 1888	12 Sept., 1887
20	Samuel Long, Attendant ... ..	1 Jan., 1896	7 Dec., 1891
21	Robert Long, do ... ..	8 Feb., 1897	5 April, 1894
22	Arthur Barnes, do ... ..	7 Feb., 1898	April, 1897
23	Mrs. A. Dashwood, do ... ..	1 Sept., 1882	
24	Mrs. K. Fraser, do ... ..	1 April, 1889	
25	F. J. Knopp, Night Watchman ... ..	21 Nov., 1897	
26	A. W. Brown, Labourer and Watchman ... ..	7 Feb., 1898	



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

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**EDUCATION.**

(REPORT OF THE SUPERINTENDENT OF THE NAUTICAL SCHOOL-SHIP "SOBRAON" FOR THE YEAR ENDED 30TH APRIL, 1899.)

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Presented to Parliament by Command.

*Printed under No. 1 Report from Printing Committee, 3 August, 1899.*

The Commander and Superintendent, N.S.S. "Sobraon," to The Under Secretary of Public Instruction.

Nautical School-ship "Sobraon,"

Sydney, 29 June, 1899.

Sir,

I have the honor to submit, for the information of the Minister of Public Instruction, my Annual Report concerning the Nautical School-ship "Sobraon" covering the twelve months terminating 30th April, 1899, in compliance with the 14th clause of the "Sobraon" Regulations.

PART I.

THE FIRST STAGE—BOYS ON BOARD.

2. The past twelve months complete thirty-two years since the inauguration of the Institution, and find the oldest of Australian Industrial Schools fully maintaining its successful record of reformatory work.

A high and very competent authority last year, in commenting on my Report, said: "It is not necessary to have startling disclosures; on the contrary, the steady even flow is a good proof that matters are going on satisfactorily." Profiting by this very wise ruling, it affords me pleasure to record an entire absence of any sensational events, but a quiet and uneventful twelve months of regular work and steady progress.

The admissions (159) show a falling off to the extent of 40 as compared with those of last year, which accounts for a similar shrinkage in the enrolment (478).

The discharges (157) leave the actual number on board at the commencement and termination of the year very evenly balanced. The daily average of 311 in no way overtaxes the ship's capacity.

It is difficult to account for the somewhat marked reduction in the number of committals, the more so to anyone noting the very large number of half-clothed, dirty, and neglected children which are to be found at every wharf and street corner in and about Sydney. No greater kindness could be rendered to these youngsters than by placing them under much needed restraint. The community would also be relieved of an ever-present danger and costly nuisance.

The total expenditure is somewhat lower than that of the previous year, although, the divisible average being smaller, a proportionately higher cost per head by a few shillings, viz., £24 3s. 2d., is shown.

Thanks to a liberal policy sanctioned by the Minister, much useful work has been carried out upon the "Sobraon" shore premises. The boys' swimming bath has been extended to double its former size. Dredging, cleaning, and providing several hundreds of tons of sand has now rendered it the cleanest and most inviting enclosure for bathing purposes within the harbour. A boat-shed, slip, and fine sail-room have also been constructed. A very substantial sea-wall and reclamation works are now being carried out. All such durable and necessary structures entail considerable expenditure, and such might with justice be distributed in cost over very many years to which their advantages and use will apply. Forming, however, a charge upon the past and current years' Votes of the Institution makes it necessary for somewhat increased expenditure being shown.

It has been possible, by practising strict economy, to meet these charges as the work progresses.

3. The well-established health record of the ship has been unimpaired, and although two unpleasant epidemics of measles caused considerable anxiety and extra work to all members of our staff, we were fully rewarded by the very satisfactory and rapid progress which all the patients made towards good health, no case terminating fatally, or leaving injurious effects.

Newcomers were responsible for the infection, and such experience points strongly to the necessity of providing for a medical examination prior to admission among other and healthy boys. Not only is this desirable as a protection against infection, but it would also furnish an insight into cases of serious disability for shipboard experience which are now frequently overlooked.

At the present time a boy having a wooden leg is an inmate.



There can be no doubt that the liberal scale of diet, made up of wholesome and nourishing food, together with regularity in meal-hours and exercise, also perfect sanitation, form the secret of obtaining good health amongst numbers whose previous unenviable experiences tended in a contrary direction.

Included amongst the Appendices will be found a dietary scale, giving details of each boy's provisions; and comparison drawn with that of any similar institution will remove all doubt as to the "Sobraon" being at an advantage in this important connection.

4. The general conduct of the inmates has proved most gratifying, and in every way satisfactory. No instance of absconding has occurred, although there is never a week passes without some special indulgence being granted of freedom beyond the ship's premises. A good tone pervades the entire establishment, and during over twenty-one years' continuous connection with the ship it has never been my unpleasant duty to report the slightest disturbance or riot. The system of appealing to all that is good in boy-nature, and tendering as a reward of these qualities compensating advantages to the individual, continues to develop the best results, and to materially assist in producing useful petty officers as encouraging examples to less experienced hands. It will be more readily apparent after a perusal of Table B, in which antecedents of those admitted are given, that the task of reformation sought to be accomplished here is not devoid of necessity for much watchful care and constant supervision. With direct evidence that a large proportion were, prior to reaching the ship, classed as incorrigibles, and, if not themselves vicious, at least in close companionship with the worst of characters, it cannot but be satisfactory to the Department that creditable, orderly, and deferential behaviour now supplants a former condition of savagery and a total absence of respect for person, age, or authority.

Every lad upon joining the ship has it made unmistakably clear to him that he starts a new career for himself, unsaddled by any previous misdemeanour, and that he is regarded as being in every way acceptable to participate on equal terms with numerous comrades, meriting kindly treatment and inducement to adopt a truthful and honest course, firstly, as being the most profitable procedure to pursue, and, later, as being the more honorable one.

I regret to state that a feature touched on by me in previous reports still obtains, viz., the tendency on the part of many parents to regard the State ship as being intended for the purpose of their especial convenience, and as a means of easy relief from distasteful parental obligations. A reference to the miserably inadequate sum figuring in Table H, under heading of "Parents' contributions towards maintenance," and which for twelve months is under £300, claims some notice. In the midst of a city justly proud of its democratic privileges and independent freedom, it seems somewhat inconsistent to find evidence of pauperism where moral obligation, if not legal compulsion, should appeal against saddling the State with the entire cost of maintenance, educating, and reforming the children of many persons well able to contribute towards that purpose. Several well-to-do parents, who admit the improvement accomplished in their children, should consider it a cheaply-gained advantage under payment of 10s. a week. Were the low charge of 2s. 6d. a week obtained upon the daily average, the result would be £2,021 10s. accruing to the Public Treasury, as compared with £291 18s. actually received. Probably this important point will not be overlooked under much-needed amending legislation.

Recreation has been well provided for, and in addition to the daily time set apart for amusement, many excursions to all parts of Sydney and harbour have been enjoyed. Attendances at theatre, pantomime, circus, concert, and sport gatherings, have, through the kindness of various managers and committees, been, with Ministerial sanction, availed of as rewards to deserving boys. The last excursion took the form of a picnic to Clarke Island and Middle Harbour, where the boys were conveyed in a special steamer; 300 attended and thoroughly enjoyed the freedom. All behaved in an exemplary manner.

5. The following work gives an outline of industrial labour performed on board by the boys when out of school, with its approximate monetary value:—

	£	s.	d.
Sailmakers' Work—			
Making 75 hammocks, at 3s. ... ..	11	5	0
" 3 awnings ... ..	4	10	0
" 50 bags for boys' clothes at 2s. . . . .	5	0	0
" 3 man-ropes ... ..	2	10	0
" 60 hammock lashings ... ..	4	0	0
" 3 sets boats' cushions and covers ... ..	10	0	0
" 50 pudding bags, at 1s. ... ..	2	10	0
" 1 cutter's sail and cover ... ..	3	10	0
" fenders, yoke-lines, covers, and belts ... ..	5	0	0
General repairs, awnings, sails, bags, hammocks, screens, covers, hose, tarpaulins, buoys, &c. ... ..	211	6	0
Carpentry—			
General repairs, decks, boats, pumps, ship and shore premises ... ..	120	0	0
Glazing and polishing ... ..	30	0	0
Tailoring—			
Making and repairing clothes, towels, &c. ... ..	120	0	0
Painting—			
Ship and boats ... ..	200	0	0
Masts, yards, and booms ... ..	20	0	0
Shore premises ... ..	20	0	0
Riggers' Work—Tarring, scraping, repairs aloft and to boats' gear, fenders and general seamen's work ... ..	200	0	0
Gardening—Planting, mowing, keeping trees and bush-house plants in order, feeding animals ... ..	50	0	0
Cooking—Preparation of meals, stewarding, waiting, &c. ... ..	250	0	0
Musicians' Work—Keeping instruments clean and in order, copying music, and services of band when playing out ... ..	120	0	0
Laundry—(All done by boys, each of whom washes his own clothing—8 pieces—weekly)—			
170,000 pieces at 1d. ... ..	708	6	8
Hammocks and blankets, 4,200 at 3d. ... ..	52	10	0
Photography—Applied to records and recreative purposes, magic-lantern, &c. .	100	0	0
	General		

	£	s.	d.
General Work—			
Coaling ship weekly ... ..	52	0	0
Washing and cleaning decks daily ... ..	150	0	0
Lamp trimming and cleaning... ..	60	0	0
Cleaning and keeping in order boats, play-ground, dormitory, sheds, bath, ship's hull, rifles, swords, aviaries, landing-places, store-rooms, &c. ... ..	150	0	0
Work on steam launch and water supply ... ..	200	0	0
Sale of chain cable to Messrs Smith and Kopsen (cash) ... ..	103	0	9
Total value of work done and service rendered ... ..	£2,965	8	5

6. From the routine list, to be seen amongst the Appendices, it will be gathered that no idle time is spent. When not engaged during the day in school or at some of the numerous drills, a specially selected working party finds abundance of employment in and about the ship, rigging, boats, and extensive shore premises.

Excellent results continue to be accomplished in the school-room, thanks to painstaking efforts of the chief schoolmaster, Mr. A. Thompson, who is well supported by Messrs. Leer and Mitchell. During January the annual examination was made by Mr. Willis, Metropolitan Inspector, the high average of 78 per cent. marks being awarded, with a summary as follows:—Organization—“Very good to excellent”; Discipline—“Excellent,” and General Management—“Very satisfactory.” A new and pleasing departure took place this year in the distribution of a large number of valuable prizes given by gentlemen interested in promoting emulation and rewarding meritorious application on the part of the boys in school and at drill. A suitable date having been fixed upon, the Hon. C. A. Lee, M.P., Minister for Justice, very considerably attended, and, in the presence of a very large number of ladies and gentlemen, handed the prizes to the successful boys with a few well-chosen words of encouragement. Having initiated this procedure, I look forward to its continuance, as all must be alive to the advantage of offering practical inducement to excel in the acquirement of such invaluable knowledge. It must not be lost sight of that the time spent in school is but half that applying to hours available in Public Schools; also that truancy mainly accounts for the presence here of “Sobraon” pupils. Many of our elder lads are unable to read or write prior to reaching the Institution. None leave for apprenticeship until such rudiments are mastered. A Table included in the Appendices affords some idea of the standard attained.

7. Swimming instruction has been with regularity imparted, and much progress rewards our efforts. With the much needed extensions sanctioned by the Department, “Sobraon” inmates now possess greatly increased capacity within a most perfectly equipped swimming-bath at any tide. Apart from the healthy and pleasurable experience secured, the knowledge of being able to swim is regarded as necessary to all before leaving for service.

The gymnastic, cricket, and football clubs show no diminution, but, on the contrary, are kept well patronised, and turn out many well set-up athletes. The closing season has left a capital record of victories scored against several Public School teams. All these contests gave evidence of the ambitious desire to gain laurels, wisely tempered with good taste in acting gracefully under the disappointment of a reverse of fortune.

The winter evenings admit of concerts and magic-lantern lectures, when the ship's company obtains welcome support to its own resources from numerous artists amongst the public who are always willing to afford amusement to the “Sobraon” boys.

8. Classification under the mark system provides to every boy opportunity for defining his own standing with compensating advantages, and such appeals to the common-sense instincts of all experiencing the kindly and humane methods of obtaining reformation. As showing the proportionate strength of our various Class Tables, I cannot do better than quote what applies to-day amongst the 320 inmates. Classes I to IV contain the names of good-conduct petty officers, who, I may here add, render most valuable and loyal support to the main staff; total, 50, or  $\frac{1}{6}$ . Class V includes well-behaved lads entitled to participate in the majority of the ship's privileges, but without monetary recompense, and numbers 200, or  $\frac{2}{3}$ . Class VI obtain a fair proportion of indulgences after leaving the lowest grade, and equal 60, or  $\frac{1}{5}$ . Class VII represents defaulters who have forfeited, through misconduct, their recreation and, temporarily, their rights to any privileges. They are kept as much aloof from the other boys as possible, are well drilled, and kept under close supervision; they discharge the disagreeable duties necessary about the ship. These number 10, or  $\frac{1}{32}$ .

All classes are subject to revision weekly, and promotion or reduction depends upon the marks recorded by officers, in books furnished for that purpose.

A pleasing instance of considerate thoughtfulness on the part of the boys was displayed in the form of assistance given to an unfortunate apprentice, who, owing to an accident, had his leg amputated in the Grafton Hospital. The boys subscribed a sum of money as a contribution towards payment of a premium by which the sufferer was to be taught the trade of tailor or shoemaker.

Acts of this kind form gratifying evidence of unselfishness, and a much to be desired consideration for others.

10. Correspondents still favour me with inquiries as to the possibility of placing their children voluntarily under the ship's training, which fact may be construed as complimentary testimony that “Sobraon” experience is not regarded as carrying any objectionable stigma or hardship. Undoubtedly this view is a correct one, and no greater kindness can be shown an uncontrollable or neglected child than that of placing him under some disciplinary restraint. I am always adverse to advising the surrender of parental influence where it can be exercised advantageously under desirable home-like conditions, as no substituted agency should command greater influence over youthful subjects. I give hereunder a few instances, omitting names for obvious reasons:—

J.C., of Petersham:—“Sir,—As I have a boy whom I am most anxious to place on board the training ship ‘Sobraon,’ I should feel very much obliged if you would kindly give me full particulars as to how I can obtain the necessary information?”

W.M., Henty:—“Sir,—I have a son who is completely beyond control, and is likely to get into serious trouble. I would be glad to know if you would receive him on your ship, provided the Regulations permit you to do so, and subject him to the same discipline as the other boys? To have him committed by

by a magistrate would injure me in my position. \* \* \* Being quite ignorant of the Regulations re training-ship boys, I would be greatly obliged for your advice. The lad is 13 years of age, and fairly well educated for his age, but through bad company has made this application necessary."

H.A., Glebe :—"Dear Sir,—I read a report of your noble Institution, and wish to place a boy nearly 14 under stricter discipline than I, in my bad health, can exercise. \* \* \* Can I, without exposure, put him under your care, and pay for him. Yours respectfully, H.A."

B.L.E., Cundletown :—" \* \* \* A widow lady who has to work for her living \* \* \* has a son who is somewhat unmanageable, and cannot be restrained, simply because he has not been favoured with the benefit to be derived from a father's rule. She cannot get him to work. He is 15 years of age, and every day is either out swimming, or elsewhere. He is a strong boy, is not vicious or morally bad—only wants to be taught obedience and the necessity of bowing to authority. Could you take him, say, for six months? \* \* \* If you can do this I will be willing to take him after that time. It is absolutely necessary that he is placed somewhere where he will have to be obedient, and that habit encouraged in him. \* \* \*"

L.L., East Maitland :—"Sir,—Would you be good enough to inform me in what way I could place a respectable boy, aged 17 years, under your charge? The matter stands thus: Up to to-day he has obeyed me. I require him to go to the High School, finding it is necessary to finish his education. He refuses, and is unable to get employment of a suitable kind. I will not allow him to leave school without employment. He has a high moral character; his family are in a good position."

I.O., South Melbourne :—"Sir,— \* \* \* I have a boy 13 years old. He is well built, just fit for to make a good sailor, only at present a little unruly. I have been reading so much about the good training that boys get on board the 'Sobraon' that I would like to place him on board, if possible. Of course I will pay for him if he could be taken."

C.G., Darlinghurst :—"I have a boy here, about 14 years of age, whose father cannot keep him from getting into mischief and truanting. He is very anxious to know if, by paying a reasonable sum, he could have him placed on your ship, and under what conditions? \* \* \* If you cannot receive him under any such conditions, would you kindly let me know if there are any of the institutions for boys known to you that can do so?"

11. The costly material obtained for mooring the vessel has not entirely accomplished all that could be desired towards permanency and sense of security, owing, in my humble opinion, to the novel method of securing all cable outside the vessel instead of through the hawse-pipes. The Engineer-in-Chief has recommended reverting to the use of a buoy, which meets with Departmental approval, and will shortly be placed in position.

12. The clerical work of the Institution shows no falling off, and, as mentioned in my last Report, unduly taxes the time of one clerk and myself in keeping abreast of a large correspondence, together with necessary attention to daily receipt and issue of stores. Whilst no effort is spared to do justice to these matters, the accuracy aimed at cannot be assured, nor can much desired supervisory work be accomplished.

## PART II.

### THE SECOND STAGE—APPRENTICESHIP.

13. Applications for the services of "Sobraon" boys continue to come daily to hand, and many desirable homes now await lads when eligible to leave the ship.

This is a healthy indication that points to the large majority going to employment giving satisfaction.

From over 400 reports just received, the percentage of 93 are giving satisfaction, and from the small balance fully a third have proved failures owing to want of tactful management on the part of over-exacting employers.

I claim that, considering the class from which the ship recruits its material, these results are not only encouraging, but they are indicative of the practical utilisation of many promising lives which were previously abandoned as hopelessly incorrigible. It must not be forgotten that many of our boys proved failures under other institutional handling, and notwithstanding the prevailing desire for experimental new departures, the ship's system furnishes results that only the supercritical can take exception to.

14. During nine years ended last month no less a sum than £13,553 6s. 7d. has been handed to the ship's apprentices for services rendered; and some thousands of pounds to-day stand at credit of lads serving apprenticeship.

This is a gratifying fact; but even more profitable gain is provided through the medium of employers who, acting up to the conditions of the indenture contract, impart useful instruction, which later enables young men to earn a respectable livelihood by honest toil. The few years spent happily in the country generally bears fruit in eradicating former undesirable preference for city life, and many of our boys elect from choice to remain away from temptations responsible for early failings and long-to-be-remembered hardships.

During the past twelve months it has only been possible to make one short visit from the ship. The necessity for a prosecution of an employer in the South Coast district, who had been unduly severe in punishing an apprentice, having arisen, I attended at the Court proceedings, and a verdict, with substantial damages, was recorded against the master. The lad had, previous to law proceedings, been removed to a more suitable home, and I am pleased to say gives every satisfaction.

Whilst in the district I found time to visit and chat with several apprentices, all of whom seemed pleased to see me.

I have long considered the want of such periodical inspection by a ship's officer who knows the boys, and in whom they have confidence in confiding, to be the weakest part of this Institution's dealings. Were it possible to have as one of the staff an inspector who with regularity could visit apprentices in their homes, and also furnish any necessary information regarding fitness of applicants seeking boys, wiser allotment, under reliable insight, would be secured. The protection of State wards renders such precautionary measures a matter of justice to those thus placed in isolated and sparsely-populated districts.

It is true the police have for years past most efficiently and conscientiously discharged supervisory work over our boys; but such not only taxes their fully occupied time somewhat excessively, but frequently gives rise to most unfair resentment from the very people who share in the benefit of their well-intended mediation. I have quite a number of protests from masters who are short-sighted enough to construe the police inspection of their State charge, and his surroundings, as an intended reflection upon themselves. The great advantage attaching to inspection by a ship's officer comes from his carefully-acquired knowledge

knowledge of the character pertaining to each different lad—and few coincide. Close daily contact on board ship over one and a half year discloses this. He is, therefore, in a position to form a more correct opinion as to how far the complaint or friction is attributable to either contracting party. I would, however, be more than ungrateful were I not to take this opportunity of thanking the Inspector-General, Mr. E. Fosbery, J.P., and his efficient staff for the immense amount of work done for this Institution in many directions. The kindly counsel and encouragement given to lads serving in all parts of New South Wales proves invaluable, and the old adage of “a friend in need” proving “a friend indeed” is very applicable to the country constabulary and all State charges.

15. As has always been the case, interference on the part of relatives still gives rise to much friction between employers, this Institution, and its *protégés*. I regret to say it rarely proves possible for a lad to complete his engagement after his whereabouts becomes known to his relatives, who, either from shortsighted or sordid motives, write and visit the boy until the master's influence and authority is completely undermined; also the boy is rendered so unsettled as to become useless in his situation. There are, of course, exceptions to this, where sensible parents recognise the wisdom of non-interference.

A very mistaken impression seems frequently to go unjustly abroad that my sympathies are indiscriminately opposed to all relatives, and that I wish to resent their very natural interest in their children. This is quite a fallacy where the parents have the slightest claim to respectability; further, I am quite alive to the fact that no more valuable assistance could be enlisted than that of a well-disposed parent's influence and wise counsel.

A few from many letters in my possession will show that this is at times recognised by relatives as being the view upon which I act:—

A.D.O., Sydney:—“ \* \* \* For securing such an excellent situation and refined home for F.J.O., as well as for the very great kindness and consideration which you have displayed all through the matter, we owe you our deepest gratitude. Indeed, I feel compelled to say that from my experience of you, I consider that the Institution presided over by you is fortunate in having one who, whilst possessing the qualities of a strict disciplinarian, is imbued with the best instincts. Kindly convey our sincere thanks to the Rev. W. A. Charlton for his extremely kind endeavours therein.”

S.H., of Newcastle:—“From letters received from my son, I am satisfied in my own mind that he has been placed under a good master in Mr. Elliott, and, more, appears to be happy and contented. For this consideration, do, I pray, accept my heartfelt gratitude in return.”

M.S., of Sydney:—“Allow me to thank you for your kindness in allowing me to correspond with my boys, and also for the kindness you have shown them in the past.”

A.H., of Newtown:—“I am keenly thankful Cyril is doing so well; glad, too, that Mr. French is an exact man; it will be so helpful to my boy. I need hardly tell you that my mind is at rest now about my boy's surroundings.”

E.C., of Surry Hills:—“I have received a letter from my son J.W., and he is very happy and contented; and I am very thankful to you for your kindness towards me, for it has relieved my mind very much and I can rest contented now.”

E.G.P., of Enmore:—“I have pleasure to inform you that my son Henry has successfully obtained admission to the Permanent Artillery Band, and I must kindly ask you to accept the thanks of Mrs. P. and self for the interest you took in the matter.”

16. No statement of mine can so well illustrate the sentiments of masters and boys as a few letters penned by both, which I therefore submit from some hundreds in similar terms:—

Mr. F. V. Wareham, Byron Bay:—“In reply to your circular *re* W.S., I beg to state as follows: 1. W.S., is a splendid boy at any work I set him to do, and appears very ambitious to learn. He works well and is quick and cheerful; takes quite an interest in everything about the farm; is very kind to animals, and looks after their wants without having to be told to do so. I have never known any man or boy I have hired that I like so well. He has naturally a good disposition. He is also kind and attentive to the little children. He is a very good boy, and if he goes on as he is doing at present he must make his way in the world, especially if he remains in this new and rich district. 2. Three shillings have been paid into the Savings' Bank, and 3s. more will be paid in about Monday next. I enclose a note from him.”

Mr. A. W. Perkins, Bexhill:—“ \* \* \* I have found the boy industrious and anxious to get on, and he has now to his credit in the Savings' Bank 21s. 4d. I have requested him to write to you, and he acceded to my request. The only ‘Sobraon’ boys are with S. Parkes, Bexhill, and H. Sparke, Cooper Creek, that I know of, and both seem to be well satisfied with them, and the boys seem to be getting along all right.”

Bandmaster Hutchinson, Paddington:—“Colonel Smith was speaking to me yesterday about the boys from the ‘Sobraon.’ I have had nothing but good reports, G. especially, and wanted to know about R. and the others, he being very anxious to make up the band. Can you oblige me by sending the boys along, also one other likely to pass medically.”

Mr. W. Black, Alstonville:—“I have to report E.M. a good and obedient boy during the time he has been with me. I am very satisfied with his behaviour.”

Mr. R. Bryen, Granwell:—“*Re* conduct of boys. They have been two good boys up to the present. Both of them do their work well, and are getting very useful on the farm. The amount of wages paid to your and the boys' credit in the bank—C., £4 1s. 6d., and C.K., £2 8s. 3d.”

Mr. D. Orman, Bective:—“ \* \* \* As for the apprentice, I could not wish for a better lad, both in work and every other way. I have banked £9 17s. to his credit, being wages to date.”

Mr. W. Holden, Stewart's River:—“I have much pleasure in informing you that the lad entrusted to my care has given good satisfaction and has proved useful and industrious, and is easily managed. I am much pleased with him, and like him well. I think he is satisfied with his home, as I never hear him complain.”

Mr. J. Smith, Tweed River:—“A.N. has conducted himself quite satisfactorily during the past year, and if he does as well this year I will be satisfied. Of course, I have treated him as my own boy. I have deposited £4 2s. to his and your credit.”

Mr. J. Haddin, Albion Park:—“I am pleased to tell you that L.W. is still a very good boy. He has £3 17s. 9d. deposited to his and your credit. He has written to you to-day.”

Mr. T. Murphy, Koorawatha:—“I am happy to inform you that the apprentice you allotted to me is proving a very worthy lad. He is respected as the best boy in the district. I let him go to Sydney to see his friends. He has £1 4s. to his credit.”

Mr.

Mr. G. Nowland, Quirindi :—"The apprentice has conducted himself splendidly. £1 17s. to his and your credit. The lad will write to you next week."

Mr. F. Brice, Coomerong :—"My apprentice, G.T., has conducted himself very well. I have no fault to find with him as yet."

Mr. J. Mackey, Parkes :—"I am pleased to inform you that my apprentice has conducted himself well during the time he has been in my service. The money now deposited in your name and G.W.B. is £7 7s., being wages to date."

Mr. E. W. Ffrench, Moree :—"I have much pleasure in reporting that my apprentice has conducted himself very well since he has been with me. He is obedient, respectful, and very industrious; has no inclination to go away from the home and mix with other boys. H. is writing to you."

Mr. P. C. Basche, Frederickton :—"In reply to your communication, I beg to furnish you with information desired *re* boys: F.L., wages deposited to 14th instant; conduct since last report excellent. H.V., wages paid to date; tries very hard, and is most trustworthy. Of the ex-apprentices, C. is the only one in the district; he seems to be doing very well, and B. is with his brother on a station near Wagga."

Mr. J. W. Selwin, Winton :—"Apprentice E.H.: His health has been excellent, his conduct good, and wages have been duly paid."

Mr. H. McKenzie, Mungindi :—"In reference to the lad P.R., his time with me has expired, and he is going to work at the local hospital as wardsman. He has been very well behaved, and a very willing boy to work, and is thoroughly reformed. Should you have another lad I shall be very pleased to take him and give him a good home."

Mr. J. Kelly, Shellharbour :—"The boy K. is in good health, and is doing well. I have no faults to find whatever; he is a good boy, and very willing to do what is told. O'S., the last boy who served his apprenticeship with me, came and spent his Easter with me. He has grown a fine young man, and is doing well at the Kembla coal-mines. £7 5s. is the amount placed to your joint credits. It is my intention to apply, in the course of a few days, for another boy, as K.'s time will soon be up."

Mr. S. McCaughey, J.P., M.L.C., Narrandera :—"I saw the 'Sobraon' boys B.R. and F.G.T. this week, and are both in good health and are doing well."

Messrs. Burns, Philp, & Co., Sydney :—"Regarding the boy C.S., who is employed on board the s.s. 'Miowera,' I now send you a report, signed by the commander and chief officer, from which you will see that this boy has given satisfaction on board. We do not at present require another boy on this steamer, but I shall inform you if we be able to take one on the next steamer on her arrival." (Report): "This is to certify that C.S., during our voyage to Vancouver and back to Sydney, has been a very willing and hardworking boy, attentive and honest, and giving satisfaction."

Apprentice E.J. :—"On last Friday night, our Sunday school prizes were given out, and I am very glad to tell you that I carried home the first prize in my class. \* \* \* I would like to know whether the boy W.S. is on the ship still, as he and I are old shipmates, and I would like to send him a letter. I would also like to tell you that my master and mistress are very good to me, and I cannot do anything too good for their kindness."

T.H. :—"I have got very nice people and a good situation, and I go to school every day. I can milk, and drive the horse and cart, and I will soon be learning to plough. Give my best respects to all my good officers and shipmates, and accept the same yourself."

S.M. :—"My time expired with Mr. Sullivan last Sunday, and I may state that I am so much attached to my esteemed master and family that I do not intend to leave them. I may take a trip to Sydney next Christmas, and, if so, shall go on board to see you. The boy T. arrived the other week; he seems to like the place very well."

F.O.G. :—"\* \* \* I am very thankful to you for your kind advice, and I am sure I will gain by it. I am not anxious to leave my master."

J.McT. :—"I am sending you down some emu eggs; my mistress gave them to me. I like the country very much, because there is no place like the bush. I have a comfortable home, and everybody is kind to me. There is a good swimming-hole up here, and I often go for a swim." He desires to be remembered to several boys and officers.

P.W. :—"I am very sorry I did not write before. I have got on first-rate since I came up here over three years ago, and the treatment that I receive from my master is all that could be desired. My term of apprenticeship will expire next month. There are several boys from the ship in this district, their names being L.S., A., and T.R., and others; all are doing well, and seem to like the country. There are two old boys up here. They are both doing well; they seem to like the country."

A.W. :—"I am getting on, and I am in good health. My master and mistress are very kind to me, and I have plenty to eat and drink. I can milk and ride, and drive a cart, and do lots of other things. I enjoyed the ride up in the train. I thank you for getting me such a good situation. I have to milk two cows every morning and evening. I would like to be remembered to these officers and boys" (naming a large number).

W.G.N. :—"I am pleased to say that I am getting along all right, and that I have not had to be spoken to since I came here. I take an interest in my work, and try to learn all I can. I have a very good master and mistress. We go to church every Sunday, a ride of 7 miles. I have just ploughed a paddock of 53 acres. I have to drive twenty horses and cows a mile a day for water. There are eight or nine boys in this district; they all seem to be doing well. Remember me to Mr. Robilliard, and tell him I thank him for all the good he has done for me; tell him how I am getting along."

C.T. :—"I received my bugle all right, and I was very glad to get it. I sound my bugle every morning to get up, and 'cooks' for every meal; I thank you very much for sending it to me. I can ride and milk very well now. The boy M. is growing very tall now. Remember me to all the officers on board."

F.R.T. :—"I am quite well and like my place very well. Mrs. Cameron is very kind to me. I get good meals, and clothes, and bed. I have a pony, and I go for the mail three times a week. I have learned to milk. I have got all my pocket-money up till now." He wishes to be remembered to a long list of boys.

W.H. :—"\* \* \* I may say I have been in good health all the time I have been here. I have now entered on my last year of apprenticeship, and mean to fill my time out, as I have a good place. Mr. Smith has paid me in cash for pocket-money upwards of 36s., and he says there is £5 to your and my account at the bank. Best wishes to everybody on the ship."

G.W.

G.W. :—"My master's brother is sending down for a boy. He is married, and has got a farm about a mile away. My master is very kind to me, and I go to town every other week. Remember me to all the boys."

G.M. :—"I like my situation very well. My mistress and master are very kind to me. I get plenty to eat and drink. I hope you are all well on board. I go to a swim every Sunday. There is only one 'Sobraon' boy up here, that is S., and he lives about 2 miles from me."

R.T. :—"I have been to two hare drives since I have been up here. I received your nice letter. Please remember me to these boys" (13).

E.B. :—"I thank you for getting me such a nice place. I am in the best of health, and have everything that I want. Remember me to S., M., and J."

T.E.H. :—"I have my meals with the family, and get as much as I can eat, plenty of clothes, and plenty of work to do. I go to church, and to see the boy A., who is very pleased with his place; also the boy G.K., and he likes his place well. I am thankful to you and Mr. Waddell, M.P., for getting me such a good place, and when I am old enough to get a vote I will give it to Mr. Waddell."

E.J. :—"I am getting on very well with the trade (tailor). I can do anything in the trade now, and everything is going on well with me and my mate. We do everything to please our master. We go to church every time there is church here with our master, and Sunday school as well."

W.F. :—"Just a line to let you know that I am all right. I am thankful to you for getting me such a good place. Mr. and Mrs. O'Donnell and the boys are very good to me. I grew 6 inches since I came here. Mrs. O'Donnell has given me my pocket-money."

H.A.S. :—"I am a better farmer now; I can plough with six horses and a four-furrow plough, and any plough. I have to drive all stock to water, about 5 miles. I like my place as well as ever. I often meet the other Winton and Bective boys at church."

L.W. :—"I am well and happy as ever, and hope you and all aboard are the same. \* \* \* I will write more next time. Remember me to all the boys."

J.B. :—"I am milking twenty cows. I have been with my master two years and eight months, and have only four months to do. I saw in the paper that you had measles on board; I hope the same is all gone now. My master has banked £11 3s. in the bank. J.R. won a sulky in the art union; he paid a shilling for the ticket, and sold the sulky for £10."

J.B.A. :—"We have shifted to Wandar Station, 8 miles away. I have turned over a new leaf, as you told me to do, and will try to give satisfaction to my master."

Constable Somerville :—"J.J.T. was found to be exceptionally well conducted, trustworthy, respectful, and fond of his master, who treats him kindly, and provides him with an excellent home. £9 3s. to the credit of W. H. Mason and J.J.T."

Senior-sergeant Chiplin reports upon three boys :—"A.C.,—Mr. Bryer says he is a well-behaved and good boy. J.McT.,—Mr. Veech says he is a good and well-behaved boy. J.T.,—Mr. Auston says he is a good and well-behaved boy."

Senior-constable Ranford :—"Boy B. has just completed his apprenticeship; all wages paid to the amount of £7 7s. B. is still staying with his late master, who resides 14 miles from Parkes. Mr. McKay gives B. an excellent character."

Senior-constable Wright :—"Mr. Prior stated that the boy E.A. was of good character, obedient, and very willing to do his work, and that he had no complaints against him. He had the appearance of being in perfect health, and was well clothed and clean. The boy had no complaints whatever to make."

Senior-sergeant Harvey reports on four boys, F., M., O'N., and M. :—"The respective masters of each have been interviewed, and there are no complaints either by the boys or their masters. Their characters are very satisfactory."

Constable Justelins :—"Visited apprentice, A.S.S., at his master's, the Ven. Archdeacon Dunstan. The master states the boy's character is very good. The wages are paid to date, £6 5s."

Constable J. J. Rowe :—"States that he visited apprentice P.J.J. The boy had the appearance of being well cared for in every respect—well clothed, and stated he was very well satisfied with his master, who always treated him well. Mr. Henderson stated that the boy was a very good working lad, is truthful, obedient, and to be trusted."

The same constable reports of another boy :—"Visited H.H.; he had no complaints to make, and the boy's master stated that he was very well pleased with the boy, who was obedient and truthful; £4 17s. to his credit."

Senior-constable Madden reports :—"Visited H., and his master gives him an excellent character. Amount to his credit is £9."

Constable Tilney :—"Interviewed three apprentices, A.Mc., G., and F.A. The masters were well satisfied with the boys, and had no complaints to make. A.G. has £6 2s. to credit, A.Mc. £7 9s. 10d., and A. 17s."

Constable Branch :—"Finds that C.B. has a good home, and is well cared for, and expresses himself as being well satisfied; he bears a good character from his master, also from others who know him."

Sergeant Roberts :—"The boy is strong and healthy, and told the sergeant that he likes his work, and is contented, and has no complaints. Mr. Molloy informed him that the boy was all that could be desired, and would grow up to be a good man."

Constable Canney :—"S. is well behaved, and gives every satisfaction to his master."

Senior-constable Reynolds :—"The boy's bank-book shows that the wages are fully paid up to 13th instant; pocket-money also paid up. The boy bears a good character, and is well spoken of by his master."

Senior-constable Donnelly :—"W.K. bears a splendid character, is well dressed, and always clean, and is a good citizen."

Senior-constable Jordan :—"H.A. states that he is well treated, and that Mr. Moseley is a very good master. Mr. Moseley speaks highly of the apprentice as a willing, civil, and well-conducted youth. Amount of money to his credit is £12."

Constable McCrae :—"The boy bears an excellent character, is well treated, and contented with his home. Wages are paid up to date."

Constable Moore :—"This boy bears a splendid character. Mr. Basche speaks very highly of his obedience and behaviour. Wages are paid up to date."

Constable



Constable O'Rourke :—" A.T. looks well, is neatly kept, and expressed himself as satisfied with all his surroundings. The boy's master gives the apprentice a very excellent character."

Constable Matthews :—" The lad E.E. bears a very good character, is well treated, and seems thoroughly satisfied with his place. His time expired a little while ago, but he is remaining in the service of Mr. Ellis."

Senior-constable Tubman :—" F. is a very good boy, truthful and honest. He looks very well, and informed the constable that he was well treated by his master."

### PART III.

#### THE THIRD STAGE—EX-APPRENTICES.

17. I now come to the interesting period that permits of judging whether the time spent under the "Sobraon" training has accomplished its mission, or proved barren of permanent good results.

It is with great satisfaction that I find a proportionately high average to that shown in connection with apprentices as continuing and being applicable to successes amongst those becoming free agents.

The "old boys" still continue to display their recognition of what the ship has done for them by paying numerous visits, almost daily; and steady correspondence from those precluded by distance from attending contains much genuine assurance of the writer's appreciation and gratitude. This being the case, does much to encourage and stimulate the ship's staff in the discharge of duties which, at times, seem difficult of accomplishment.

A very large proportion of our young men, completing some years of country service, become enamoured of the desirable, healthful, and free mode of life, and elect to remain away from more dangerous influences, which course I always use my advocacy towards bringing about. Wages paid over exactly nine years represent the respectable total of £13,576 17s. 1d., and were it possible to insure wise application in its disposal would, with the useful teaching obtained from employers during service, go to form the nucleus of a small competency that might be acquired by industrious perseverance and saving habits.

18. Again I have to thank the Comptroller-General's courtesy in furnishing a complete record of all ex-"Vernon" or "Sobraon" inmates entering any gaol in New South Wales under conviction during the year just ended. The total of forty-eight names discloses a smaller number by ten than applied to the previous year, which is mainly due to closer inquiry and identification than was formerly assured, each committal being brought under my notice at the time of entering any gaol for corroboration to his being an ex-inmate. They class as follows :—

During apprenticeship	...	...	...	...	...	...	...	6
After "	...	...	...	...	...	...	...	32
Discharged to relatives by Governor-in-Council...	...	...	...	...	...	...	...	10
Total	...	...	...	...	...	...	...	48

The dates of their leaving the Institution register from 1873, or twenty-six years back, up to 1898. The Minister for Justice, Hon. C. A. Lee, M.P., in reviewing this return, kindly lays stress upon the fact of one lad only being included who had left the ship within the past twelve months. I am able to add that this young man was provided with employment at the advanced age of 17½ years, not as one in whom confidence was reposed, but as the alternative of turning him adrift in the city when 18. It is but fair to the Institution to point out that from the total of forty-eight the large proportion of ten must be deducted in order to arrive at the number of those proving failures under the system, that number having been removed by Executive authority prior to experiencing the full course of the ship's training, and restored to the custody of their relatives. A comparison drawn between thirty-eight failures and 3,942 admissions gives 9, or under 1 per cent. On the other hand, it will be seen that those returned to their relatives and reverting to evil habits, viz., ten, provide a fifth of the total relapses.

I find the number of male prisoners committed during 1898 to have been 15,066; so that the boys from this Institution contribute but an infinitesimal fraction of that aggregate.

These figures are beyond contradiction, and, were it not for the unsatisfactory proportion coming in evidence from those only partially experiencing the ship's reforming influence, would leave little to be desired.

A few illustrations from many hundreds recorded in my Ex-Apprentices' Register may prove interesting :—

P.H.—Sent here at 8 years of age, being too young for the ship experience, was transferred to the State Children's Relief Department. Having proved a failure under that system, he was recommitted to the "Vernon." Served his apprenticeship with credit, and has been in steady employment at the Victoria Barracks for the past four years. He visits occasionally to inquire after a younger brother serving apprenticeship at Kiama.

A.E.R.—Committed from Newcastle Bench in 1889, after two previous convictions, and sent to the ship as being incorrigible. Was apprenticed in July, 1893, and creditably served his full term of apprenticeship. Frequently visits the ship, and has assured me that the best thing ever happened to him was being sent to the ship. His former employer, Mr. F. Buekle, has secured him lucrative employment at Paddington, where he continues to favourably acquit himself.

W.W.—One of four brothers sent here, all of whom have turned out well. He was apprenticed sixteen years ago. On 11th July last he visited the vessel, having just returned from Western Australia, where he had been profitably employed in mining. He spent the night on board, and left Sydney the following day to join his brother, who is engaged in farming on the Tweed River. He is a fine, strong young man.

J.C.—Sent from Glen Innes in 1892, his father being an inmate of Callan Park Lunatic Asylum and the lad sadly neglected. Was apprenticed to Mr. P. Hiney, of Orange, for four years. Having obtained a week's holiday, he visited the ship in July last, and assured me that he regards having been sent to the ship as a very fortunate thing for him. He receives a most excellent character, and returned to his former service on the following Saturday.

L.W.D.—Left the ship in October, 1886; is now a prosperous tradesman in the town of Warren. He has at the present time in his employ two "Sobraon" apprentices, both of whom he writes me most encouraging reports.

J.S.—Writes from Montreal, Canada, to the effect that he has settled down in Canada and purposes getting married. This lad at a juvenile age proved a non-success under the State Children's Relief Department and was sent to the ship, from where he went to sea, following the occupation up successfully for some years. His letter is a newsy one, containing many references to "Vernon" experiences.

W.J.—Left the ship in 1891, and has retained permanent employment ever since. He bears most exemplary character in the employ of one our most prosperous city merchants. Having an elder brother employed in the Botanical Gardens, he visits to seek my assistance in obtaining entry to the same department.

A.E.—Came to the Institution from Parramatta Gaol after three previous convictions. Leaving after less than two years detention, he served close upon three years apprenticeship at Girilambone, during which time he received an excellent character. He visited the ship in September last, and gives me the satisfactory evidence of permanent reformation by production of a lengthy reference of good character, being now employed by a large firm as carter at £2 per week. He names numerous other old boys known to him to be doing well.

D.S.—Left the ship twelve years ago, prior to which date he was a ward of the State Children's Relief Department, by whom he was handed over to his mother's care; proving beyond her control, he was sent to the ship; was apprenticed to Mr. Clarke, of the Tweed River; he turned out well. Visited during September, and informed me that he had inherited considerable house property from his late father, who was at one time harbour-master in Sydney. A most respectable and steady young man.

A.W.L.—Left the vessel six years ago, and served his apprenticeship at Rockdale. After completion of his term, he married a relation of his master. Visited with his wife during September, and took considerable pleasure in pointing out the features of interest on board his old ship.

T.L.—This lad served several sentences prior to coming to the ship in 1887, and came from a family of criminals. Apprenticed in May, 1888, he served his full term most creditably. For many years past he has been employed in the Railway Department, and recently was placed upon the permanent staff. He frequently visits me, and in the most pleasant way discusses his future prospects. He has been for some years married, and has recently insured his life for a considerable sum.

A.L.R.—Sent here from the Central Police Court in 1892. Served his apprenticeship with Mr. Gordon, of Braidwood, and frequently visits the ship. He is now a fine, strong man of the most respectable class, obtaining a lucrative wage as vanman in the city.

A.D.—Left the ship in September, 1894. Now employed under the Municipal Council of Sydney, and supports his mother, receiving 32s. 6d. per week.

G.B.—Left the "Vernon" twenty-nine years ago, when he went to sea, and later entered the service of the New South Wales Marine Board in the capacity of pilot, which position he has most creditably filled for close upon thirteen years. In October last he visited this ship to see his son, who is now an inmate. In conversation with myself, he explained that, having lost his wife, and being much absent from home, he recognised the necessity for placing his boy under wholesome restraint. Having benefited himself by "Vernon" experience, he elected to place his son on board the "Sobraon," where, I am pleased to say, he is making very satisfactory progress.

C.M.—Left the ship ten years ago. Visits and assures me he derived much permanent good from the ship's training; also that it saved him from ruin. He has been for four years past a member of the Scottish Rifle Corps, is a first-class swordsman, and recently visited to take part with others in a display given for the amusement of the "Sobraon" inmates.

P.H.—Left the ship nine years back; comes on board from Charters Towers, where he has been working in the Clark-Worcester Gold-mine, and earning 10s. per diem. From here he went on to Narrandera to spend Christmas with his former employer, Mr. Watt. A fine, straightforward young man, who always speaks in pleasing terms of the ship.

F.F.—Visited during December last, and spent a public holiday on board, having just returned from Narrabri, where he served five years with Mr. Dale, solicitor. He returns upon the following Friday to start a business of his own as a baker.

W.F.—Left the ship in October, 1886, being apprenticed to a relative of the late Mr. Whittingdale Johnson, S.M.; completed his term with great credit, and has been now some years employed in the service of the New South Wales Government. He is generally respected as a steady married man.

C.H.—Left the ship in 1889, and completed his service with Mr. Barton, of Wellington, by whom he is still employed. He visited the ship in January of this year, when he intimated to me his appreciation of what the ship had done for him. He is married, and has two of a family.

19. When brought face to face with the lasting results each year being added to through the medium of this Institution, I feel assured of the countenance and the support of all charitably disposed members of our liberal community, as no undertaking will so readily commend itself to practical minds as that which tends to convert depraved youthful humanity into respectable law-abiding citizens. The ship, or shore reformatory, be it either, is but a means towards an end, its object being to secure, not short-lived popularity, but permanent and far-reaching results; and its success or failure can only be determined by closely analysing the proved characters of those who pass under its influence. That we continue to keep closely in touch with all former wards will be evidenced by a glance at the registration of 380 visits paid, and information gleaned from "old boys" in conversation during the past year. Many pleasing reminiscences are revived by young men calling on board to discuss with me their previous experiences of the ship and their after career, which confidences, freely reposed, go far towards enlisting my ready sympathy and forbearance with less experienced novices coming daily to profit by the initiatory influences of the system.

#### PART IV.

##### MISCELLANEOUS.

20. Prayers are said during the morning and evening of each day. The boys land in Balmain on Sundays and march to their respective churches; the afternoon of that day, together with an hour each Tuesday, is devoted to religious instruction. During the year a large party of boys from both Protestant and Roman Catholic denominations were confirmed by the Right Reverend the Primate and His Eminence the Cardinal.

Too many thanks cannot be given to the Rev. W. A. Charlton, the Reverend Dean Healey, and others, who are all most assiduous in their thoughtful and painstaking efforts towards spiritual teaching of the boys. The staff as a body benefit by the refining influences thus introduced amongst the lads. In this connection my thanks are due to the kindly-disposed and philanthropic ladies, Mrs. Ford and the Misses Hughes and Maguire, who ably second the Church of England clergyman by weekly visits. Their presence does much to encourage respectful behaviour and attentive decorum amongst the pupils. Similar praiseworthy help is rendered to the lads of Jewish persuasion by the Rev. Phillipstein, who kindly attends on Tuesdays to instruct them.

The worthy rector of St. John's is almost invariably to be found in evidence amongst the youngsters whenever they enjoy a day's holiday for sports. In such numerous ways I am indebted to this gentleman, who is universally respected by all my charges.

I would also desire to place on record the great assistance rendered this Institution by the Visiting Surgeon, Dr. C. U. Carruthers, J.P., who, during our epidemic of measles, was most unremitting in his attendance upon the patients and solicitous regarding their progress. The fact of no serious after effects developing in any instance speaks volumes for the treatment prescribed.

21. It is not easy to record the names of all generous patrons and contributors towards the pleasure and amusement of the inmates, but amongst the number I have to thank the Hon. J. A. Hogue, M.P.; Mr. J. C. Maynard, J.P., Under Secretary of Public Instruction; Mr. Bridges, Chief Inspector; Colonel Bell, Consul, U.S. America; Major Rennie; the Hon. J. H. Carruthers, M.P.; Hon. C. A. Lee, M.P.; Mr. R. Hickson, M.I.C.E., Under Secretary of Public Works; Messrs. Turner and Conway, Principals of Fort-street Model and Cleveland-street Superior Public Schools; the lessees of our theatres and circuses and societies who have entertained the boys; the Committees of the Balmain and Anniversary Regattas; Messrs. Southwell, S. N. Fairland, Pattinson, Piercy Ethell, Blundell, Louis Phillips, and Captain Connor; also several others who, if not personally named, none the less command my very grateful thanks.

22. The past year has recorded the same large number of visits from influential ladies and gentlemen interested in scrutinising the methods adopted and general surroundings of the Institution, foremost amongst whom must be named our late Ministerial head, the Hon. J. Garrard, M.P., who both in office and over a term of very many years has always taken a keen and practical interest in the ship. His very complimentary assurance written to me, conveying satisfaction with the manner in which the ship's staff carried out their duties whilst under his administration, was very gratifying. His successor, the Hon. J. A. Hogue, has on several occasions favoured the ship with a visit, as also has the Under Secretary and the Chief Inspector, also the principal officers of the Public Instruction Department. From all I receive most valuable encouragement and assistance. My greatly-respected predecessor and former colleague, Captain Neitenstein, again claims recognition as an active sympathiser and supporter of the ship's work, who frequently spares time to bring representative visitors to inspect the establishment. He has surrendered none of his former interest in the inmates, whom he continues to frequently assist in many ways.

23. A few extracts taken from the Visitors' Book, as entered by leading authorities whose opinions command weight, will point to the popularity of the Institution, and tend to dispel any false impressions as to over-exacting or unduly severe procedure being applicable to the system of accomplishing reformation.

Lord Jersey, writing from Middleton Park, Bicester:—"It is always a pleasure to know that a good work continues its useful career, and your report on the year's work of the 'Sobraon' shows that the advantages which it confers on the State increase. It is not necessary to have startling disclosures; on the contrary, the steady, even flow is a good proof that matters are going on satisfactorily."

The Right Reverend the Primate, after a recent visit, writes as follows:—"The good order, the admirable discipline, the cheerful vigour of the boys were good to see; the drill and physical exercises were excellently performed; the music was very creditable, both to bandmaster and to band-boys. I congratulate you also on the beautiful condition of the ship and its various departments. Wishing for you and your staff God's blessings upon your important work, and hoping that the 'Sobraon' may continue to confer, by the careful education and training given in it, great and permanent benefit to all the boys."

Public Service Commissioner, Mr. G. A. Wilson:—"Very good work is being done here."

Mr. R. McMillan, Editor, *Stock and Station Journal*:—"The most pathetic, suggestive day I ever put in."

Messrs. W. M. Hughes, W. A. Holman, T. A. Byrne, Alfred Edden, E. H. Dight, T. Waddell, Members of the Legislative Assembly of New South Wales:—"Deeply impressed, beyond mere words." "Am delighted with all I saw." "A credit to the Colony, and especially to the Captain and all concerned in the work of the ship." "A noble institution, and splendidly managed."

Dr. F. H. L. Zillmann, Ph.D.:—"Having had experience of Elmira Reformatory and Boys' Prisons, in New York, I am happy to say that I have never seen anything superior in all that goes to make up efficient discipline."

Mr. Piercy Ethell:—"Visited the 'Sobraon,' and was extremely interested with everything. The main feature which struck us was the perfect discipline on board and the absolute cleanliness everywhere."

Mr. Thomas Walker:—"As a visitor from the 'Old Country,' I have been very interested by what I have seen on the 'Sobraon.' The discipline, order, and general smartness of the boys is everything to be desired."

The Hon. C. A. Lee, M.P., Minister for Justice, accompanied by Captain F. W. Neitenstein, J.P., C.G.P.:—"I am so pleased with all I have seen on board to-day that I will convey my impressions by letter to Captain Mason, whose good work is self-evident." The Comptroller-General kindly adds: "I concur in the Minister's remarks."

The Right Hon. G. H. Reid, P.C., Premier of New South Wales:—"Always in good order; never in better form than now."

The Hon. W. Best, M.P., Minister for Lands, Victoria, accompanied by twenty Members of the Victorian Legislature:—"We are delighted with all we have seen; the Institution is a credit to the Mother Colony."

Rev. H. Benwell, R.N., with other gentlemen:—"With some experience of similar institutions, I think that the 'Sobraon' as nearly as possible approaches perfection. I cannot express my pleasure at my visit to the 'Sobraon.'"

Captain A. S. Mullock and Captain Reynolds:—"Discipline splendid; drill excellent; never saw better in any part of the world; altogether a splendid institution." "Splendid discipline; more perfect than I have seen in any other ship." Messrs.

Messrs. Rayment :—“ A grand work indeed is done here under the able superintendence of Captain Mason, which will have an undying influence for good, both on the boys and the Colony's future. The backbone of a nation.”

Mr. M. E. Jull, of West Australia, accompanied by Mr. C. Napier Bell, C.E., and others :—“ A splendid institution ; a standard of excellence ; the best thing of its kind in these colonies.”

Mr. L. W. Stanton, Chairman, Board of Inspectors of Schools, South Australia, accompanied by Mr. William N. Neale, Inspector :—“ Discipline excellent ; the whole establishment evidently a grand success. It is clear that work of the highest value is done. The discipline is of the very best ”

Colonel A. Hume, Inspector of Prisons, New Zealand :—“ I am extremely pleased with the discipline and organisation prevailing on the ship. The state of the ship reflects the greatest credit on Captain Mason and his officers, who are doing really good work for the Colony. I am delighted in having seen the ‘ Sobraon,’ and extremely obliged for the courtesy shown to me by those connected with this splendid institution.”

Mr. C. Delohery, S.M., accompanied by Mr. L. W. Marriland :—“ Found the ship in perfect order ; the boys cleanly, happy, and in the best of health. Captain Mason and the officers under him deserve the greatest of credit for the most efficient manner in which they perform their duties.”

The Hon. Edmund Barton, Q.C., M.P., Messrs. R. E. O'Connor and Bruce Smith, M's.L.C., Mr. Howard Willoughby, of Victoria :—“ Extremely interested ; order and discipline apparently perfect ; much impressed and pleased.”

Mr. W. M. Barker, Solicitor :—“ Extremely interested and impressed, and consider the benefit of the system cannot be over-estimated.”

Mr. W. F. Roydhouse, New Zealand :—“ Certainly the most interesting institution I have visited in New South Wales. The methods pursued cannot be other than reforming in the highest degree.”

Mr. E. L. Demestre :—“ Very much interested. A most valuable institution ; evidently perfectly managed.”

24. I am just in possession of intimation that Regulations have been adopted by the Liverpool Municipality for the protection of young children. Those over 11 years of age obtaining licenses will be allowed to sell articles in the streets up to 9 p.m. The guardians of other children hawking in the streets will be prosecuted. Similar legislation is much needed in New South Wales to remove a crying evil.

25. The year just closed shows no change in the constitution of the Staff. Mr. Williams, seaman, who served on board for some years, I am pleased to state, obtained promotion to a position under the Department dealing with explosives. All officers continue to display a conscientious, painstaking observance of their duties, and merit my acknowledgment of their loyal support.

26. In bringing to a close this review of the year's work, I would desire respectfully to convey my recognition of much-encouraging confidence reposed in me by the Ministerial head, the Under Secretary, and all Departmental officers, which has made my task pleasant, and its results productive of good to the community.

I have, &c.,

W. H. MASON,  
Commander and Superintendent.



## 13

## (H.)

## TOTAL Expenditure, including all repairs and alterations.

	£	s.
1. Provisions ... ..	4,142	0 4
2. Salaries (including pay of three teachers) ... ..	2,599	0 9
3. Clothing and boots ... ..	577	2 2
4. Charges of Fitzroy Dock for repairs, &c. ... ..	466	13 11
5. Stores, rope, paint, repairing boats, and keeping grounds in order ... ..	380	13 6
6. Fuel and light ... ..	269	19 6
7. Bedding, hammocks, blankets, and bags ... ..	179	0 10
8. School appliances, library, reading-room, and "good-conduct pay" ... ..	132	10 3
9. Band instruments, music, and repairs ... ..	54	11 1
10. Medicines, hospital expenses ... ..	56	17 1
11. Laundry, including scrubbing-brushes, towels, brushes, and water ... ..	67	4 0
12. Crockery, knives, forks, mess utensils ... ..	49	0 10
13. Petty expenditure ... ..	31	0 0
	9,005	14 3
Deduct parents' contributions ... ..	£291	18 0
,, half value of stores in stock ... ..	1,200	0 0
	1,491	18 0
Net cost ... ..	7,513	16 3
Cost per head of boys maintained on ship only—		
Calculated on year's enrolment (478) ... ..	£15	14 4
,, daily average (311)... ..	24	3 2
Expenses in connection with apprentices:—		
Proportion of salaries, visiting, stationery ... ..	£350	0 0
Apprentices' outfits ... ..	199	10 6
,, travelling expenses ... ..	116	12 4
	666	2 10
New constructive works to shore premises ... ..	600	0 0
	£8,779	19 1

Cost per head of apprentices, £1 13s. 4d.  
Number of boys under the Superintendent's legal control, 700.  
Cost per head for the year, £12 10s. 10d.

## (K.)

## GROWTH and progress of the Institution, as compared with thirty years ago.

Item.	1869.	1899.	Remarks.
Admissions ... ..	61 ... ..	159... ..	Increase of 98.
Discharges ... ..	42 ... ..	157... ..	Increase of 115.
Enrolment ... ..	196... ..	478... ..	Increase of 288.
Daily average ... ..	126... ..	311 ... ..	Increase of 185.
Cost per head ... ..	£31 16s. 8d. ... ..	£24 3s. 2d. ... ..	Decrease of £7 13s. 6d.

## (L.)

## SCHOOLMASTER'S Report.

Sir,

I have the honor to report that the number of new enrolments for the year ending 30th April was 159. These were classified as follows:—27 were placed in 3rd class, 40 in 2nd class, and 92 in 1st class; 25 boys were admitted of ages varying from 7 to 16, of whom some scarcely knew the alphabet, and the remainder could not read Primer I satisfactorily; 35 others could only read Primer II in an indifferent manner.

Each class has been worked in two or three sections throughout the year. 157 boys left during the same period, of whom 60 had been in 3rd class, and 57 others in 2nd class.

The annual school inspection took place in January of this year, and the results showed a general improvement on last year's work. This improvement was most marked in reading and writing, all classes gaining a higher percentage of marks in those subjects.

The conduct of the boys whilst under instruction has been in every respect thoroughly satisfactory, the boys obeying orders promptly and willingly, and the greater number taking a genuine interest in their work.

The numerous privileges extended by the Regulations of the ship to well-conducted boys have proved of great help in the work of the school, by encouraging the better-disposed lads to greater efforts.

I have, &amp;c.,

ALEX. THOMPSON,

The Commander and Superintendent, Nautical School-ship "Sobraon."

Schoolmaster.

TABLE I.

## CHANGES in the enrolment during the year.

	1st Class.	2nd Class.	3rd Class.
Enrolled on 30th April, 1898 ... ..	114	99	106
Admission to 30th April, 1899 ... ..	92	40	27
Promotions, February, 1899 ... ..	.....	62	34
Total enrolment for the year... ..	206	201	167
Losses to each class by promotions ... ..	62	34	.....
Discharged ... ..	40	57	60
Enrolled on 30th April, 1899... ..	104	110	107



TABLE II.

Average daily enrolment in 1st Class ... ..	116.5
"    "    2nd " ... ..	93.0
"    "    3rd " ... ..	100.0

TABLE III.

\* CLASSIFICATION of 92 boys admitted to First Class.

Ages.	Upper First— Reading, I Book.	Middle First— Reading, II Primer.	Lowest First— Reading, I Primer.	Total number admitted.
Between the ages of 15 and 16 years ... ..	7	4	3	14
"    "    14 " 15 " ... ..	4	1	2	7
"    "    13 " 14 " ... ..	7	4	0	11
"    "    12 " 13 " ... ..	4	3	3	10
"    "    11 " 12 " ... ..	5	9	4	18
"    "    10 " 11 " ... ..	4	7	6	17
"    "    9 " 10 " ... ..	0	3	3	6
"    "    8 " 9 " ... ..	0	4	2	6
"    "    7 " 8 " ... ..	1	0	2	3
	32	35	25	92

\* This is the classification on arrival.

TABLE IV.

CLASSIFICATION according to ability in Reading, Writing, and Arithmetic.

	* Well.	Indifferently.	Not at all.	Total.
<b>READING.</b>				
On board 30th April, 1898 ... ..	155	144	20	319
Admitted to 30th April, 1899 ... ..	27	107	25	159
Discharged to 30th April, 1899 ... ..	110	47	0	157
On board 30th April, 1899 ... ..	160	147	14	321
<b>WRITING.</b>				
On board 30th April, 1898 ... ..	175	124	20	319
Admitted to 30th April, 1899 ... ..	33	101	25	159
Discharged to 30th April, 1899 ... ..	117	40	0	157
On board 30th April, 1899 ... ..	200	107	14	321
<b>ARITHMETIC.</b>				
On board 30th April, 1898 ... ..	103	196	20	319
Admitted to 30th April, 1899 ... ..	27	97	35	159
Discharged to 30th April, 1899 ... ..	85	72	0	157
On board 30th April, 1899 ... ..	100	207	14	321

\* Approximately equal to Third Class, or Good Upper Second Standard.

(M.)

DIETARY Arrangements.

Ration authorised to be issued to boys on board the Nautical School-ship "Sobraon" :—

20 oz. bread .....	} ½ ration	1 pint milk.
2 oz. sugar .....		1½ oz. soap (best yellow).
1½ oz. jam or butter, at Superintendent's option .....		12 oz. fresh beef, or 16 oz. mutton.
½ oz. tea .....		16 oz. potatoes.
½ oz. salt .....		6 oz. vegetables for soup.

With extras, as authorised.

Alternative Ration authorised to be issued to boys on board the Nautical School-ship "Sobraon" :—

20 oz. bread .....	} ½ ration	1 pint milk.
2 oz. sugar .....		1½ oz. soap (best yellow).
1½ oz. jam or butter, at Superintendent's option .....		24 oz. fresh fish.
½ oz. tea .....		16 oz. potatoes.
½ oz. salt .....		6 oz. vegetables for soup.

With extras, as authorised.

Ration authorised for boys on "Sobraon" (weekly ration) :—

2 lb. flour .....	} ½ ration	1 lb. fresh fruit or canned fruit, at Superintendent's option.
½ lb. raisins .....		
1 oz. suet .....		

Breakfast—Tea, bread and butter, or jam.

Tea—Tea, bread and butter, or jam.

Dinner.

## Dinner.

	First Division	Second Division	Third Division.
Monday, Thursday ..	Soup, roast meat, boiled potatoes.	Stew, potatoes, and vegetables, pudding.	Sea-pie, potatoes, and vegetables.
Tuesday, Friday ..	Stew, potatoes, and vegetables, pudding.	Sea-pie, potatoes, and vegetables.	Soup, roast meat, boiled potatoes.
Wednesday, Saturday	Sea pie, potatoes, and vegetables.	Soup, roast meat, boiled potatoes.	Stew, potatoes, and vegetables; pudding.
Sunday . . . . .	Roast fresh meat, boiled salt meat, vegetables, potatoes, cake or pudding, fruit.		

Each boy has 1 pint of milk with his dinner daily; and occasionally on Fridays fresh fish is substituted for meat. During the four winter months milk is provided with oat or maize meal for breakfast, in addition to bread and butter; and, for the same period, pea-soup is added to the usual scale for dinner three times weekly.

## (N.)

## WORK AND DRILL ROUTINE.

*Morning.*

Monday	9 to 10	General drill.
	10·10 to 11·45	1 division, work.
	10 10 to 11	2 divisions, rifle drill.
	11 to 11·45	1 division, compass, lead and log line, numbers of flags.
		1 division, rule of the road, names of spars, ropes, parts of boat and sails, launch for steering and steam instruction.
Tuesday	9 to 11·45	1 division, work.
	9 to 10	2 divisions, squad drill.
	10·10 to 11	Boat drill, two divisions pulling.
	11 to 11·45	Making sail, step and unstep masts, salutes, keeping close to ship; when weather permits, sails to be loosed in afternoon.
Wednesday	9 to 10	General drill.
	10·10 to 11·45	1 division, work.
	10·10 to 11	1 division, cutlas drill; 1 division, man boats, shove off, come alongside properly, toss oars, &c.
	11 to 11·50	2 divisions, gymnastics and dumb-bell exercise.
Thursday	9 to 10	3 divisions, boat exercise and flag instruction.
	10·10 to 11·45	1 division, work.
	10·10 to 11·45	2 divisions, land at Cockatoo for drill in marching, wheeling, &c., without arms. (Occasional long pull in winter.)
Friday	9 to 10	General drill.
	10·10 to 11·45	1 division, work.
	10 10 to 11	Balance step, extension motions, saluting, squad drill.
	11 to 11·45	Seamanship and launch instruction as on Monday. (Occasional long pull in winter.)
Saturday	Until 11·45	Cleaning ship, arms, &c.
	9 to 9·15	Lieutenant's inspection.
	9·15 to 10·15	Commander inspects all boys, decks, grounds.
	10·30	Land for church, or service aboard.

## NOTES.

Boys at drill to stand easy 1 minute in every 10.  
 Watch boys to be selected weekly from 5 and 6 classes, one division in each watch in turn.  
 Cricket club practice on Island, on Friday, from 3 to 4·40.  
 Athletic club practice on Island, on Monday or Thursday, from 3 to 4·40. Recall to be hoisted 5 minutes each.  
 When painting or special work is in operation this time-table to be suspended.

*Afternoon.*

Monday	.. .. .	Mending clothes, which are to be thoroughly overhauled by Divisional Officers. Boys are not to loiter after repairing clothes, but to be at once sent up on deck. Disengaged boys to barge and sailing instructions.
	1 to 2	Barge to be cleaned.
	2·15	Change watches.
	3 to 3 45	Beginners to swim.
Tuesday	1 to 2	3 divisions, swimming, or physical drill with arms.
	2 to 2·45	1 division, clean all boats.
		2 divisions, gymnastics and dumb-bells.
	2 45 to 3 45	Religious instruction. Boatswain to overhaul any of his gear. Seamen to overhaul their boats, cushions, fenders, oars, &c. Any Officer absent from his boat should arrange with another seaman to do his work.
Wednesday	1 to 2	General singing instruction.
	2 to 3	Special drill party and cleaning arms
	3 to 3 45	3 divisions, swimming or physical drill with arms.
Thursday	1 to 3	1 division, work, including cleaning arms.
	1 to 2	2 divisions, physical drill with arms, bayonet exercise, aiming drill, &c.
	2 to 3	Boat exercise, wheeling, line abreast, line astern, learning to come alongside, shove-off (proper words of command to be given).
	3 to 3·45	Swimming, or balance step, extension motions, saluting
Friday	1 to 3	1 division, work, coaling ship, cleaning dormitory and swimming bath.
	1 to 2	Special club party; † remainder, seamanship, launch instruction.
	2 to 3	Boat exercise.
	3 to 3 45	Swimming exercise, or physical drill with arms.
Saturday	.....	Recreation—Cricket, athletics, harbour excursions, visits ashore for deserving boys.
	1·15	Dinner and recreation.
	2·30	Sunday school.
	4	Muster.

## NOTES.

Inspection at 8 45 a.m. Divisions and prayers at 9 a.m.  
 Recreation (10 minutes) at 10 a.m., when all boys go over lower masthead. Commander's Court of Inquiry at 12 50.  
 Muster at 1 p.m. Muster, dismiss school, work and drill parties at 3 50 p.m.  
 \* When religious instructors do not attend, boys not required by seamen in boats to be busily employed at either drill or work.

† At 2 p.m. all the special drill party to be marched into school.

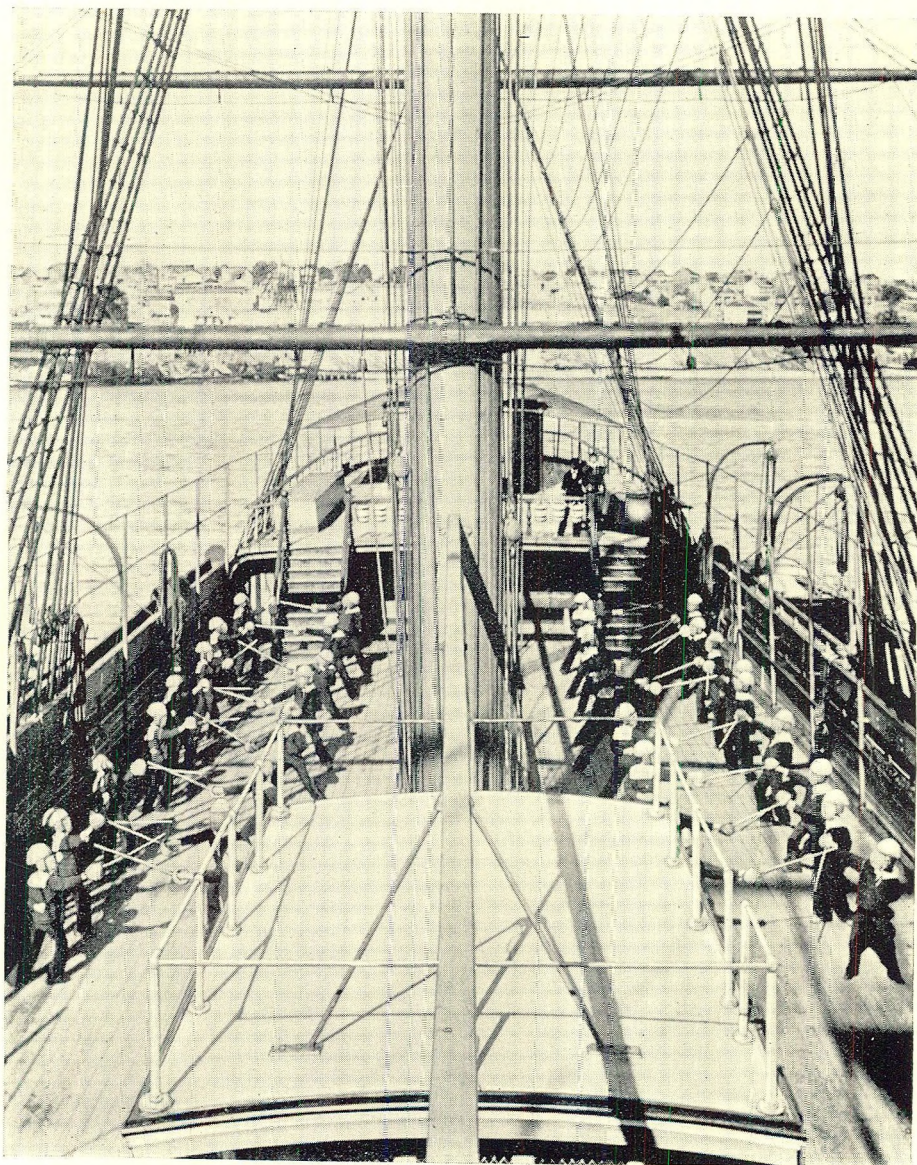
[Eight Photos.]







N.S.S. "SOBRAON."



SINGLE-STICK EXERCISE.





PHYSICAL DRILL—WITH ARMS.



“MAN AND ARM BOATS.”





GYMNASTIC CLUB, WITH BAND.

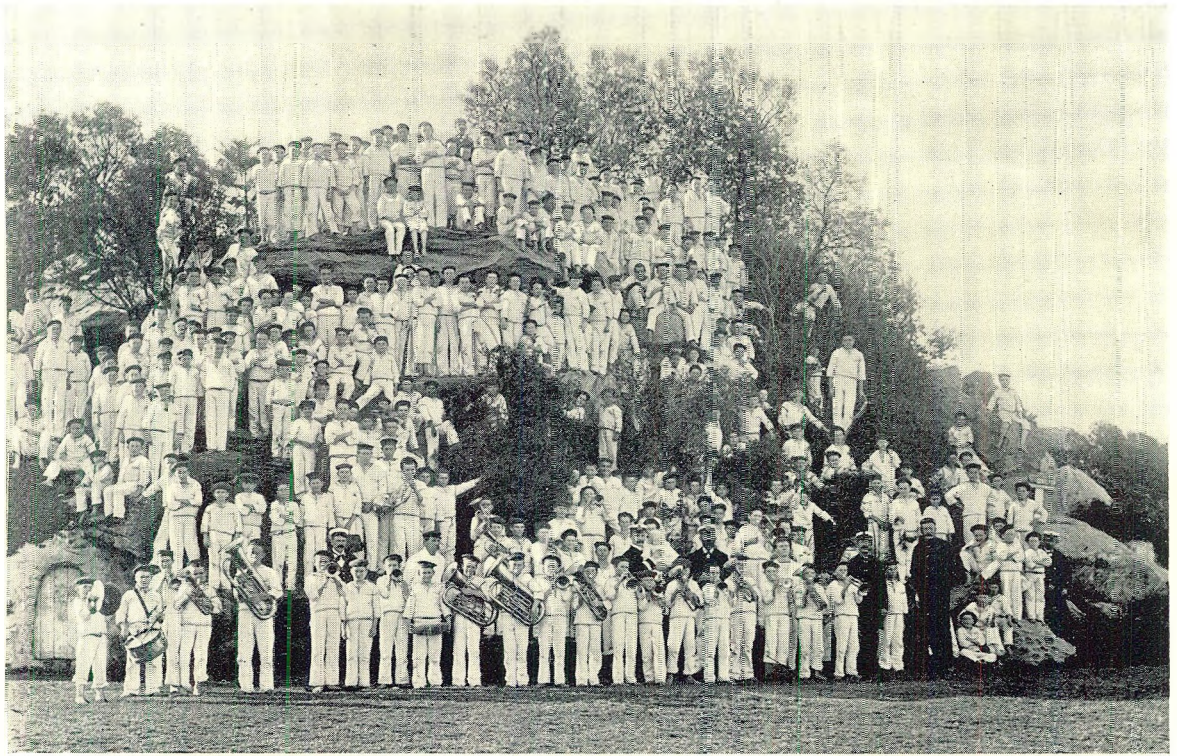


CRICKET MATCH "SOBRAON" v. CLEVELAND STREET SUPERIOR PUBLIC SCHOOL.





CRICKET TEAMS "SOBRAON" AND CLEVELAND STREET SUPERIOR PUBLIC SCHOOL.



"SOBRAON" BOYS' ANNUAL PICNIC, CLARKE ISLAND RESERVE.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## THE ANNUAL REPORT

OF

## THE POSTMASTER-GENERAL,

FOR THE YEAR

1898.

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*Printed under No. 2 Report from Printing Committee, 10 August, 1899.*

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SYDNEY: WILLIAM APPLIGATE GULLICK, GOVERNMENT PRINTER.

1899.

48—

[2s. 3d.]

[935 copies—Approximate Cost of Printing S.L. (labour and material), £89 13s. 4d.]





The following are the items of expenditure paid from Votes under the control of other Ministers which have not been taken into consideration in the above financial analysis:—

	1897.	1898.
Stores and stationery ... ..	£4,178 2 8	£4,162 8 1
Repairs and alterations to buildings ... ..	4,062 0 10	2,868 0 9
Furniture (including carriage)... ..	196 10 11	78 12 5
Printing, bookbinding, <i>Gazette</i> advertisements, <i>Gazettes</i> , &c..	7,192 9 8	7,064 6 5
Printing postage stamps ... ..	4,197 19 5	4,655 17 4
Do postal notes ... ..	541 7 0	578 19 5
Municipal and other rates ... ..	2,476 16 5	2,544 10 10
Postage ... ..	900 0 0*	960 0 0*
Advertising in newspapers ... ..	272 2 9	283 4 3
Fuel and light ... ..	1,784 18 1	1,923 12 7
Total ... ..	£25,802 7 9	£25,119 12 1

\* Estimated.

The interest on the cost of construction of Electric Telegraph and Telephone Lines and Tunnels is estimated at £39,577, and the interest on the cost of buildings owned by the Government, and used as Post and Telegraph Offices in various parts of the Colony, is estimated at £34,685.

Adding the expenditure on account of the services of the Postmaster-General from the Votes of other Departments, and the interest on the cost of buildings and construction of telegraph lines, the expenditure properly chargeable to the Department under my control for the year 1898 was £947,066 8s. 2d., or £27,019 9s. 1d. in excess of the revenue for the same period.

As explained in the report of my predecessor, for 1897, the Post Office performs a number of services for the public and for other Government Departments, for which no monetary credit is taken in the foregoing statement. These services include the conveyance by post of petitions to the Governor, the Executive Council, and Members of either House of Parliament; newspapers under seven days old; returns under the "Land and Income Tax Assessment Act of 1895," letters and packets for the purpose of carrying out the provisions of the "Census and Industrial Returns Act," and returns of births, deaths, and marriages, all of which are by law exempt from postage; also all mail matter on Her Majesty's Service, the postage properly chargeable on which is thought to be not fully covered by the annual vote of £32,000 for this purpose; the supply of shipping and weather intelligence by telegraph; the performance by Postmasters and other officers in various districts of the Colony of the duties of Electoral Registrar, Deputy Electoral Registrar, Registrar of births, deaths, and marriages, Meteorological Observer, &c.; and the maintenance of the electric light at Parliament House, Circular Quay, Cowper's Wharf, and the Jenolan Caves.

It is impossible to accurately appraise the value of these services, but it will be understood from the nature of them that they entail a considerable amount of expenditure on the Department, probably not less in the aggregate than £50,000 per annum.

#### INTERCOLONIAL POSTAL AND TELEGRAPH CONFERENCE.

A Conference was held in Hobart in March–April, 1898, at which the Colonies were represented as follows:—

New South Wales—By the Hon. Joseph Cook, M.P., Postmaster-General.

Victoria—By the Hon. John Gavan Duffy, M.L.A., Postmaster-General.

South Australia—By the Hon. J. G. Jenkins, M.P., Commissioner for Public Works.

Queensland—By the Hon. James R. Dickson, C.M.G., M.L.A., Home Secretary and Postmaster-General.

Tasmania—By the Hon. Sir Philip Fysh, K.C.M.G., M.H.A., Treasurer and Postmaster-General.

New Zealand and Western Australia were not represented at the Conference.

A full report of the proceedings of the Conference has already been laid before Parliament. The principal resolutions contained in this Report are the following :—

RELATING TO POSTAL SERVICE.

1. That in the opinion of this Conference it would be inadvisable to make any further reduction of the over-sea postage rate until the way is clear for a reduction in the present large subsidies paid for the carriage of such mails, and the present inland and intercolonial rates.

2. That this Conference is of opinion that the word "specimen" be placed across all stamps issued to collectors. That all Postage Stamps issued to the Berne Postal Bureau or between Post Offices shall bear an obliteration with the date-stamp.

3. That an inset or a hand-bill should not be regarded as coming within the definition of a Newspaper Supplement under the Post Office Acts.

4. That representations be made from this Conference to the Post Office authorities at Queensland, pointing out that the high rates charged on newspapers coming from other Colonies is an unjustifiable restriction on the Australian press.

5. That this Conference hereby records its appreciation of the zealous and able manner in which the Hon. J. Gavan Duffy, Postmaster-General of Victoria, discharged the duty of representing Australasia at the Washington Postal Convention.

6. That this Conference recommend to the Governments of Australasia the ratification of the Treaty entered into at Washington at the last Universal Postal Congress.

7. That this Conference recommends to the Governments of Australasia that no alteration in International Postal Rates be made without the Colony proposing to make such alterations advising the other Colonies and endeavouring to arrange for uniformity of action.

8. That the various Agents-General, Delegates to the Postal Conference in London, be instructed to oppose the proposal to reduce the rate of postage to all parts of the British Empire from 2½d. per ½ oz. to 2d., and also the Canadian proposal to reduce her outgoing rate from 5 cents per ½ oz. to 3 cents per oz., for the following reasons :—

- (1.) The present rate is not an unreasonably high one, having in view the large cost to the Colonies involved in the maintenance of the present means of postal communication with the various portions of the Empire.
- (2.) Because of the anomaly which would be created by carrying letters 14,000 miles for the same rate as now charged for delivery within the limits of the town where posted.

Regarding the proposal of Canada to reduce her outgoing postage, this Conference is strongly of opinion that no reduction should take place which would be a departure from the present uniform rate, for the following reason, *inter alia*, at present a charge of 2d. per ½ oz. is made in Australia for the carriage of letters to however small a distance, while the Canadian proposal would involve the carrying of letters over the same routes at a greatly reduced cost. This would, in the opinion of the Conference, lead to confusion and dissatisfaction.

TELEGRAPHIC.

9. That this Conference recommends to the Governments of Australasia that no alteration in International Telegraphic Rates be made without the Colony proposing to make such alterations advising the other Colonies, and endeavouring to arrange for uniformity of action.

10. That this Conference regrets that, owing to the financial loss involved, the question of a general reduction in the prices of Intercolonial Telegrams must stand over for the present, and make no suggestion on the question of the limitation of addresses; but it is suggested that the Governments of New South Wales and Queensland arrange between themselves as to rates and limitations of words in addresses.

The following proposal by the Representative of Queensland, which was not agreed to, was ordered to be recorded :—"That any re-arrangement of charges should be on the basis of either charging for every word, whether in addresses or text, such being the international principle, or of allowing the address and signature to the number of twelve words to be sent free."

11. That, in the opinion of this Conference, telegraphic employees should be absolutely prevented from speculating in shares.

12. That, in the absence of any satisfactory proposal from the Eastern Extension Telegraph Company, and of any proposal at all, except on the basis of an alternative cable *via* Africa, this Conference is unable to make any fresh arrangement with that Company.

13. That this Conference re-affirms the opinion that in the interests of Australasia the Pacific Cable project should be consummated as speedily as practicable, and that the Governments of the various Australasian Colonies be requested to represent to the Imperial and Dominion Governments the foregoing opinion, together with the proposal of the Premiers as agreed to at their recent Conference held in Melbourne, viz. :—That if Great Britain and Canada would each contribute one-third of the cost, the Colonies would be prepared to contribute the remaining one-third.

14. That the question in reference to the Overland Telegraph Lines between South Australia and Queensland be referred to the Governments of those Colonies.

15. That this Conference has heard with satisfaction from the representative of South Australia of the intention of the Government to take immediate steps for the improvement of the Overland Telegraph Line, and urges him to impress upon his Government to lose no time in effecting the improvements suggested, and hopes the Western Australian Government will take similar steps with regard to their overland line.



## INLAND SERVICE.

The new postal routes opened during the year 1898, as shown in the annexed return, amounted to 1,165 miles, viz. :—

Postal Line.	No. of times per week.	Postal Line.	No. of times per week.
<i>In the Western Country.</i>		<i>In the Southern Country—continued.</i>	
From Booroondarra Tank to Innesowen.....	1	From Hay to Thelangerin .....	1
Cobar to Nymagee (re-established) .....	1	Kiandra to Scott's Gully .....	1
Condobolin Railway Station to Post-office ...	3 or 6	McKinnon's Corner to North Gogelderie ...	2
Coolabah to Coolabah Experimental Farm....	2	Margules to H. F. Hall's .....	1
Forbes to Mount Eurow .....	1	Mossgiel to Gunerambly Tank .....	1
Geurie to Windorah .....	2	Narrawa to Sligar's.....	2
Narramine to Waterloo .....	2	Nowra to Bengelala .....	6
Springside to Spring Terrace.....	2	Queanbeyan to Burra .....	2
Tomingley to Peak Hill.....	2	Reno to Mount Kimo .....	6
Trangie to Nevertire .....	2	West Wyalong to Hiawatha.....	2
Vermont Hill to Bobadah .....	2	Windellama to Rosevale .....	2
Walkden's Bore to Pera Bore .....	1	Yarrangobilly to Yarrangobilly Caves ...	1
Warren Railway Station to Post-office ...	Twice or oftener daily.	Yass-Queanbeyan mail line to Majura .....	3
<i>In the Southern Country.</i>		<i>In the Northern Country.</i>	
From Bancannia Lake to Yandarlo .....	1	From Belford to Lower Belford .....	3
Barmedman to Goodwin's .....	1	Belle Vue to Rosebrook .....	3
Berrigan to Wangamong .....	2	Booral to The Branch.....	2
Blowering to Yarrangobilly .....	1	Bulyeroi to Burrilda Station.....	2
Boloko to Panpong .....	2	Cambo Cambo to Burrenbar .....	2
Braidwood-Tarago mail line to Larbert .....	3	Collins's Letterbox to Mourabie .....	1
Breadalbane to Pomeroy .....	2	Glen Innes-Inverell mail line to Beaufort ...	6
Bungonia to Inverary .....	2	Inverell to Boggy Camp.....	3
Cathcart to H. McDonald's .....	1	Kerramingley to Tycannah .....	2
Collingullie to Bardwell's .....	3	Mungindie to Goondabluie .....	1
Delegate to Kirkenong .....	2	Murwillumbah to Crystal Creek .....	3
Eastbourne to Bogong .....	1	Nana Glen to Mole Creek .....	2
Glynnwood to Yaouk .....	1	Pennant Hills to West Pennant Hills.....	6
Gundagai to Reno .....	6	Singleton to Whittingham.....	6
Gunning to Collector .....	2	W. Spencer's to Mitchell's .....	1
		Yarramalong to Brush Creek .....	3
		Yarrowitch to Kangaroo Flat .....	1

The postal routes abolished, amounting to 648 miles, are shown in the following return :—

Postal Line.	No. of times per week.	Postal Line.	No. of times per week.
<i>Western Roads.</i>		<i>Southern Roads—continued.</i>	
Between Barnato and Innesowen .....	1	Between Queanbeyan and Williamsdale .....	2
Bedgerebong and Condobolin .....	3	Rosedale and Yaouk.....	1
Fifield and Carlisle .....	2	Tooma and Toolong .....	1
Manildra and Meranburn .....	2	Tullah and Noorong .....	1
Nevertire and Warren .....	12		
Rockley and Charlton .....	1	<i>Northern Roads.</i>	
Roto and Mount Hope .....	1	Between Aberglasslyn and Rosebrook .....	3
Vermont Hill and Conley's .....	1	Bowraville and Missabotti .....	1
Warren and Bowen Park .....	2	Brooklyn, Steamer's Wharf, and Post Office .....	6
Wimbledon and Fitzgerald's Valley .....	2	Brunswick and Billinudgel .....	6
<i>Southern Roads.</i>		Cuttabri and Baradine .....	1
Between Barellan and North Gogelderie.....	2	Macksville and Nambucca Heads .....	3
Barmedman and Wallandry .....	1	Moonbi Railway Station and Moor Creek Reservoir.....	3
Berrigan and Finley .....	1	Murwillumbah and Willowgrove .....	3
Braidwood and Larbert .....	2	Tamworth and Moor Creek.....	2
Craigie and Mila .....	3	Thornleigh Railway Station and Post Office, Pennant Hills.....	6
Golspie and Leighwood .....	2		
Howlong and Corowa .....	2	<i>Suburban Roads.</i>	
Jerilderie and Wangamong .....	2	Between Hurstville and Mortdale .....	6
Mahonga and Urangeline .....	1	Ryde and North Sydney .....	6
Marsden's-Waroo mail line and Bena .....	1		
Michelago and Burra .....	1		
Nelligen and Brimbramalla .....	1		

Increased communication on existing lines was afforded as follows :—

Postal Line.	No. of times per week.		Postal Line.	No. of times per week.	
	From	To		From	To
<i>Western Roads.</i>			<i>Southern Roads—continued.</i>		
Between Blayney and King's Plains .....	3	4	Between Milton and Bateman's Bay .....	1	3
Blayney and Vittoria .....	2	3	Moonbah and Ingebyra .....	1	2
Bogan Gate and Dandaloo .....	2	3	Moss Vale, Railway Station, and Post Office .....	22	31
Condobolin and McDonald's .....	1	2	Mumbledool and Mr. Charles Ridout's selection .....	1	2
Eauabalong and Mount Hope .....	1	2	Murrumburrah and Garangula .....	2	3
Forbes Railway Station and Post Office .....	6	9	Tilba Tilba and Mount Dromedary .....	2	3
Judd's Creek and Mount David .....	3	6	Tocumwal and Finley .....	3	6
Manildra Railway Station and Post Office .....	4	6	<i>Northern Roads.</i>		
Oberon and Jenolan Caves .....	3	6	Between Armidale and Rockvale .....	1	2
Parramatta Railway Station and Post Office .....	60	72	Attunga and Attunga Springs .....	2	3
Rockley and Burruga .....	3	6	Bulyeroi and Mogil Mogil .....	1	2
Warren and Cannonbar .....	1	2	Collarenebri and Moongulla .....	1	2
Wellington and Wuuluman .....	1	2	Glen Innes and Grafton .....	4	6
Wilcannia and White Cliffs .....	2	3	Llangothlin and Tubbamurra .....	1	2
Woodlands Station and Lansdale .....	2	3	Lostock and Upper Lostock .....	3	6
<i>Southern Roads.</i>			Rock Vale and Oban .....	1	2
Between Coolamon and Upper Currawarna .....	2	3	Wilson's Downfall and Acacia Creek .....	1	2
Eden and Kiah .....	1	2	Wilson's Downfall and Rivertree .....	1	2
Michelago and Burra .....	1	2			

The communication existing on the following lines was decreased :—

Postal Line.	No. of times per week.	
	From	To
<i>Western Roads.</i>		
Between Blayney and Brown's Creek .....	6	3
Nymagee and Mount Hope .....	2	1
<i>Southern Roads.</i>		
Between Clare and Manfred .....	2	1
Helensburgh and Darke's Forest .....	2	1
Ivanhoe and Clare .....	2	1
Murrumburrah and Marshall McMahon Reef .....	6	3
Taralga and Bannaby .....	6	3

The extent of postal route traversed in the Colony up to the 31st December, 1898, was 34,961 miles, as compared with 34,444 miles traversed in 1897—

	1897.	1898.
On horseback ... ..	10,393 miles	10,103 miles.
By coach ... ..	20,472 "	21,214 "
By railway ... ..	2,687 "	2,752 "
By tramway ... ..	68 "	68 "
By steamer ... ..	824 "	824 "

The extension of mail route by railway during 1898 was as follows :—

Nevertire to Warren ... ..	12 miles.
Bogan Gate to Condobolin .....	39 "
Berrigan to Finley ... ..	14 "
Total ... ..	65 miles.

The number of miles travelled in the year 1898 was 11,003,500, being an increase of 670,000 on the mileage of the previous year.

The number of Post Offices established was 53, viz. :—Abington, Bendick Murrell, Beryl, Blanket Flat, Boggy Camp, Boorooma, Brobenah, Bulyeroi, Burren, Canimbla, Comborah, Condong, Crow's Nest, Dark Corner, Eastbourne, Garah, Greenwich Park, Hazlebrook, Hill Plain, Isabella, Kensington, Kirkdale, Kirkenong, Lady Robinson's Beach, Lower Forest, Little Coogee, Marsfield, Mewburn, Millwood, Moongulla, Moorebank, Morisset, Mount Kimo, Narrabeen, New Mollyan, Pennant Hills Railway, Pera Bore, Pleasant Valley, Porter's Retreat, Reno, Sawyer's Gully, South Clifton, South Mount Hope, Spring Ridge, Spring Terrace, The Dairy, Tinda Tank, Tomanbil, Upper Meroo, Williamsdale, Wuuluman, Yarrabundi, and Yarranbah.

The Post Office at Sebastopol was re-established.

The

The number of Post Offices discontinued was 12, viz.:—Boona Tank, Brunswick, Bullenbong, Castlerag, Colo Creek, Day Dream, Fitzgerald's Valley, Keepit, Moor Creek Reservoir, Round Hill, The Albert, and Yandarlo.

It was found desirable to change the designations of the following Post Offices, viz.:—Ferrier's to Lockhart, Galley Swamp to Gallymont, Grong Grong Railway Station to Grong Grong, Pennant Hills to West Pennant Hills, Pennant Hills Railway to Pennant Hills, and The Dairy to Holroyd.

Appendix A.

In the Appendix will be found a list of the 1,578 Post Offices in the Colony on the 31st December, 1898. In addition to these, there are 3 Travelling Post Offices, which run between Sydney and the northern border of the Colony at Jennings, between Sydney and Albury on the southern border, and between Sydney and Dubbo in the West.

201 changes of Postmasters occurred during the year.

Receiving Offices were established at the following places:—Ashley, Avondale, Balladoran, Bamarang, Barrieton, Baw Baw, Bengelala, Bijiji, Booroondarra Tank, Booth's Reward, Broula, Brush Creek, Bullenbong, Coghill's Flat, Colo Creek, Combaning, Condong, Coolatai, Coonong Siding, Crystal Creek, Eucumbene, Gilmandyke, Goondabluie, Grey Mares, Gurley Siding, Hallsville, Hiawatha, Ilford Railway Station, Inverary, Kelly's Creek, Knockrow, Lilyvale, Limbri, Lower Lewis Ponds, Majura, Meadow's Hotel, Melrose, Meerschaum Vale, Mole Creek, Mungeribar, New Meragle, Ogunbil, Paddy's Flat, Panpong, Parragundy, Phillips' Corner, Pomeroy, Rosevale, Rowe's, Scott's Gully, Talbingo, Taylor's Flat, The Branch, Tibbereenah, Upper Bago, Windorah, Woodenbong, Woodford Dale, Woolabra, Yerra Yerra.

Receiving Offices were re-established at Cooney Creek, Dinoga, Duck Flat, Five Islands, Lochiel, Lower Belford, and Woodford.

The names of the following Receiving Offices were changed, viz.:—Eucumbene to Marshall's Plain, Ironbong to Ferndale, and Kelly's Creek to Bimbimbie.

The Receiving Offices at the following places were converted into Post Offices, viz.:—Abington, Bendick Murrell, Blanket Flat, Boggy Camp, Boorooma, Canimbla, Comborah, Condong, Eastbourne, Hazlebrook, Hill Plain, Greenwich Park, Isabella, Kirkdale, Lower Forest, Mewburn, Millwood, Moongulla, Moorebank, Morisset, Narrabeen, New Mollyan, Pera Bore, Pleasant Valley, Porter's Retreat, Sawyer's Gully, South Clifton, South Mount Hope, Spring Ridge, Tinda Tank, Tomanbil, Upper Meroo, Williamsdale, and Wuuluman.

The Receiving Offices at the following places were discontinued, viz.:—Blair Hill, Booth's Reward, Brimbramalla, Carlisle, Cell's Field, Coghill's Flat, Curracabark, Dinoga, Duck Flat, Eulalie, Five Islands, Hollymount, Langwell, Lower Belford, Missabotti, Mount Wayo, Nana Creek, Noorong, Tarrabandra, The Risk, Ward's River, Willowgrove, and Woodford.

Appendix B.

In the Appendix will be found a list of the Receiving Offices in existence at the close of the year—520 in number.

Appendix A.

Appendix A contains a return of the Government Buildings for the transaction of the Postal, Money Order, Savings Bank, and Telegraph business, and particulars of the premises rented or otherwise provided for the purpose. Government Buildings at the following places were completed and occupied during the year 1898, viz.:—Alexandria, Arncliffe, Captain's Flat, Carrington, Collarenebri, Drummoyne, Howlong, Ivanhoe, Lismore, Major's Creek, Mossgiel, Murwillumbah, Randwick, South Broken Hill, Trangie, and Wattle Flat.

Sites for Post and Telegraph Offices were secured at Bodalla, Burruga, Captain's Flat, Clifton, Currecki, Dulwich Hill, Forster, Hornsby Junction, Lockhart, Narrandera, Stockton, Summer Hill, Taree, and Tocumwal.

During the year 1898, 4 pillar letter-receivers were removed to different sites, and 1 was withdrawn; 59 small iron letter-receivers were placed, 4 removed to different sites, and 8 withdrawn.

On the 31st December the number of letter-receivers erected in the Colony (both large and small) was 1,329, and the number of newspaper-receivers, 28.

The number of licenses for the sale of postage stamps issued in 1898 to persons other than postmasters or receiving-office-keepers was 113, the number transferred, 61, and the number cancelled, 19.

A new letter-box, designed by an officer of the Department (Mr. D. M. Whyte), was brought into use during the year. The box, which can be attached to lamp

lamp or telegraph posts, is larger than the one previously in use, having a capacity for 400 letters. By an ingenious arrangement, immediately the key is turned in the door of the box the letters drop into a bag previously hung beneath it. A dial, which is fixed on the face of the box, may be altered to show the time of the next clearance, and the door is shut on a spring lock. Already 50 of these boxes have been brought into use, the invention proving very satisfactory.

On the 31st December, 1898, the number of locked private letter-boxes let at the General Post Office was 1,260. In addition to these 68 were allotted to Public Departments. The system is now in operation at the following offices, viz.:—Adelong, Albury, Armidale, Ashfield, Ballina, Balmain, Balranald, Bathurst, Bega, Berrigan, Bingara, Bombala, Bourke, Bowral, Braidwood, Broken Hill, Burwood, Casino, Cobar, Cendobolin, Cooma, Coonamble, Cootamundra, Coraki, Corowa, Cowra, Deniliquin, Dubbo, East Maitland, Emmaville, Forbes, George-street North, Glen Innes, Goulburn, Grafton, Granville, Grenfell, Gulgong, Gunnedah, Hay, Haymarket, Hillgrove, Hillston, Inverell, Jerilderie, Junee, Katoomba, Kempsey, Kiama, King-street, Lismore, Maclean, Manly, Marrickville, Moree, Moruya, Moss Vale, Mount Victoria, Mudgee, Murwillumbah, Muswellbrook, Narrabri, Narrandera, Newcastle, Newtown, North Sydney, Nymagee, Orange, Pambula, Parkes, Park-street, Parramatta, Queanbeyan, Quirindi, Rozelle, Scone, Silvertown, Singleton, Tamworth, Taree, Temora, Tenterfield, Uralla, Urana, Wagga Wagga, Walgett, Warialda, Warren, Wentworth, West Maitland, Wilcannia, Wollongong, West Wyalong, and Young.

Five private posting-boxes have been constructed on private premises for the use and at the expense of the occupants, under the system introduced in August, 1886. The fee charged for the clearance of these boxes varies from £3 to £5 per annum, according to the number of clearances effected daily.

The number of persons employed in connection with the Postal and Electric Telegraph Department for the year 1898 was as follows:—1 Postmaster-General, 1 Deputy Postmaster-General, 1 Secretary, 1 Chief Electrician and Engineer-in-Chief of Telegraphs, 1 Chief Accountant and Controller, Money Order Office and Government Savings Bank.

*Ministerial Division.*—1 inland mail clerk, 1 appointment clerk, 1 inspector for irregularity and missing and dead letter branch, 1 correspondence clerk, 1 record clerk, 40 clerks, 1 medical officer, 1 chief messenger, 7 indoor messengers, 2 detectives, 3 constables.

*Money Order and Government Savings Bank Division.*—1 accountant, 1 examiner, 1 teller, 76 clerks, 8 indoor messengers.

*Account and Cash Division.*—1 accountant, 1 distributor of stamps, 1 cashier, 20 clerks, 1 indoor messenger.

*Mail Division.*—1 chief inspector and superintendent, 1 senior inspector, 6 inspectors, 1 acting inspector and relieving officer, 53 clerks, 1 officer in charge of parcel post, 1 clerk in charge of stores, 1 shipping clerk, 1 assistant shipping clerk, 1 clerk and translator, 1 relieving officer, 1 Chinese interpreter, 17 mail guards, 1 overseer of sorters, 125 sorters, 12 stampers, 1 outdoor inquiry officer, 1 overseer of letter-carriers, 76 letter-carriers, 16 junior letter-carriers, 59 mail-boys, 17 assistants, parcel post branch, 4 storemen, 2 custodians of mails, 1 custodian of mail-bags, 1 assistant in bag-room, 2 bag turners, 1 bag-maker, 1 letter-carriers' timekeeper, 1 mechanic, 1 carpenter, 1 caretaker, 1 assistant caretaker, 1 officekeeper, 1 tower attendant, 6 cleaners, 15 female servants, 1 manager of stables, 1 farrier, 1 assistant farrier, 3 grooms in charge, 5 grooms, 1 foreman of mail-cart drivers, 12 mail-cart drivers, 3 lift attendants.

*Telegraph Division.*—1 station manager, 2 assistant station managers, 1 check clerk, 1 electrician, 1 assistant electrician, 3 testing officers, 1 receiving clerk, 35 clerks, 24 booking clerks, 2 cadets (electrician's branch), 175 operators, 5 junior operators, 1 supernumerary operator, 7 supernumerary assistants, 4 messengers' overseers, 11 monitors (despatch branch), 156 messengers, 1 mechanic, 5 fitters, 1 probationer (mechanical branch), 1 inspector of lines (city and suburbs), 1 assistant line repairer, 1 assistant (construction branch), 9 batterymen, 1 jointer.

*Telephone Branch.*—1 manager, 1 clerk, 1 mechanic, 31 fitters, 1 exchange foreman, 1 line foreman, 7 monitors, 1 matron, 96 switch attendants (44 male and 52 female), 2 junior assistants, 1 cleaner and messenger, 1 messenger.

*Electric Light Branch.*—1 chief engineer, 4 engineers, 12 assistant engineers.

*Branch,*

*Branch, Suburban, and Country Offices.*—1,578 postmasters (431 official, 1,147 non-official), 8 telegraph station masters, 114 postal assistants, 69 junior postal assistants, 8 supernumerary assistants, 64 temporary postal assistants, 244 operators, 54 junior operators, 56 supernumerary operators, 23 non-official station masters and telephone operators, 17 mail-guards, 2 assistant guards, 1 sorter, 170 letter-carriers, 199 junior letter-carriers, 49 mail-boys, 384 telegraph messengers, 97 switch attendants, 2 telephone fitters, 4 battery-men, 45 line-repairers, 4 construction overseers, 4 carpenters, 18 temporary line-repairers, 63 labourers, 2 boys, 1 mason, 520 receiving office keepers.

Total, Head Office ... ..	1,246
„ Branch, Suburban, and Country Offices ...	3,800
„ Number of Mail Contractors ... ..	853
„ „ Porters ... ..	106
Total number of persons employed ... ..	6,005

These may be subdivided into—

Persons whose whole time is occupied in the service;	{	Principal officers ... ..	35
		Clerks ... ..	259
		Post and telegraph masters ... ..	439
		Assistants at Post Offices ... ..	233
		Operators ... ..	535
		Subordinate officials ... ..	1,822
			<hr/>
			3,323
and			
Persons whose time is only partially employed in the service.	{	Sub or non-official postmasters, telephone operators, and receiving office keepers ... ..	1,690
		Assistants to non-official postmasters and other subordinate officials ... ..	33
		Mail contractors and mail porters ... ..	959
			<hr/>
			2,682
		Total ... ..	6,005

The removals from the Service numbered twenty. Of these, two post and telegraph masters each received a sentence of nine months' imprisonment for embezzlement, and a junior postal assistant was sentenced to one year's imprisonment for a similar offence. A relieving officer was sentenced to two years' imprisonment for stealing Government money; and sentences of three years' and twelve months' imprisonment respectively were imposed on a letter-carrier and a telegraph messenger for stealing letters. For tampering with a letter a telegraph messenger was sentenced to imprisonment for six months, and another telegraph messenger was ordered to be confined in lock-up for twenty-four hours for stealing Government money. The remainder were dismissed for the following offences:—A post and telegraph master, a postal assistant, and a telegraph messenger for irregular treatment of letters; another postal assistant for misappropriating three Savings' Bank deposits; an operator for irregularities in Savings' Bank transactions; a junior letter-carrier for detaining and delaying the delivery of newspapers; a supernumerary operator for irregular performance of duty; a switch attendant and a telegraph messenger for stealing letters; a telegraph messenger for absence without leave; another for stealing money; and a third on account of unsuitableness for the service.

Eleven deaths occurred, namely:—J. T. McMahon, assistant superintendent, Mail Branch; W. P. Raper, post and telegraph master, Dubbo; H. G. Thornley, postal assistant, Newtown; S. H. Edwards, operator, Orange; E. E. Hadley, operator, Head Office; F. Zglinicki, operator, Camden; M. Tier, junior operator, Eden; T. J. Archer and J. Steele, letter-carriers; G. T. Carroll, line repairer; and M. Kelly, mail-cart driver.

Eighty-one resignations took place.

Nineteen officers were transferred to positions in other Government Departments.

Ten officers retired from the Service, namely:—J. R. Colls, post and telegraph master, Yass, who was allowed a pension under the Civil Service Act, 1884; J. R. Redstone, post and telegraph master, Dalmorton; D. M. Honniball, postal assistant, the Exchange; R. Philips, operator, Head Office; W. Wiburd, mail guard; T. Costello, letter-carrier; H. Bright, junior letter-carrier, Quirindi; T. H. Hanna, line-repairer, Dungog, and F. J. Reardon, indoor messenger, who were allowed gratuities under the Public Service Act of 1895; and H. J. Lee, post and telegraph master, Palmer's Island, who retired without gratuity, but was granted a refund of his contributions to the Superannuation Fund.

The

The Postal Inspectors in 1898 travelled a distance of 52,189 miles, and inspected the postal routes appertaining thereto, visiting 656 offices, 171 of which were visited more than once during the year.

In order to protect the revenue, it was found needful to adopt more stringent regulations than those previously in force in regard to the transmission of official correspondence through the post, and consequently it was provided that from 1st January, 1898, all official correspondence despatched from Public Departments should be allowed to pass through the post as duly prepaid, provided it be enclosed in printed official envelopes or covers bearing the endorsement "O.H.M.S.," with the name of the Department or Branch thereof, from which it emanates, in the lower left-hand corner, and also the endorsement,—“This envelope can only be lawfully used by Government Departments on the public business. The use of it by public officials to avoid payment of postage on private matter of any kind is punishable, and involves the letter being charged double postage. The public are cautioned against using it under any circumstances.” Printed papers, returns, &c., must bear printed labels similarly endorsed.

The transmission of postal notes, money orders, and cheques by post within and to places beyond the Colony, as packets, and their enclosure in packets, or parcels, was in June prohibited, intimation being given that such articles must be sent separately, at letter rate of postage.

The rate of postage on letters transmitted to and from post and receiving offices within the respective distances mentioned hereunder was reduced to 1d. per  $\frac{1}{2}$  oz., or fraction thereof, from the dates named.

Within a radius of 13 miles of Cobar, from 7th June.
„ 13 miles of Robertson, from 21st September.
„ 13 miles of Wellington, from 15th December.

The limit of weight of letters containing gold, posted in New South Wales, for delivery therein, was raised from 3 lb. to 6 lb. from the 1st May.

From the 1st July, the regulation relative to the transmission within the Colony, and to the other Australasian Colonies, of cards, travellers' cards, or circulars, was amended so as to allow of their bearing, in addition to the date and name of the traveller, the date of sending, and the date of intended visit of the traveller, also the time of departure of train or steamer, and name of latter by which goods are forwarded.

Arrangements were made for samples of glass, liquids, greases, and colouring powders for transmission to the United Kingdom, and articles of natural history, dried or preserved animals or plants, geological specimens, &c., for the United States, to be forwarded by sample post from the 1st July.

From the 15th July, private post-cards, single and reply, bearing adhesive stamps, were admitted to transmission within the Colony, and to the other Australasian Colonies and Fiji, at the rate of 1d. for a single card, and 2d. for a reply card, and from the 1st September, to other parts of the world, at the rate of 1 $\frac{1}{2}$ d. for a single card, and 3d. for a reply card, subject to the conditions applying to private post-cards, bearing impressed stamps.

From the 1st September it was decided to transmit at packet rate of postage within the Colony, and to Victoria, Queensland, South Australia, Tasmania, and Western Australia, proxy forms, or notices, in which may be inserted such particulars as date, signature, name of proxy, date of meeting, name of shareholder, or member, and number of votes, provided that nothing appear in writing or print which does not form part of the document as a legal instrument.

In October the limit of weight for packets containing printed matter or circulars, or other matter not printed in ordinary type, was increased from 16 oz. to 4 lb.

From the 15th October the rate of postage on magazines for transmission inland and to Victoria, was reduced to 1d. for the first 8 oz. or fraction thereof, and  $\frac{1}{2}$ d. for each additional 4 oz., or fraction thereof (up to 5 lb.), but subject, in the case of magazines for inland transmission only, to the usual rate of  $\frac{1}{2}$ d. for a printed paper not exceeding 2 oz.

Amended regulations have been introduced in connection with the transmission by post of Bankers' packets; the payment in cash of postage on bulk quantities of mail matter; the official registration of articles supposed to contain valuable enclosures; the treatment of unclaimed correspondence; certificates of posting; acknowledgment of delivery; Customs declaration and despatch note, in connection with postal parcels.



## FOREIGN SERVICE.

The new contracts with the Peninsular and Oriental and Orient Steam Navigation Companies, particulars of which are given in the report of my predecessor for the year 1897, commenced on the 1st February, 1898, and full details of the performances of the vessels employed in the service during the year 1898, will be found in a subsequent part of this Report.

There is a provision in the contract with the Peninsular and Oriental Company empowering the Company to carry mails "in one and the same mail ship, or by branch mail ship, over any part of the mail routes on any outward or homeward voyage," and in pursuance of this power mails are now conveyed by a fast branch steamer of moderate tonnage between Brindisi and Port Said, the mail packet steaming direct between Marseilles and Port Said and not calling at Brindisi. Under this plan the inward mails, which are due in Sydney on every alternate Wednesday, are often delivered in advance of contract time, thus enabling replies to be sent by the outgoing mail on Tuesday, and effecting a week's saving in the course of post.

The arrangement made with the New Zealand Government in 1892 for the conveyance of mails, once every four weeks, to and from Sydney and San Francisco, *via* Auckland, by contract packets of the Union Steamship Company of New Zealand, for the sum of £4,000 per annum, has been renewed from time to time, and is still in existence.

The contract with Mr. James Huddart, for the mail service between Sydney and Vancouver, expired on the 24th May, 1899, and an agreement (copy of which will be found in the Appendix) has recently been concluded with Messrs. Burns, Philp, & Co. (Limited), the terms and conditions of which are similar to those of the previous contract (with certain modifications introduced during its currency), except that the route is to be *via* Brisbane instead of *via* Wellington. The subsidy payable is £10,000 per annum, and the duration of the contract four years.

A contract has been entered into by the Government with Messrs. Burns, Philp, & Co. (Limited) for a steam service to Lord Howe and Norfolk Islands, New Hebrides, Banks Group, and Santa Cruz for a period of three and a half years, dating from 1st January, 1898. The contract provides for the conveyance of mails, passengers, and cargo six times a year to and from Sydney, Norfolk Island, New Hebrides, Banks Group, and Santa Cruz, calling on each alternate trip at Lord Howe Island; but the contractors have undertaken to allow their steamers to call at Lord Howe Island on every trip both going and coming. The subsidy payable to the contractors is £2,100 per annum, and the rates of freight and for passengers must not exceed certain specified amounts.

Particulars of the Mail Services performed *via* Suez, San Francisco, and Vancouver during the year 1898:—

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY, *VIA* SUEZ.*Received.*

Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.	Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.
	1897.	1898.			1898.	1898.	
Britannia .....	10 December ..	12 January ...	33	India .....	10 June .....	12 July .....	32
Oceana .....	25 " .....	26 " .....	32	Australia.....	24 " .....	26 " .....	32
	1898.			Arcadia .....	8 July .....	9 August.....	32
China .....	7 January ...	7 February ...	31	Rome .....	22 " .....	23 " .....	32
Victoria.....	21 " .....	23 " .....	33	Himalaya ...	5 August.....	6 September..	32
India .....	4 February ...	8 March .....	32	Oriental .....	19 " .....	20 " .....	32
Australia .....	18 " .....	22 " .....	32	Britannia ...	2 September..	5 October ...	33
Arcadia .....	4 March .....	6 April .....	33	Oceana .....	16 " .....	18 " .....	32
Rome .....	18 " .....	20 " .....	33	Victoria .....	30 " .....	1 November...	32
Himalaya .....	1 April .....	3 May .....	32	India .....	14 October ...	14 " .....	31
Britannia .....	15 " .....	19 " .....	34	Australia.....	28 " .....	28 " .....	31
Oceana .....	29 " .....	1 June .....	33	Arcadia .....	11 November..	13 December ..	32
Peninsular ...	13 May .....	15 " .....	33	Rome .....	25 " .....	28 " .....	33
Victoria.....	27 " .....	28 " .....	32				

## Despatched.

Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.
	1898.	1898.			1898.	1898.	
Rome.....	10 January ...	13 February...	34	Victoria .....	19 July .....	21 August.....	33
Himalaya .....	24 " .....	27 " .....	34	India .....	2 August.....	4 September..	33
Oceana .....	15 February ...	20 March .....	33	Australia.....	16 " .....	18 " .....	33
China* .....	1 March .....	6 April .....	36	Arcadia .....	30 " .....	2 October ...	33
Victoria.....	15 " .....	16 " .....	32	Rome .....	13 September..	16 " .....	33
India .....	29 " .....	30 " .....	32	Himalaya ...	27 " .....	29 " .....	32
Australia .....	12 April .....	15 May .....	33	Oriental .....	11 October ...	12 November..	32
Arcadia .....	26 " .....	29 " .....	33	Britannia ...	25 " .....	26 " .....	32
Rome.....	10 May .....	13 June .....	34	Oceana .....	8 November..	10 December...	32
Himalaya .....	24 " .....	27 " .....	34	Victoria .....	22 " .....	24 " .....	32
Britannia .....	7 June.....	11 July .....	34			1899.	
Oceana .....	21 " .....	25 " .....	34	India .....	6 December...	8 January.....	33
Peninsular ...	5 July .....	8 August.....	34	Australia.....	20 " .....	21 " .....	32

\* "China" grounded off Perim Island, and mails conveyed to destination by "Carthage."

Average time occupied in the conveyance of mails :—

London to Sydney .....  $32\frac{7}{8}$  days.  
Sydney to London .....  $33\frac{2}{3}$  "

## ORIENT STEAM NAVIGATION COMPANY, VIA SUEZ.

## Received.

Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.	Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.
	1897.	1898.			1893.	1898.	
Oroya .....	3 December.	6 January .....	34	Austral .....	3 June .....	8 July .....	35
Lusitania .....	17 " .....	21 " .....	35	Orient .....	17 " .....	21 " .....	34
Cuzco .....	31 " .....	4 February ...	35	Ophir .....	1 July .....	3 August.....	33
	1898.			Orotava .....	15 " .....	17 " .....	33
Oruba .....	14 January ...	17 " .....	34	Orizaba.....	29 " .....	31 " .....	33
Ormuz .....	28 " .....	3 March .....	34	Oroya .....	12 August ...	14 September..	33
Austral .....	11 February..	16 " .....	33	Cuzco .....	26 " .....	29 " .....	34
Ophir .....	25 " .....	30 " .....	33	Oruba .....	9 September	11 October.....	32
Orotava .....	11 March.....	13 April.....	33	Ormuz .....	23 " .....	26 " .....	33
Orizaba .....	25 " .....	27 " .....	33	Austral* .....	7 October ...	14 November..	38
Oroya .....	8 April .....	11 May .....	33	Orient .....	21 " .....	22 " .....	32
Cuzco .....	22 " .....	25 " .....	33	Ophir .....	4 November..	7 December...	33
Oruba .....	6 May .....	8 June .....	33	Orotava .....	18 " .....	22 " .....	34
Ormuz .....	20 " .....	22 " .....	33				

\* The "Austral" broke down, and her mails were forwarded from Suez by the following P. & O. Packet "India."

## Despatched.

Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.
	1898.	1898.			1898.	1898.	
Orotava .....	3 January ...	6 February ...	34	Austral .....	26 July.....	29 August.....	34
Orizaba .....	17 " .....	19 " .....	33	Orient .....	9 August ...	11 September..	33
Oroya .....	8 February..	13 March .....	33	Ophir .....	23 " .....	25 " .....	33
Cuzco .....	22 " .....	28 " .....	34	Orotava .....	6 September	9 October ...	33
Oruba .....	8 March .....	9 April .....	32	Orizaba .....	20 " .....	23 " .....	33
Ormuz .....	22 " .....	23 " .....	32	Oroya .....	4 October ...	6 November ..	33
Austral .....	5 April .....	8 May .....	33	Cuzco .....	18 " .....	21 " .....	34
Ophir .....	19 " .....	22 " .....	33	Oruba .....	1 November	3 December ...	32
Orotava .....	3 May .....	4 June .....	32	Ormuz .....	15 " .....	17 " .....	32
Orizaba .....	17 " .....	20 " .....	34			1899.	
Oroya .....	31 " .....	5 July .....	35	Orient .....	29 " .....	1 January ...	33
Cuzco .....	14 June .....	19 " .....	35	Austral .....	13 December.	17 " .....	35
Oruba .....	28 " .....	1 August.....	34	Ophir .....	27 " .....	28 " .....	32
Ormuz .....	12 July.....	14 " .....	33				

Average time occupied in the conveyance of mails :—

London to Sydney.....  $33\frac{1}{2}$  days.  
Sydney to London.....  $33\frac{2}{3}$  "

UNION

UNION STEAMSHIP COMPANY, *VIA* SAN FRANCISCO.*Received.*

Name of Steamer	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.	Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.	No. of days occupied in transit of Mails between London and Sydney.
	1897.	1898.			1898.	1898.	
Mariposa .....	27 November ..	3 January ..	37	Moana .....	4 June .....	9 July .....	35
Moana .....	25 December ..	1 February ..	38	Alameda .....	2 July .....	8 August .....	37
	1898.			Mariposa .....	30 " .....	3 September ..	35
Alameda .....	22 January .....	28 " .....	37	Moana .....	27 August ..	1 October .....	35
Mariposa .....	12 February .....	21 March .....	37	Alameda .....	24 September.	1 November ..	38
Moana .....	12 March .....	16 April .....	35	Mariposa .....	22 October ..	23 " .....	37
Alameda .....	9 April .....	15 May .....	36	Moana .....	19 November.	26 December ..	37
Mariposa .....	7 May .....	13 June .....	37				

*Despatched.*

Name of Steamer	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.
	1898.	1893.			1898.	1898.	
Mariposa .....	17 January .....	24 February ..	38	Moana .....	1 August .....	7 September ..	37
Moana .....	14 February .....	21 March .....	35	Alameda .....	29 " .....	5 October .....	37
Alameda .....	14 March .....	19 April .....	36	Mariposa .....	26 September ..	3 November ..	38
Mariposa .....	11 April .....	16 May .....	35	Moana .....	24 October ..	30 " .....	37
Moana .....	9 May .....	14 June .....	36	Alameda .....	21 November ..	30 December ..	39
Alameda .....	6 June .....	11 July .....	35			1899.	
Mariposa .....	4 July .....	10 August ..	37	Mariposa .....	19 December ..	26 January ..	38

Average time occupied in the conveyance of mails:—

London to Sydney .....	36½ days.
Sydney to London .....	36½ " "

CANADIAN-AUSTRALIAN ROYAL MAIL STEAMSHIP COMPANY, *VIA* VANCOUVER.*Received.*

Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney	Name of Steamer.	Date of departure of Mails from London.	Date of arrival of Mails at Sydney.
		1898.			1898.
Aorangi .....	Mails are not despatched from London for conveyance by Vancouver Service to Sydney.	12 January.	Miowera .....	Mails are not despatched from London for conveyance by Vancouver Service to Sydney.	27 July.
Miowera .....		6 February.	Warrimoo .....		26 August.
Warrimoo .....		12 March.	Aorangi .....		21 September.
Aorangi .....		8 April.	Miowera .....		21 October.
Miowera .....		10 May.	Warrimoo .....		18 November.
Warrimoo .....		3 June.	Aorangi .....		14 December.
Aorangi .....		30 " "			

*Despatched.*

Name of Steamer.	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.	Name of Steamer	Date of despatch of Mails from Sydney.	Date of arrival of Mails in London.	No. of days occupied in transit of Mails between Sydney and London.
	1898.	1893.			1898.	1898.	
Warrimoo ..	3 January ..	14 February ..	42	Miowera .....	13 August .....	24 September ..	42
Aorangi .....	6 February ..	19 March .....	41	Warrimoo ..	10 September ..	22 October ..	42
Miowera .....	7 March .....	19 April .....	43	Aorangi .....	8 October ..	19 November ..	42
Warrimoo ..	26 " .....	8 May .....	43	Miowera ..	5 November ..	14 December ..	39
Aorangi .....	23 April .....	4 June .....	42			1899.	
Miowera .....	23 May .....	2 July .....	40	Warrimoo ..	3 December ..	11 January ..	39
Warrimoo ..	18 June .....	29 " .....	41	Aorangi .....	31 " .....	9 February ..	40
Aorangi .....	16 July .....	27 August ..	42				

Average time occupied in the conveyance of mails:—

Sydney to London .....	41½ days.
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The subsidy paid for the year 1898 to the Orient and the Peninsular and Oriental Steam Navigation Companies for the conveyance of mails to and from the United Kingdom and Australia, *via* Suez, was £170,000. The contribution of the United Kingdom was £97,750.

The

The amount paid by each contributing colony, on the basis of population, was as follows:—

New South Wales	...	...	...	...	...	£25,976	1	8
Victoria	...	...	...	...	...	23,124	8	4
Queensland	...	...	...	...	...	9,507	13	4
South Australia	...	...	...	...	...	7,133	1	8
Tasmania	...	...	...	...	...	3,366	15	0
Western Australia	...	...	...	...	...	3,142	0	0
Total...	...	...	...	...	...	£72,250	0	0

The Colonial share of subsidy was reduced from £75,000 to £72,000 per annum, from the 1st February, 1898.

The following return shows the number of letters, packets, and newspapers despatched and received by the various ocean mail routes during the year 1898, as compared with similar information for the year 1897:—

Year.	Route.	Despatched.						Received.					
		Intercolonial.			International.			Intercolonial.			International.		
		Letters.	Packets.	News-papers.	Letters.	Packets.	News-papers.	Letters.	Packets.	News-papers.	Letters.	Packets and Newspapers.	
1897	Per Peninsular and Oriental S. N. Co.'s packets	175,018	26,129	180,499	442,599	82,204	277,014	146,210	48,316	83,299	685,260	648,613	
1898		140,908	30,973	147,865	440,559	84,115	247,459	123,708	23,582	55,306	767,981	672,657	
1897	Per Orient Steam Navigation Co.'s packets	161,998	17,119	144,816	443,198	85,825	271,033	164,598	49,619	99,796	678,557	627,994	
1898		151,835	36,959	160,788	454,746	79,036	253,033	146,733	37,141	74,356	745,371	648,042	
1897	Per Union Steamship Co.'s packets, via San Francisco	23,666	34,307	37,145	69,121	13,326	43,305	14,934	2,206	7,318	129,302	136,003	
1898		26,475	32,445	32,977	57,667	13,826	37,612	7,472	634	3,888	137,545	111,073	
1897	Per Queensland Royal Mail Co.'s packets, via Torres Straits	....	....	....	1,776	253	1,859	....	....	....	68	5	
1898		....	....	....	2,214	324	1,891	....	....	....	....	....	
1897	Per Compagnie des Messageries Maritimes' packets, via Marseilles	238	2	14	7,670	613	3,596	....	....	....	15,932	8,235	
1898		275	1	....	18,793	1,158	2,248	....	....	....	14,181	8,734	
1897	Per Nord-Deutscher Lloyd's packets, via Brindisi	421	....	2	2,613	28	685	760	174	410	16,939	9,439	
1898		309	6	4	1,991	65	1,477	464	53	126	20,383	10,927	
1897	Per Canadian-Australian packets, via Vancouver	15,014	6,172	25,257	38,087	8,861	25,671	8,201	526	2,519	40,242	44,354	
1898		38,494	37,502	51,680	57,739	11,595	42,856	24,035	4,025	18,180	78,647	69,820	
1897	Totals	376,355	83,729	387,733	995,469	191,110	623,163	334,703	100,841	193,342	1,566,300	1,474,643	
1898		358,296	137,886	393,314	1,033,709	190,119	586,576	302,412	65,435	151,856	1,764,108	1,521,253	

#### FEDERAL OCEAN MAIL SERVICE.

The following statement shows the approximate net cost to New South Wales for the year 1898 of the Mail Service, via Suez, per the vessels of the Orient and the Peninsular and Oriental Steam Navigation Companies:—

<i>Dr.</i>		£	s.	d.	£	s.	d.
To New South Wales proportion of Colonial share of subsidy for the carriage of mails	...	25,976	1	8			
Transit of mail-matter through European Countries, &c.	...	3,299	18	8			
Overland transit of mail-matter through Australian colonies; cost of advising arrival of mails in London, exchange on remittances, and special trains	...	1,630	6	9			
					30,956	7	1
<i>Cr.</i>							
By share of contributions from non-contracting colonies, &c....	...	1,100	0	0			
Estimated share of transit rates on mail-matter from European Countries, &c.	...	920	0	0			
Estimated postages collected in the Colony, &c....	...	23,000	0	0			
					25,020	0	0
Estimated net cost to the Colony	...				£5,936	7	1
The estimated net cost for 1897 was	...				£3,686	1	9

## SAN FRANCISCO MAIL SERVICE.

Statement showing the approximate net cost to New South Wales for the year 1898, of the San Francisco Mail Service, per the vessels of the Union Steamship Company of New Zealand (Limited) :—

<i>Dr.</i>	£	s.	d.	£	s.	d.
To Payment to the Government of New Zealand for the carriage of mails ... ..	4,000	0	0			
Cost of land and sea transit of mail-matter for places beyond the United States of America, and of advising the arrival of mails in London ... ..	55	4	11			
			<hr/>	4,055	4	11
<i>Cr.</i>						
By Estimated postages collected in the Colony, &c. ... ..				2,070	0	0
Estimated net cost to the Colony ... ..				£1,985	4	11
The estimated net cost for 1897 was ... ..				<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
				£1,935	3	7

## SYDNEY-VANCOUVER MAIL SERVICE.

Statement showing the approximate net cost to New South Wales, for the year 1893, of the Sydney-Vancouver Mail Service, per vessels of the Canadian-Australian Royal Mail Steamship Company (Limited), in liquidation :—

<i>Dr.</i>	£	s.	d.	£	s.	d.
To Payment for the carriage of mails ... ..	10,000	0	0			
Cost of land and sea transit of mail-matter to places beyond Canada, and of advising the arrival of mails in London ... ..	79	12	9			
			<hr/>	10,079	12	9
<i>Cr.</i>						
By Contributions from non-contracting colonies, &c. ... ..	1,014	3	0			
Estimated postages collected in the Colony ... ..	1,720	0	0			
			<hr/>	2,734	3	0
Estimated net cost to the Colony ... ..				£7,345	9	9
The estimated net cost for 1897 was ... ..				<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>
				£8,780	0	5

## PARCEL POST.

From the 1st June the parcel post was extended to the New Hebrides, Banks' Group, and Santa Cruz Islands, at the intercolonial rate of 8d. for the first lb., and 6d. for each additional lb. (up to 11 lb.)

An exchange of parcels has also been arranged with the following places :— Netherlands East India (through the intermediary of Queensland); Republic of Honduras, *via* Belize; Peru, *via* France and Germany (through the intermediary of the United Kingdom); Seychelles, *via* India; Formosa, *via* Hong Kong; and Russia, including Finland (through the United Kingdom).

In March, revised rates were introduced in connection with parcels for Cameroons, British East Africa, and Zanzibar. In June, a regulation was introduced, providing for intercolonial parcels sent out of course (*i.e.*, articles despatched from one Colony as packets, &c., but regarded in the Colony of destination as parcels) being charged double the amount of the deficient postage at parcel rate on delivery.

At the request of the Postal Administrations of India and Egypt, this Department has consented to act as intermediary for the transmission of parcels from those countries to the New Hebrides, Banks' Group, and Santa Cruz Islands, subject to the usual payments for sea conveyance from New South Wales.

The Inland and Intercolonial Parcel Post was established on 1st October, 1893, and during the three months ended 31st December, 1893, 38,025 Inland parcels, weighing 115,066 lb. were posted, upon which postage amounting to £2,038 was paid; 3,830 Intercolonial parcels, weighing 10,086 lb., with a declared value of £4,766 were also posted, the postage amounting to £309. The following table shows the growth of the Parcel Post for the five years ended 31st December, 1898 :—

Year.	Inland.			Intercolonial.								International. †								Total, Despatched and Received.			
				Despatched.				Received.				Despatched.				Received.							
	Number.	Weight.	Postage.	Number.	Weight.	Postage.	Declared Value.	Number.	Weight.	Postage.	Declared Value.	Number.	Weight.	Postage.	Declared Value.	Number.	Weight.	Postage.	Declared Value.	Number.	Weight.	Postage.	Declared* Value.
		lb.	£		lb.	£	£		lb.	£	£		lb.	£	£		lb.	£	£		lb.	£	£
1894	315,243	977,302	16,527	18,020	48,697	1,506	28,451	15,955	40,325	1,016	15,967	6,273	16,388	756	17,192	12,399	42,074	1,923	38,042	367,890	1,124,786	21,728	99,652
1895	362,442	1,264,071	20,036	20,873	66,790	1,906	27,115	18,848	49,290	1,525	15,840	6,098	17,722	825	19,084	14,516	51,216	2,254	40,756	422,777	1,449,089	26,546	102,795
1896	426,345	1,535,274	23,853	28,639	92,043	2,660	44,734	26,775	69,772	2,237	30,807	6,930	19,256	864	26,294	17,372	64,303	2,568	95,928	506,111	1,780,648	32,182	197,763
1897	439,181	1,589,336	24,371	39,426	112,288	3,351	58,992	32,400	87,828	2,650	42,867	9,105	25,322	994	60,278	19,391	71,640	2,552	115,844	539,503	1,886,414	33,918	277,981
1898	481,203	1,743,391	26,569	46,645	134,069	3,940	83,766	35,017	92,560	2,853	42,648	10,676	29,522	1,158	60,929	22,892	70,469	3,077	146,343	596,433	2,070,011	37,597	333,686
Total..	2,024,414	7,109,374	111,356	153,653	453,887	13,363	243,058	128,995	339,775	10,281	148,129	39,082	108,210	4,597	183,777	86,570	299,702	12,374	436,913	2,432,714	8,310,948	151,971	1,011,877

\* Of Intercolonial and International parcels only. † Established, August, 1886.  
 The average declared value of International parcels in 1894 was :—Despatched, £2 14s. 9½d. ; Received, £3 1s. 4½d. The average declared value of International parcels in 1898 was :—Despatched, £5 14s. 1½d. ; Received, £6 7s. 10½d.

15



Letters, Letter Cards, Post Cards, Packets, Newspapers, and Parcels posted and received in the Colony during 1898 as compared with 1897.

Posted.

Service.	Year.	ARTICLES SUBJECT TO POSTAGE.								EXEMPT ARTICLES.*	PARCELS.				TOTAL NUMBER OF ARTICLES.	NUMBER OF ARTICLES PER HEAD OF POPULATION.		
		Letters.		Letter Cards.	Post Cards.		Packets. (Books, Circulars, Printed Papers, Samples.)		Newspapers.		Number.	Weight.	Postage.	Declared Value.		Letters, Letter Cards, and Post Cards.	Packets, Parcels, and Newspapers.	All Articles.
		Ordinary.	Registered.		Single.	With reply paid.	Ordinary.	Registered.										
Inland .....	1897	57,875,630	637,537	394,540	956,480	1,440	9,167,860	68,971	1,366,240	32,602,554	439,181	lb. 1,589,336	£ 24,371	.....	103,510,433	45.23	32.98	78.21
	1898	59,707,930	676,625	478,180	1,145,200	1,500	12,466,120	75,454	1,373,000	32,289,600	481,203	1,743,391	26,569	.....	108,694,812	46.42	34.95	81.37
Intercolonial .....	1897	5,076,380	221,148	34,900	62,000	900	2,054,720	14,410	4,008,700	.....	39,426	112,288	3,351	58,992	11,512,584	4.07	4.62	8.69
	1898	4,917,340	223,154	33,100	78,650	900	2,309,030	17,097	3,845,400	.....	46,645	134,069	3,940	83,766	11,471,316	3.93	4.65	8.58
International .....	1897	1,361,730	31,384	.....	7,280	160	368,690	5,238	831,260	.....	9,105	25,322	994	60,278	2,614,847	1.05	0.91	1.96
	1898	1,357,890	32,761	.....	51,480†	280	416,920	5,861	857,500	.....	10,676	29,522	1,158	60,929	2,733,368	1.08	0.96	2.04
Totals .....	1897	64,313,740	890,069	429,440	1,025,760	2,500	11,591,270	88,619	6,206,200	32,602,554	487,712	1,726,946	28,716	119,270	117,637,864	50.35	38.51	88.86
	1898	65,983,160	932,540	511,280	1,275,330	2,680	15,192,070	98,412	6,075,900	32,289,600	538,524	1,906,982	31,667	144,695	122,899,496	51.44	40.56	92.00

Received.

Intercolonial .....	1897	5,541,640	80,318	19,500	54,370	800	657,960	7,114	2,516,100	.....	32,400	87,828	2,650	42,867	8,910,202	4.30	2.43	6.72
	1898	6,019,152	76,487	19,190	50,000	650	840,920	6,020	2,815,600	.....	35,017	92,560	2,853	42,648	9,863,036	4.61	2.77	7.38
International .....	1897	1,636,460	27,917	.....	2,100	240	363,640	10,101	1,101,540	.....	19,391	71,640	2,552	115,844	3,161,389	1.26	1.12	2.38
	1898	2,063,238	45,018	.....	2,700	270	349,700	10,212	1,389,750	.....	22,892	70,469	3,077	146,343	3,883,780	1.58	1.32	2.90
Totals .....	1897	7,178,100	108,235	19,500	56,470	1,040	1,021,600	17,215	3,617,640	.....	51,791	159,468	5,201	158,711	12,071,591	5.56	3.56	9.12
	1898	8,082,390	121,505	19,190	52,700	920	1,190,620	16,232	4,205,350	.....	57,909	163,029	5,930	188,991	13,746,816	6.19	4.09	10.28
Totals posted and received .....	1897	71,491,840	998,304	448,940	1,082,230	3,540	12,612,870	105,834	9,823,840	32,602,554	539,503	1,896,414	33,917	277,981	129,709,455	55.93	42.07	98.00
	1898	74,065,550	1,054,045	530,470	1,328,030	3,600	16,382,690	114,644	10,281,250	32,289,600	596,433	2,070,011	37,597	333,686	136,646,312	57.63	44.66	102.29

\* The number of articles, other than newspapers, exempt from postage being comparatively small, a separate account has not been kept of them, and they are included with articles subject to postage.  
 † Including 44,400 Illustrated Post Cards issued in November, 1898.

NOTE.—The numbers of ordinary letters and packets, and newspapers, are calculated on the basis of returns furnished by Postmasters during two months of the year, and must therefore be accepted as approximate only. For all other items, the actual numbers dealt with during the year are given.

## DEAD LETTER BRANCH.

The following return shows the number of Letters, Post Cards, and Packets dealt with either by the return to writers, discovery of persons addressed, or otherwise, during the year 1898 :—

	Letters.	Post Cards.	Packets.
INLAND.			
Returned to senders.....	208,306	3,375	326,500
Destroyed, in accordance with section 32 of 31 Vic. No. 4.....	38,060	480	24,435
INTERCOLONIAL.			
Originally addressed to other colonies :—			
Returned to senders, or otherwise disposed of.....	17,648	230	19,850
Destroyed, in accordance with section 32 of 31 Vic. No. 4.....	4,496	38	2,566
Returned to other colonies as unclaimed.....	20,105	560	3,199
FOREIGN.			
Originally addressed to other countries :—			
Returned to senders, or otherwise disposed of.....	5,790	70	790
Destroyed, in accordance with section 32 of 31 Vic. No. 4.....	1,447	19	64
Returned to other countries as unclaimed.....	28,366	337	880
Total number dealt with.....	324,218	5,159	378,284

Included in the above return are 2,294 registered letters, which were posted originally within the Colony. A considerable number of these bore the names and addresses of the senders on the envelopes, and were therefore returned intact. The others were opened to obtain the required information. They were found to contain, besides correspondence and valuable articles of jewellery, such as watches, rings, &c., the sum of £925 15s. in coin, notes (bank and postal), cheques, money orders, and stamps. In 1,363 unregistered letters were found enclosures representing £4,337 3s. 9½d.

445 registered letters, originating in places beyond the Colony, were returned unopened, as follows :—196 to the other Australasian colonies, 101 to London, and 148 to other countries.

Packets, to the number of 713, containing merchandise, jewellery, &c., exclusive of those disposed of immediately after receipt, having been refused by addressees on account of surcharges, or posted out of course, or having become detached from their covers in transit, were received and detained pending inquiry. The major part of these were subsequently delivered. Articles of the kind alluded to are kept for a specified period, at the expiration of which, if not claimed, they are sold by public auction, in conformity with the Postage Act, the proceeds being paid into the Consolidated Revenue.

1,160 letters were posted unaddressed, 930 of which were returned to the writers. The remainder afforded no adequate indication as to the whereabouts of the senders. As an illustration of the negligence shown by some people, even in matters of importance, it may be mentioned that 29 of these letters covered valuable enclosures amounting to £101 0s. 3d.

On an average, 46 letters and packets, with insufficient directions, were passed on to the Dead Letter Office daily for treatment, the addresses of a large proportion being corrected, and the articles forwarded accordingly. The others were returned to the senders or were otherwise dealt with, as required by law.

Nearly 20,000 letters were refused by addressees, owing to surcharges. The largeness of this total is explained by the fact that no fewer than 14,671 of them were directed to the author of a chain-letter, the United Kingdom contributing by far the greatest share to this immense collection of rejected communications.

1,396 Chinese letters, imperfectly addressed, were despatched to their intended destinations through the assistance of the Chinese interpreter, by whose instrumentality 943 letters were returned as unclaimed.

A sum of nearly £250, contained in registered letters, which had remained unclaimed for the prescribed period, was paid, in accordance with law, to the credit of the Consolidated Revenue.

It is estimated that about 300,000 unclaimed newspapers were received during the year.

#### DELIVERY BY LETTER-CARRIERS.

The number of letters, &c., delivered by the Letter-carriers attached to the head office during the years 1897 and 1898 was as follows:—

	1897.	1898.
Unregistered letters ... ..	9,697,044	10,360,173
Registered letters ... ..	90,187	96,591
Books, &c. ... ..	233,449	246,457
Newspapers ... ..	1,393,555	1,496,144

#### REGISTRATION BRANCH.

The number of Registered Letters which passed through the General Post Office in 1898 was 821,930, against 772,056 in 1897, the increase in number being 49,874.

#### MAILS RECEIVED AND DESPATCHED.

The following return shows the number of Mails received at and despatched from the General Post Office during the years 1897 and 1898.

Year.	Received.		Despatched.		Total number of Mails which passed through the office.
	Inland.	Foreign.	Inland.	Foreign.	
1897 .....	240,770	10,481	208,226	12,600	472,077
1898 .....	249,513	10,535	213,104	12,744	485,896
Increase .....	8,743	54	4,878	144	13,819

#### RECORD BRANCH.

The number of written communications received from the public during 1898, intimating changes of address, or requesting letters, &c., to be forwarded, was about 25,000—the same as in 1897.

The number of communications addressed to the Department relating to the extension and improvement of the service, to irregularities connected with the performance of mail contracts, and to the transmission of letters, telegrams, &c., and recorded in the year 1898, was 51,713, against 47,838, in 1897.

POSTAGE STAMPS, STAMPED ENVELOPES, &c.

The following return shows the number, description, and value of Postage Stamps, &c., issued at the General Post Office during the years 1897 and 1898 :—

Number.		Description.	Value.		Increase in issue for 1898.		Decrease in issue for 1898.	
1897.	1898.		1897.	1898.	Number.	Value.	Number.	Value.
			£ s. d.	£ s. d.	£ s. d.		£ s. d.	
7,596,160	7,923,368	Halfpenny .....	15,825 6 8	16,507 0 4	327,208	681 13 8		
84,500	86,860	Halfpenny impressed on envelopes, &c., received from the public .....	176 0 10	180 19 2	2,360	4 18 4		
43,199,200	45,712,956	Penny .....	179,996 13 4	190,470 13 0	2,513,756	10,473 19 8		
247,555	251,090	Penny impressed on envelopes, &c., received from the public .....	1,031 9 7	1,016 4 2	3,535	14 14 7		
28,900,260	29,782,080	Two-penny .....	240,835 10 0	248,184 0 0	891,820	7,348 10 0		
142,790	136,180	Two-penny impressed on envelopes received from the public .....	1,189 18 4	1,134 16 8			6,610	55 1 8
931,888	881,193	Twopence-halfpenny .....	9,707 3 4	9,179 3 1½			50,689	528 0 2½
289,720	326,880	Three-penny .....	3,621 10 0	4,086 0 0	37,160	464 10 0		
429,720	468,450	Four-penny .....	7,162 0 0	7,807 10 0	38,730	645 10 0		
132,276	151,272	Five-penny .....	2,755 15 0	3,214 0 0	21,926	458 5 0		
899,400	959,043	Six-penny .....	22,485 0 0	23,751 1 6	50,643	1,266 1 6		
5,772	6,180	Sevenpence-halfpenny .....	180 7 6	193 2 6	408	12 15 0		
131,070	165,000	Eight-penny .....	4,369 0 0	5,500 10 0	33,945	1,131 10 0		
7,428	4,720	Nine-penny .....	278 11 0	177 0 0			2,708	101 11 0
11,556	9,240	Ten-penny .....	481 10 0	385 0 0			2,316	95 10 0
1,518,720	1,687,020	One-shilling .....	75,936 0 0	84,351 0 0	168,300	8,415 0 0		
4,872	5,581	Twelvepence-halfpenny .....	253 15 0	290 13 6½	709	36 18 6½		
11,506	12,167	Five-shilling .....	2,876 10 0	3,041 15 0	661	165 5 0		
2,817	2,090	Ten-shilling .....	1,408 10 0	1,045 0 0			727	26½ 10 0
107	98	Sets of "postage due" stamps at 10s. per set .....	53 10 0	49 0 0			9	4 10 0
6,000	6,159	Twenty-shilling .....	6,000 0 0	6,159 0 0	159	159 0 0		
11	8	Sets of specimen and reprint postage stamps at 20s. per set .....	11 0 0	8 0 0			3	3 0 0
187,200	239,040	Newspaper wrappers—halfpenny .....	390 0 0	498 0 0	51,840	108 0 0		
10,560	31,680	Newspaper wrappers—penny .....	44 0 0	132 0 0	21,120	88 0 0		
1,008,480	1,119,240	Post-cards—one-penny .....	4,202 0 0	4,633 10 0	110,760	461 10 0		
7,280	7,040	Post-cards—three-halfpence .....	45 10 0	44 0 0			210	1 10 0
2,340	2,400	Reply post-cards at twopence .....	19 10 0	20 0 0	60	0 10 0		
160	280	Reply post-cards at threepence .....	2 0 0	3 10 0	120	1 10 0		
63,400	95,120	Registered envelopes at threepence .....	792 10 0	1,189 0 0	31,720	396 10 0		
65,250	58,750	Envelopes—one penny .....	293 12 6	264 7 6			6,500	29 5 0
12,125	13,000	Envelopes—two-penny .....	105 1 8	112 13 4	875	7 11 8		
429,440	511,280	Letter Cards .....	2,634 0 0	3,195 10 0	81,840	511 10 0		
30,240	19,320	Telegram Forms—six-penny .....	756 0 0	483 0 0			10,920	278 0 0
183,920	115,860	Telegram Forms—one-shilling .....	9,196 0 0	5,793 0 0			68,060	3,403 0 0
Nil.	117,040	Illustrated cards, 1d. and 1½d. ....		530 5 0	117,040	589 5 0		
			£595,165 4 9	£623,710 4 10		£33,433 17 11½		£4,858 17 10½

The estimated number and value of Postage Stamps and Postage Prepayment Forms sold for Postal and Telegraph purposes during 1898, were as follows:—  
Number, 88,021,585; value, £599,683 4s. 10d.

The following return shows the number, description, and value of Postage Stamps purchased from the public for cash, less the usual-discount, during the year 1898:—

Number.	Description.	Value.		
		£	s.	d.
1,603	Halfpenny	3	6	9½
60,386	One-penny	251	12	2
80,723	Two-penny	672	13	10
651	Twopence-halfpenny	6	15	7½
124	Three-penny	1	11	0
122	Four-penny	2	0	8
114	Five-penny	2	7	6
331	Six-penny	8	5	6
4	Sevenpence-halfpenny	0	2	6
69	Eight-penny	2	6	0
65	Nine-penny	2	8	9
14	Ten-penny	0	11	8
333	One-shilling	16	13	0
1	Five-shilling	0	5	0
Total		£971	0	0
Less 5 per cent....		48	11	0
		£922	9	0
4,689	1d. post-cards, value	£19	10	9
904	1½d. letter-cards	5	13	0
87	2d. reply-cards,	0	14	6
286	½d. envelopes	0	11	11
2,235	1d. „	9	6	3
1,063	2d. „	8	17	2
536	½d. wrappers	1	2	4
49	1d. „	0	4	1
		£46	0	0
Less 10 per cent.		4	12	0
		£41	8	0

The colour of the sixpenny postage stamp, which it was thought too closely resembled that of the one-penny stamp, was, from 1st May, altered from rosine madder to viridine green.

A series of illustrated post-cards, of the value of 1d. each, for inland and intercolonial service, and 1½d. each for international service, representing some of the more remarkable features of the scenery and public buildings of the Colony, was issued in November, for sale to the public, at face value, singly or in sets. On the cards was printed the appropriate inscription, "With Christmas Greetings," or "With New Year's Greetings," and, as was anticipated, the public largely availed themselves of the opportunity thus afforded of sending them as souvenirs to their friends, not only in this and the adjoining colonies, but also throughout the world, the sales up to 31st December amounting to 117,040 cards of the value of £580 5s.

An amendment of the Regulations relative to impressing postage stamps on envelopes supplied by the public was made in October, so as to provide for the extension of the system to envelopes combined with sheets of note-paper, a charge of 2s. per 1,000 or portion thereof being made for the service.

## INLAND MAIL CONVEYANCE.

In the year 1898 the average cost per mile of the Inland Mail Conveyance was about  $3\frac{3}{5}$ d., against  $3\frac{1}{5}$ d., the price per mile paid during the previous year.

The number of contracts in existence on the 31st December, 1898, for the conveyance of inland mails was 986, and the number of mail services in respect of which no formal contracts were executed, 297.

## MONEY ORDERS.

Money Order Offices were established during the year 1898 at the following places, viz.:—Bellinger Heads, Bexhill, Bulyeroi, Cathcart, Coogee, Corrimal, Crow's Nest, Fairfield, Girilambone Mine, Hampton, Lockhart, Morundah, Quambone, Riley's Hill, Waroo, Woy Woy, and Yalgogrin North.

The offices at Colo Vale, Kookabookra, Moatefield, and Thackaringa were abolished, and the name of the office at Galley Swamp was changed to Gallymont.

The number of Money Order Offices in the Colony on 31st December, 1898, was 648.

The number of money orders issued was 407,161 (exclusive of 4,917 certificates of transfer amounting to £31,026 used by Postmasters in connection with transmitting fees for private letter-boxes, &c., &c.), and the value £1,371,727, against 393,299 of the value of £1,311,850, the difference showing an increase of 13,862 in the number, and £59,877 in the amount, as compared with 1897.

The number of money orders paid (exclusive of 4,917 certificates of transfer amounting to £31,026) was 410,772, and the value £1,432,373 against 403,779 of the value of £1,421,524 in 1897, being an increase of 6,993 in the number and £10,849 in the amount.

The amount of revenue received as commission on money orders issued was £15,110 5s., being £46 16s. 4d. more than the amount collected in 1897.

A comparative return showing the various countries where the money orders issued in New South Wales were made payable, and also the money order issues of other countries payable in New South Wales, will be found in the Appendix. Appendix D.

In the information contained in Appendix A will be found a detailed statement of the business transacted and revenue collected at each office in the Colony. Appendix A.

In December the charge for telegraph money orders to New Zealand was fixed at 3s. 6d. (in addition to the ordinary rate of commission) irrespective of the number of orders issued, provided the numbers be consecutive, and the orders be from the same remitter to the same payee, the remitter as usual being required to advise the payee by telegraph of the money being sent, paying for the message at the ordinary rate.

A convention (the text of which will be found in the Appendix) was concluded in May, 1898, between New South Wales and Fiji, providing for the exchange of money orders between the two colonies, the rate of commission being fixed at 6d. per £1, or fraction thereof. Each colony retains the commissions charged on all money orders issued within its jurisdiction, but pays to the other one-half of 1 per cent. on the amount of such orders. The service was brought into operation on the 1st July, 1898, and shortly afterwards, at the request of the Indian Postal Administration, this Colony undertook to act as intermediary for the exchange of money orders between India and Fiji, an extra charge of 6d. in the £1 being made for the accommodation. Appendix E.



## POSTAL NOTES.

During the year 1898, 1,158,010 postal notes, of the value of £424,422 17s. 2d. were supplied to Postmasters for sale to the public. Of these, 1,099,224 were issued and paid in New South Wales, having a value (with stamps affixed) of £396,224 3s. 7d.; 51,478 notes, value £20,834 8s. 1d., of other colonies were also paid; making a grand total of 1,150,702, of the value of £417,058 11s. 8d., paid in New South Wales.

The number of notes issued in this Colony and paid in other Colonies was 61,655, of the value of £23,888 7s. 2½d. (including postage stamps to the value of £212 2s. 2½d. affixed thereto).

The amount of revenue collected as poundage was £10,099 1s. 6d., an increase of £1,007 1s. 10d. as compared with 1897.

The following table contains particulars of the postal notes paid in New South Wales during the year 1898:—

Issuing Colony.	Denomination of Notes.														Total Number.	Value of Stamps affixed.			Total value of Notes and Stamps.		
	1/-	1/6	2/-	2/6	3/-	3/6	4/-	4/6	5/-	7/6	10/-	10/6	15/-	20/-		£	s.	d.	£	s.	d.
New South Wales ..	51,095	31,973	61,310	92,304	105,789	..	122,868	..	215,008	66,619	168,418	..	72,053	111,127	1,099,224	4,893	2	7	396,224	3	7
Queensland .....	946	575	1,065	1,523	1,534	1,113	1,367	750	2,378	794	2,890	347	377	3,104	19,263	100	1	11	7,635	11	11
South Australia ..	225	210	478	591	495	542	396	255	637	262	607	113	188	525	5,524	33	0	8	1,773	14	2
Tasmania .....	114	132	192	233	223	135	210	87	253	88	205	32	49	265	2,213	12	12	5	712	9	11
Victoria .....	809	566	1,406	2,008	1,661	1,094	1,023	1,017	3,097	909	3,613	360	1,137	5,173	24,473	107	14	1	10,712	12	1
Totals .....	53,189	33,456	64,451	96,719	109,702	2,384	126,464	2,109	221,973	68,672	175,733	852	74,304	120,194	1,150,702	5,146	11	8	417,058	11	8

In July provision was made for the issue of duplicate postal notes in cases where the originals have been lost, subject to conditions to prevent abuse.

## GOVERNMENT SAVINGS BANK.

The following branches were opened during the year 1898, viz.:—Ben Lomond Railway Station, Bulgeroi, Carinda, Coogee, Corrimal, Gallymont, Girilambone Mine, Mullumbimby, Riley's Hill, Tintenbar, Waroo, and Yalgogrin North.

Four branches were closed, viz.:—Colo Vale, Kookabookra, Thackaringa, and Wyrallah.

During the year 47,970 new accounts were opened and 35,761 accounts were closed. The number of accounts remaining open at the close of the year was 163,552.

The number of deposits received was 359,751, and the amount £2,261,872 17s. 9d., being an increase of 27,096 in the number and £70,990 6s. 7d. in the amount on the business of the previous year. The interest added to depositors' accounts was £132,216 6s. 8d.

The number of withdrawals was 215,382, and the amount £2,059,853 10s., being an increase of 8,204 in the number and of £64,302 2s. 7d. in the amount on the business of the previous year.

The balance at the credit of depositors at the close of the year was £5,026,069 7s. 9d., being an increase of £334,235 14s. 5d. on the previous year.

The average amount of each deposit was £6 5s. 8 $\frac{3}{4}$ d., and of each withdrawal £9 11s. 3 $\frac{1}{4}$ d.

The average balance at the credit of each depositor at the close of the year was £30 14s. 7 $\frac{1}{4}$ d.

The following return will show the annual progress of the Government Savings Bank system from 1st January, 1889, to 31st December, 1898 :—

Year.	Number of Deposits.	Interest added to Depositors' Accounts.			Amount of Deposits.		Number of Withdrawals.	Amount of Withdrawals.			Balance at Credit of Depositors.			
		£	s.	d.	£	s.		d.	£	s.	d.	£	s.	d.
1889.....	208,174	61,871	13	0	1,115,863	4	1	104,522	1,185,547	16	3	1,729,890	15	4
1890.....	223,428	63,225	7	9	1,198,293	17	6	109,940	1,115,505	6	0	1,875,904	14	7
1891.....	265,659	72,280	10	4	1,509,376	16	3	125,298	1,304,099	0	3	2,153,463	0	11
1892.....	278,578	81,781	0	3	1,630,197	16	9	156,157	1,511,355	16	5	2,354,086	1	6
1893.....	296,077	99,566	0	3	2,816,084	13	9	182,003	2,033,561	3	4	3,233,288	16	10
1894.....	294,393	120,880	8	6	2,160,610	9	0	183,909	1,880,854	11	9	3,633,925	2	7
1895.....	296,356	128,640	10	9	2,194,133	15	10	190,606	1,834,999	19	8	4,121,699	19	6
1896.....	307,689	128,629	11	4	2,110,579	0	3	197,374	1,987,943	6	3	4,372,965	4	10
1897.....	332,655	123,537	4	9	2,190,882	11	2	207,178	1,995,551	7	5	4,691,833	13	4
1898.....	359,751	132,216	6	8	2,261,872	17	9	215,382	2,059,853	10	0	5,026,069	7	9

The following return will show the business of the Government Savings Bank for the year 1898, compared with the transactions of the year 1897 :—

Year.	Savings Banks open at the close of the year.	New accounts opened during the year.	Accounts closed during the year.	Accounts remaining open at the close of the year.	Number.	Total deposits, including interest.						Average amount of deposits.	Total withdrawals.		Average amount of withdrawals.	Balance at the credit of depositors at the close of the year.	Average balance at the credit of depositors.												
						Amount.			Number	Amount.																			
						Deposits.	Interest.	Total.																					
1897	510	45,347	34,390	151,343	332,655	£ 2,190,882	s. 11	d. 2	£ 123,537	s. 4	d. 9	£ 2,314,419	s. 15	d. 11	£ 6 11	s. 8 $\frac{1}{2}$	207,178	£ 1,995,551	s. 7	d. 5	£ 9 12	s. 7 $\frac{1}{2}$	£ 4,691,833	s. 13	d. 4	£ 31	s. 0	d. 0 $\frac{1}{4}$	
1898	518	47,970	35,761	163,552	359,751	2,261,872	17	9	132,216	6	8	2,394,089	4	5	6 5	8 $\frac{3}{4}$	215,382	2,059,853	10	0	9 11	3 $\frac{1}{4}$	5,026,069	7	9	30	14	7 $\frac{1}{4}$	
Increase	8	2,623	1,371	12,209	27,096	70,990	6	7	8,679	1	11	79,669	3	6	....	8,204	64,302	2	7	....	334,235	14	5	....	....	....	....		
Decrease	..	..	..	....	....	.....	.....	.....	.....	.....	.....	5 11 $\frac{3}{4}$	....	.....	....	....	1 4 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	5	5

In the information contained in Appendix A is given a detailed statement showing the business transacted at each branch in the Colony. A statement of the Liabilities and Assets, with the Auditor-General's certificate thereon, will be found in the Appendix.

Appendix F.

The rate of interest allowed on all deposits up to £200 in the Government Savings Bank is 3 per cent. per annum.

## ELECTRIC TELEGRAPHS.

The following return shows the lines of Electric Telegraph constructed and the cost of construction, also the lines dismantled, during the year 1898:—

	Dismantled.		Constructed.		Cost of Construction.
	Line.	Additional Wire.	Line.	Additional Wire.	
	m. chs.	m. chs.	m. chs.	m. chs.	£ s. d.
Nyngan to Hermidale.....			15 30	13 0	276 18 1
Nyngan to Hermidale (Railway).....				28 44	154 3 2
Casino to New Park .....			20 70	0 30	450 3 3
Ford's Bridge to Yantabulla.....			40 32		840 3 10
Breadalbane to Collector .....			10 30		180 17 3
Mogil Mogil to Goondabluie .....			6 66	11 40	210 14 3
Wilcannia to White Cliffs .....			55 61		2,068 11 11
Dandaloo to Lansdale .....			27 26		528 5 0
Wee Waa to Bulyeroi .....			43 26	0 45	807 14 2
Bulyeroi to Burren.....			11 13	6 48	257 14 8
Tamworth to Swamp Oak .....			16 20	15 60	356 7 2
Comara to main line ..			1 28		32 9 6
Alterations near Mullumbimby .....	12 0	10 40	8 64	4 60	183 11 3
Cobar to Mount Drysdale.....			19 29	11 42	453 13 11
West Wyalong to Yalgogrin North .....			22 20	0 32	452 8 6
West Maitland to Mount Vincent ..			11 20	4 15	219 2 7
Wagga Wagga to Deniliquin ..				174 0	2,272 14 2
Warialda to Coolatai and Wallangra .....			11 22	25 0	399 14 6
Coonamble to Quambone .....			32 77		704 2 2
Narramine to Minore (Railway) .....			13 0		91 8 7
Railway deviation near Huntley.....	1 17		1 17		26 14 2
Ganmain to Devlin's Siding .....				8 0	80 16 2
Mount Victoria to Hartley .....				6 60	28 9 6
Railway deviation near Frampton .....	3 40		6 0		149 13 1
Pera Bore to main line .....			3 34		23 10 9
Wyrallah to Gundurimba.....				5 0	32 18 0
Railway deviator near Orange .....	1 50		1 65		49 7 9
Windeyer to Long Creek .....			1 50		48 17 2
Sackville to Cornelia .....			5 57	0 32	108 16 1
Railway deviations near Mullion Creek.....	2 33		2 45		43 19 7
Hickey's Creek to main line.....			0 15		3 12 0
Buchanan to main line .....			0 3		1 19 7
Alterations near Weismantel's .....	3 20		2 57		69 1 9
Bowling Alley Point to main line .....			0 20		7 13 2
Alterations in Tweed River district .....	3 6		2 43		65 11 3
Cobar to Wrightville.....			2 40	0 20	27 9 3
Pallamallawa to main line .....			0 24		16 3 4
City and other Extensions—Telegraph and Telephone.....			98 52	1,780 44	45,285 14 0
Line dismantled .....	27 6	10 40			
Line erected .....			497 36		
Additional wire erected .....				2,097 12	
Additional Line (wire) erected .....				497 36	
Total extent of wire erected during year .....				2,594 48	
Less wire dismantled .....				37 46	
Actual increase .....				2,557 2	
				£	57,011 4 6

The total cost of the whole extent of Telegraphic and Telephonic communication in the Colony on 31st December, 1898—35,630 miles 46 chains—was £989,423 2s. 3d.

The Telegraph Lines in course of construction but not completed during the year 1898, and the estimated length thereof, are shown in the following return:—

	Line. ms. chs.	Additional Wire. ms. chs.
Branxton to Belford ... ..	0 70	5 40
Hartley Vale to Hartley Vale Siding ... ..	2 43	...
Tamworth to Manilla (Railway) ... ..	0 37	29 0
Sydney to Bathurst, Trunk Telephone Line ... ..	140 0	140 0
Total... ..	143 70	174 40

Telegraph Offices were opened at Bulyeroi, Lockhart (late Ferrier's), Moree Railway-station, and White Cliffs, and at Mullumbimby and Warne, in lieu of the Telephone Offices previously existing at those places.

The Offices at Broke, Green Cape, Newport, Thackaringa, Woodburn, and Wyrallah were converted into Telephone Offices, and the Office at Brunswick was closed.

The names of the Public Telephone Offices opened and closed are given under the heading of Telephone Branch.

In February, North Killarney Railway Telegraph Station, Queensland, was included amongst the border stations in Queensland, between which and all stations in this Colony telegrams may be transmitted at the rate of 1s. for the first ten words, and 1d. for each additional word.

From the 1st March the Telegraph wires between any two Offices were made available to the public for carrying on special conversations, provided they were not of too long duration, or likely to interfere to any extent with the regular traffic. The charge was fixed at  $\frac{1}{2}$ d. per word during office hours, and 4s. per hour or portion thereof after office hours, with an additional 2s. for every subsequent hour after the first hour.

In May, Crow's Nest, Holroyd, Narrabeen, St. Leonard's, and West Pennant Hills were added to the places in the city and suburbs, between which telegrams are transmitted at the minimum rate of 6d. for the first ten words, and 1d. for each additional word; and in November this rate, which previously applied to telegrams transmitted between Newcastle and certain contiguous places, was extended to all places within the Newcastle penny postage area—that is, within a radius of 12 miles of Newcastle.

An amendment was made in May in the regulations prescribing the course to be adopted and the fees to be paid in cases where the sender or addressee of a telegram desires to inspect or obtain a certified copy of the original message.

From the 1st July, an English dictionary word containing not more than fifteen letters was admitted as a cipher word, without extra charge, in telegrams transmitted within the Colony, and to the other Australasian colonies, except Western Australia. From the same date the use of figures in the text of inland and intercolonial messages was prohibited, it being required that the amounts and numbers should be written and signalled in words only (except in the case of "O.H.M.S." telegrams, and telegrams to and from the British Naval Authorities on the Australasian Station), also that isolated letters, or groups of letters, having no connected meaning should be charged as one word for each letter.

From the 1st July, ordinary telegrams transmitted from New South Wales to Tasmania on Sundays, Christmas Day, and Good Friday were charged double the rates levied on other days, this being the practice previously followed in the case of telegrams to the other Australian Colonies.

The

The rate for ordinary telegrams to Queensland was reduced to 1s. for the first ten words, and 2d. for each additional word, and the charge for Press messages to the same colony was fixed as follows, from the 1st July:—

	s.	d.
Ten words or under ... ..	1	0
Each additional word up to 22 words ... ..	0	2
Over 22 and up to 100 words ... ..	3	0
Each additional 50 words or fraction thereof ... ..	1	6

A regulation was introduced in July, providing for such instructions as "By post," "Porterage paid," or "Guaranteed," &c., in connection with telegrams lodged for transmission at any telegraph office in the Colony being charged for as part of the text of the message.

The charge for Press messages transmitted to New Caledonia was reduced to 5d. per word, from the 1st August.

Arrangements were made during the year for the transmission of telephone messages between Cobar and Wrightville, Darlington Point and Darlington Railway Station, Moree and Moree Railway Station, and between Mount Victoria, Hartley, and Little Hartley, at the rate of 6d. for the first ten words, and 1d. for each additional word.

In February, 1897, my predecessor decided to introduce bicycles for the delivery of telegrams, instead of horses, and supply them to the suburban and country messengers where practicable. The sum of £1,000 was voted on the 1897-8 Estimates, and in April, 1898, bicycles were supplied to a number of offices, in addition to several where they had been previously used. Upon their supply, the forage allowances to messengers at the following offices were withdrawn, viz., Alexandria, Ashfield, Camperdown, Croydon, Dulwich Hill, Enfield, Fairfield, Granville, Homebush, Hornsby, Manly, Marrickville, Mosman, Newtown, Parramatta, Petersham, Randwick, Rookwood, St. Peter's, Strathfield, Summer Hill, Albury, Balranald,\* Barringun, Bathurst, Berrigan, Berrima, Bourke, Bowral, Broken Hill, Condobolin, Coonamble, Cootamundra, Corowa, Deniliquin, Dubbo, East Maitland, Forbes, Goulburn, Gun-nedah, Hamilton,\* Hay, Hillston,\* Katoomba, Milperinka,\* Moree, Moss Vale, Mudgee, Mulwala,\* Narrabri, Narrabri West, Narramine, North Broken Hill, Nyngan, Orange, Parkes, Peak Hill,\* Richmond, Singleton, South Broken Hill, Tamworth, Wagga Wagga, Wellington, Warren, West Maitland, White Cliffs,\* Windsor, Wyalong, Yass, Yerong Creek,\* and Young.

In a small minority of cases, their use was not attended with complete success, owing to a number of breakdowns, which caused trouble and inconvenience to the Department, and in a few instances drew complaints of delay from the public.

Owing to the unsuitableness of the localities for their use, they were withdrawn from Bowral and Edgecliff, and inquiry is to be made respecting six other places where the results have been unsatisfactory.

The past twelve months of use has, to a great extent, been an experimental period, which shows the cost of maintaining 79 bicycles at 74 offices to be about £917. As the cost of providing forage allowances to those offices would have been £2,335 the saving effected by the use of the bicycle amounts to about £1,418 per annum.

It is expected that the experience gained will enable the Department to avoid many of the difficulties encountered during the period completed, and obtain a more serviceable and even more economical result in future.

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\* At these places the official supplies his own bicycle.

The following return shows the extent of line and wire in use, and the number of offices in existence on the 31st December, 1898; also the number and value of telegrams which passed over the lines during the year, as compared with 1897:—

Year.	Length of Line and Wire.		Number of Offices.	Messages.														Total.	
	Miles of Line.	Miles of Wire.		Inland.		Intercolonial.						International.							
				Number.	Value.	Received.		Despatched.		In Transit.		Received.		Despatched.		In Transit.			
						Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1897 ...	12,745	33,073	886 <sup>a</sup>	1,773,236	£ 102,071 15 10 s. d.	400,114	£ 49,429 19 7 s. d.	332,475	£ 45,277 18 8 s. d.	104,930	£ 25,716 12 3 s. d.	18,579	£ 53,085 7 7 s. d.	26,390	£ 72,362 5 7 s. d.	22,636	£ 79,495 5 3 s. d.	2,728,360	£ 427,439 4 9 s. d.
1898 ...	13,242	35,630	916 <sup>b</sup>	1,856,885	£ 105,766 3 8 s. d.	427,356	£ 47,518 10 11 s. d.	405,142	£ 45,253 4 3 s. d.	109,327	£ 26,111 0 2 s. d.	19,753	£ 55,116 13 9 s. d.	22,762	£ 67,054 16 0 s. d.	25,345	£ 82,174 5 6 s. d.	2,866,570	£ 428,994 14 3 s. d.

<sup>a</sup> Includes 203 Public Telephone Offices, and 226 Railway Telegraph and Telephone Offices.

<sup>b</sup> Includes 249 Public Telephone Offices, and 217 Railway Telegraph and Telephone Offices.

Appendix A. The number and value of telegrams despatched from each office in the Colony will be found in the Appendix. A statement showing the total amount of Electric Telegraph business transacted within the Colony, and with the several Australasian Colonies and other countries, and also the net revenue due to New South Wales on each class of business during the year 1898, is given hereunder:—

	Received.			Despatched.		Net Revenue due to New South Wales.
	Number of Messages.	Value.		Number of Messages.	Value.	
Inland .....	1,856,885	£ 105,766 3 8 s. d.	Inland .....	1,856,885	£ 105,766 3 8 s. d.	£ 105,766 3 8 s. d.
From New Zealand .....	26,439	6,086 6 5	To New Zealand .....	25,299	5,404 10 1	2,149 18 2
From Queensland .....	121,945	12,783 6 3	To Queensland .....	106,333	10,402 9 6	11,537 3 9
From South Australia .....	53,627	6,611 9 7	To South Australia .....	46,414	6,665 17 10	6,560 13 5
From Tasmania .....	13,956	1,877 17 7	To Tasmania .....	12,286	1,976 7 2	863 14 5
From Victoria .....	180,918	14,460 3 5	To Victoria .....	193,091	16,831 4 9	15,613 12 0
From Western Australia .....	30,471	5,699 7 8	To Western Australia .....	21,719	3,972 14 11	3,224 0 10
From New Caledonia .....	1,096	467 5 3	To New Caledonia .....	1,233	639 19 5	119 10 7
From other Countries .....	18,657	54,649 8 6	To other Countries .....	21,524	66,414 16 7	4,138 0 3
Total .....	2,303,994	208,401 8 4	Total .....	2,284,789	218,074 3 11	149,972 17 1
			Messages which passed over N.S.W. lines } from and to places outside the Colony. }	134,672	108,285 5 8	8,089 1 1
				2,419,461	326,359 9 7	158,061 18 2



*Cable Communication.*

In the report of my predecessor for the year 1897, it was mentioned that the proposal of the Eastern Extension Australasia and China Telegraph Company to lay an alternative line of cables between England and Australia, *via* the Cape of Good Hope, had been relegated to a Committee in England, the Agents-General for New South Wales and South Australia representing Australian interests.

On 9th March, 1898, a cablegram was received from the Agents-General in the following terms :—

Have been desired by Committee on proposed cable *via* Cape to ascertain the views of the colonies we represent, on the terms of the Eastern Extension Company's proposal.

First.—To lay cable to Perth.

Second.—To continue it to Adelaide.

Will colonies agree to one or other; or what modifications of terms will they agree to, if any? Admiralty and War Office consider Cape route most valuable for strategic purposes—preferable to Pacific. Let us know decision as soon as possible.

To this the Right Honorable the Premier of New South Wales, on the 14th March, 1898, sent the following reply to the Acting Agent-General for New South Wales :—

We prefer Pacific cable; do not think we would subsidise any other.

While the Postal and Telegraphic Conference was sitting at Hobart in March-April, 1898, an endeavour was made to ascertain on what basis fresh arrangements could be entered into for carrying on the cable business over the Company's lines after the expiration of the period for which the subsidy of £32,400 per annum is payable, but no definite proposal from the Company being submitted, the Conference adopted the following resolution :—

That, in the absence of any satisfactory proposal from the Eastern Extension Telegraph Company, and of any proposal at all, except on the basis of an alternative cable *via* Africa, this Conference is unable to make any fresh arrangement with that Company.

Shortly after the close of the Hobart Conference, in reply to an inquiry from this Department, the Cable Company's Manager stated (under date of 20th April) that "the Company have no further proposals to make, other than those already submitted to the respective colonies, for an alternate route *via* the Cape, and now await their decision respecting the same."

A suggestion by the Postmaster-General of South Australia that the International rate might be reduced from 4s. 9d. to 4s. per word by all administrations concerned, reducing their shares thus,—

The British Post Office might make its rate 1d. on all cable messages to and from the United Kingdom, maintaining 2d. for messages to and from Europe. India might fairly be asked to make their rate 2d., and Java 1d., instead of 1½d. These, with some reduction on the part of the Cable Company and South Australia, would bring the rate down to 4s.

was referred to the Company's Manager in Australia for his opinion and advice, and on the 9th June, 1898, he replied as follows :—

My Company cannot offer any opinion or advice respecting the proposal for reducing the tariff to 4s. until the Australian Governments definitely decide whether they will, or will not, take part in the Cape Cable scheme. Should they definitely decide in the negative, my Company will then be prepared to consider any proposals that may be submitted for a 4s. tariff.

On the 22nd July, 1898, a cablegram was received from the acting Agent-General in the following terms :—

Canadian Postmaster-General now in London. Have ascertained that Canadian views on Pacific Cable friendly, but indefinite. It is proposed to arrange informal Conference between Imperial Government, Canada, and Agents-General for New Zealand, Queensland, Victoria, and self, with a view to facilitate adoption some scheme. No binding decision to be arrived at, but opinions of Conference to be forwarded to respective Governments. If you concur, please telegraph full authority for me to act.

This authority having been given, a reply (dated 29th July, 1898) was received as follows :—

Pacific Cable. Informal Conference held to-day. Canada represented by Postmaster-General and High Commissioner for Canada; New South Wales, Victoria, Queensland, South Australia, New Zealand, by Agents-General. Canadian representatives suggested Canada would probably guarantee two-ninths of total cost, but not more. Her Postmaster-General undertook to do his best for scheme on this basis. Imperial Government contribution will certainly not exceed one-third. Can Australian Colonies guarantee remaining four-ninths? Please telegraph reply before tenth proximo. Please inform other Governments.

supplemented on, the following day, by another, stating that the "Imperial Government, Western Australia, and Tasmania were not represented at informal Conference."

Communications

Communications having passed between the colonies, my predecessor, on 12th August, 1898, expressed his opinion on the matter as follows :—

This matter might, perhaps, be discussed at the projected Premiers' Conference. Personally, I would be prepared to guarantee, in conjunction with the other Colonies, four-ninths of the capital cost. It is important, also, that some definite communication be made to the Eastern Extension Company on the question of the Cape proposal. The present subsidies expire next year, and the Company declines to consider proposals for reduction in rates until a definite reply has been given on their Cape scheme.

On the same date, the Acting Agent-General cabled :—

With regard to Pacific Cable, Secretary of State for the Colonies stated, Imperial Government have received no proposals from Canada, South Australia, Western Australia, and New Zealand, and until formal and definite proposals are received from the Governments concerned, Imperial Government cannot proceed further in the matter.

In accordance with the proposal abovementioned, a Conference of Premiers met in Sydney, on the 20th August, 1898, when it was decided that if the Canadian and British Governments would guarantee five-ninths of the cost of a cable across the Pacific, then the Premiers of New South Wales, Victoria, and Queensland would recommend their respective colonies to each contribute one-ninth, it being believed that New Zealand, which was not represented at the Premiers' Conference, would be prepared to guarantee the remaining one-ninth, making up the required four-ninths from Australia. This decision was communicated to the Acting Agent-General on the 29th August, 1898, but nothing further of any importance transpired until the 3rd May, 1899, when the following message was received from the Agent-General :—

Pacific Cable. Imperial Government conveyed to me their decision. Opinion that cable of minor importance to United Kingdom, therefore consider construction and working should be borne by Canada and Australasian Colonies. Only offer twenty years' subsidy, not exceeding twenty thousand pounds (£20,000) in any year. Colonies construct and maintain line. Imperial Government to approve all rates charges. Government messages at  $\frac{1}{2}$  rate. Treasury to pay five-eighteenthths of amount by which net receipts short of expenses, subject to maximum limit of £20,000. Agents-General interested have together considered Government's letter; think terms unreasonable and unacceptable, and substantially different to the assumed basis of previous negotiations, which I understand was joint contributions, not subsidy value; subsidy outweighed by onerous conditions. We are communicating with Secretary of State for the Colonies. Letter to follow.

Further representations having been made to the Imperial Government, the Agent-General cabled, on 9th June, 1899 :—

Pacific Cable. Secretary of State for the Colonies now writes, willing consider matter on the basis of utilising credit United Kingdom providing capital, but as this makes necessary discussion on mode raising capital, construction, and control, suggests Colonial Governments appoint delegates to meet Chancellor of Exchequer and, or, Chamberlain. Letter to follow.

Sir Julian Salmons has been authorised to act as New South Wales delegate to further discuss the matter with the Chancellor of the Exchequer.

The total amount of the contributions by the Colonies towards the various subsidies and guarantees, and the proportions paid by New South Wales during the period from 1891 to 1898, are shown in the appended return :—

Year.	Port Darwin-Banjoewangie Cable Subsidy (1).		Port Darwin-Banjoewangie Cable Guarantee (2).		Victoria-Tasmania Cable Subsidy (2).		Victoria-Tasmania Cable Guarantee (1).		N.S. Wales-New Zealand Cable Guarantee (2).		Queensland-New Caledonia Cable Guarantee (1).		South Australia Guarantee (2).	
	Total.	N.S. Wales' Share.	Total.	N.S. Wales' Share.	Total.	N.S. Wales' Share.	Total.	N.S. Wales' Share.	Total.	N.S. Wales' Share.	Total.	N.S. Wales' Share.	Total.	N.S. Wales' Share.
	£	£ s. d.	£	£ s. d.	£	£ s. d.	£ s. d.	£ s. d.	£	£ s. d.	£ s. d.	£ s. d.	£	£ s. d.
1891	32,400	13,150 15 10	..	.....	..	.....	.....	.....	..	.....	.....	.....	..	.....
1892	32,400	13,150 15 10	27,520	11,170 1 1	4,200	1,704 14 8	.....	.....	..	.....	.....	.....	10,415	4,227 6 7
1893	32,400	13,150 15 10	21,778	8,509 0 0	4,200	1,704 14 8	.....	.....	3,295*	729 11 6*	815 4 4†	407 12 2†	7,675	3,050 0 0
1894	32,400	13,150 15 10	6,191	2,055 17 10	4,200	1,704 14 8	790 14 1	320 18 9	10,908	2,414 17 4	4,000 0 0	2,000 0 0	822	273 0 0
1895	32,400	13,150 15 10	..	.....	4,200	1,704 14 8	14 0 8	4 13 3	10,977	2,430 2 10	4,000 0 0	2,000 0 0	1,125	373 11 9
1896	32,400	13,150 15 10	..	.....	4,200	1,704 14 8	.....	.....	5,924	1,311 7 6	4,000 0 0	2,000 0 0	..	.....
1897	32,400	13,403 5 10	..	.....	4,200	1,704 14 8	.....	.....	3,856	853 15 5	3,660 5 6	1,830 2 9	..	.....
1898	32,400	13,403 5 10	..	.....	4,200	1,533 3 3	.....	.....	3,354	679 19 10	3,791 15 8	1,895 17 10	..	.....

(1) For twelve months, ending 31st December.

(2) For twelve months, ending 30th April.

\* For four months ending 30th April.

† From 18th October.

The following return shows the amounts paid by each of the Colonies in connection with cable subsidies and guarantees during the twelve months ended on the date mentioned in each case :—

Colony.	Population on 5 April, 1891.	Estimated Population on 31 December, 1896.	Port Darwin-Banjoewangie Cable Subsidy. (To 31 Dec., 1898.)	Port Darwin-Banjoewangie Cable Guarantee. (To 30 April, 1898.)	Victoria-Tasmania Cable Subsidy. (To 30 April, 1898.)	Victoria-Tasmania Cable Guarantee. (To 31 Dec., 1898.)	New South Wales-New Zealand Cable Guarantee. (To 30 April, 1898.)	Queensland-New Caledonia Cable Guarantee. (To 31 Dec., 1898.)	South Australia Guarantee. (To 30 April, 1898.)
			£ s. d.	*	£ s. d.		£ s. d.	£ s. d.	*
New South Wales...	1,132,234	1,297,640	13,403 5 10	.....	1,533 3 3	58 7 3	679 19 10	1,895 17 10	.....
Victoria .....	1,140,405	1,174,888	12,135 7 9	.....	1,544 4 6	58 15 8	684 18 0	.....	.....
Queensland .....	393,718	472,179	.....	.....	422 13 11	†.....	188 6 1	1,895 17 10	.....
South Australia.....	320,431	360,220	3,720 14 1	.....	433 17 11	16 10 4	192 8 11	.....	.....
Western Australia...	49,782	137,946	1,424 16 10	.....	67 8 4	2 11 4	29 17 11	.....	.....
Tasmania .....	146,667	166,113	1,715 15 6	.....	198 12 1	7 11 3	88 1 8	.....	.....
New Zealand .....	620,030	714,162	.....	.....	.....	.....	372 7 7†	.....	.....
							1,118 0 0		
Total .....	3,803,267	4,323,148	32,400 0 0	.....	4,200 0 0	143 15 10§	3,354 0 0	3,791 15 8	.....

\* The receipts by the Cable Company and by the South Australian Government in respect of the Australasian traffic being in excess of the amounts guaranteed (£227,000 and £37,552 respectively), in connection with the reduced rates, the Colonies were not called upon to contribute anything towards these guarantees for the twelve months ended 30th April, 1898.

† From 7th July, 1897, to 30th April, 1898.

‡ New Zealand pays one-third of total loss, and contributes towards the payment of the remaining two-thirds.

§ On account of deficiency for the year 1894.

The following Statement shows the Australasian Telegraph business transacted with Europe and the East during the year 1898 :—

Colony.	Forwarded.		Received.		Total.	
	Messages.	Value.	Messages.	Value.	Messages.	Value.
		£ s. d.		£ s. d.		£ s. d.
South Australia.....	9,917	24,918 10 3	11,033	32,079 19 7	20,950	56,998 9 10
Victoria .....	19,055	63,965 14 2	17,073	55,188 16 9	36,128	119,154 10 11
Tasmania .....	701	1,641 1 3	609	1,520 17 5	1,310	3,161 18 8
New South Wales.....	21,524	66,414 16 7	18,657	54,649 8 6	40,181	121,064 5 1
New Zealand .....	9,449	32,667 16 10	8,053	24,853 0 5	17,502	57,520 17 3
Queensland .....	3,985	13,497 2 4	2,937	8,420 6 8	6,922	21,917 9 0
Western Australia .....	14,644	48,360 6 2	12,576	37,896 18 1	27,220	86,257 4 3
Total .....	79,275	251,465 7 7	70,938	214,609 7 5	150,213	466,074 15 0

#### Telephone Branch.

During the year ended 31st December, 1898, there were added to the number of subscribers :—

To the Central Exchange ... ..	455
„ Branch Suburban Exchanges ... ..	813
„ Country Exchanges ... ..	164
	1,432

The following return shows the number of lines connected with the Telephone system at the close of the year :—

	Exchanges.	No. of Lines.
Central, Sydney ... ..	...	3,228
Branch, Suburban ... ..	...	2,522
Country ... ..	...	647
Telephone Bureaux ... ..	...	24
Extension Lines—City and Suburbs ... ..	...	1,020
„ „ Country ... ..	...	61
Private Lines—City and Suburbs ... ..	...	404
„ „ Country ... ..	...	255
Total ... ..	...	8,161
Total number of Telephones in use ..	...	8,928

The

The length of lines opened during the year was 98 miles and 52 chains, and additional wires erected 1,780 miles and 44 chains, the cost of construction, including expenditure on tunnels, being £45,285 14s.

In addition to the Central Exchange at the General Post Office, Exchanges are now open in the following Suburbs:—Ashfield, Balmain, Burwood, Carlingford (East), Chatswood, Edgecliff, Glebe, Hunter's Hill, Kogarah, Manly, Mosman, Newtown, North Sydney, Paddington, Parramatta, Petersham, Randwick, Rookwood, Wahroonga, Waverley, and William-street; and at Albury, Bathurst, Broken Hill, Cobar, Dubbo, Goulburn, Lismore, Lithgow, Newcastle, Wagga Wagga, and West Maitland in the country.

Telephone Bureaux for the use of the Public, on payment of a small fee, are now open at the General Post Office, Sydney, Ashfield, Balmain, Bathurst, Bayview, Burwood, Carlingford (East), Chatswood, Cobar, Edgecliff, Glebe, Gunnedah, Gunnedah Railway Station, Hunter's Hill, Katoomba, Kogarah, Manly, Milson's Point, Mosman, Newcastle, Newtown, North Sydney, Paddington, Parramatta, Petersham, Randwick, Redfern Railway Station, Rockdale, Rookwood, Rozelle, Wagga Wagga, Wahroonga, Waverley, and William-street.

The first long-distance telephone service in the Colony was inaugurated on the 3rd January, 1898, connection being between Sydney and Newcastle, a distance of 102 miles.

The fees payable are 3s. for each conversation of three minutes or fraction thereof, and for each additional three minutes or fraction thereof, 1s. 6d.; Press messages between 8 p.m. and 8 a.m., at half the above rate.

Subscribers to the Telephone Exchanges have the use of the trunk line, when required, at the above rates, provided a sum of money equal to their estimated requirements for, say, one month, be paid in advance.

Bureaux have been established at Sydney and Newcastle, where persons may, on application to the proper officer, be connected with any telephone subscriber at the other end, or may converse with any person at the Bureau at the other end who may be in attendance by appointment to be made by telephone, on payment of the prescribed fee.

Upon payment of an additional fee of 6d., a messenger is despatched to call any person the applicant may desire to converse with, provided the place of business or residence of such person be within a radius of 1 mile from Sydney or Newcastle Post Office.

The total receipts on account of the Sydney-Newcastle Telephone service for the year 1898 was £774 4s. 9d.

On the 4th January, 1898, Telephone communication was established between Sydney and the Signal Station, South Head. The charge to Telephone subscribers for this connection is 10s. per annum, or a sum may be deposited sufficient to cover any probable communications. For non-subscribers, or others wishing to communicate with the South Head Signal Station from the Public Telephone Bureaux in the city or suburbs, the charge is the usual Bureau rate, viz., for any period not exceeding three minutes, 6d., and for every additional three minutes or portion of three minutes, 6d. The revenue from this service for the year 1898 amounted to £20 14s. 6d., including the fees from thirty-six subscribers.

Some important amendments in the Regulations in connection with the Telephone system were introduced on the 1st September, the principal of which are, the reduction of the charge for business establishments connected with suburban exchanges, from £10 to £9 a year (the rate previously charged for similar establishments connected with the Central Exchange), where the line does not exceed 1 mile in length; the extension of the limit of connections over 1 mile (at £1 per half mile in the suburbs, and 10s. per quarter mile in the country) from 3 to 5 miles; the restriction of the use of the line by any person to a period of ten minutes, in cases where other applicants are waiting to use it; and the application to any large centre of the rates formerly charged for private lines between houses, offices, &c., in the metropolitan area.

Public Telephone offices were opened during the year at Broke, Green Cape, Newport, Thackaringa, Woodburn, and Wyrallah (in lieu of the Telegraph offices previously existing at those places), and at Baulkham Hills, Berowra, Bowling Alley Point, Bredbo, Buchanan, Burren, Collector, Comara, Cornelia, Crow's Nest, Curban, Devlin's Siding, Dungowan, Fifield, Giant's Creek, Goondabluie, Grass Hut,

Hut, Gurley Siding, Hartley, Hermidale, Hickey's Creek, Holroyd, Kensington, Lady Robinson's Beach, Lansdale, Little Coogee, Little Hartley, Long Creek, Merah North, Mount Drysdale, Mount Vincent, New Park, Numba, Pallamallawa, Pennant Hills (railway), Pera Bore, Pitt Town, Quambone, Swamp Oak, Woolabra, Wrightville, Yalgogrin North, and Yarranbah.

The telephone offices at Mullumbimby and Warne were converted into telegraph offices.

The name of the office at Pennant Hills was changed to West Pennant Hills, and the office at Granuaile was closed.

#### *Tunnels.*

Towards the end of the year, a commencement was made with the extension of the main subway from the Redfern Railway Station to Glebe Point.

Conduits have been laid, from near the General Post Office, along George-street to Dawes Point, and from King-street to Edgecliff Road.

#### *Electric Light.*

During the year, the electric lighting at the General Post Office, Circular Quay, Cowper's Wharf, Government House, and Parliament House has been carried out satisfactorily.

A large number of incandescent and arc lamps, also fan motors, have been fitted throughout the General Post Office.

Foundations have been prepared to receive the engines and dynamos in the space allotted for the new engine-room.

Eight new 32-hour arc lamps were purchased to replace a similar number of old and defective lamps at Circular Quay, and two extra lamps have been fitted to the Eastern and Australian Steamship Company's Wharf, on the western side of quay.

In January, four (4) 32-hour arc lamps were erected on the wool-sheds at the new wharfs on the eastern side of Cowper's Wharf.

A number of extensions of and alterations to the electric lights at Parliament House have been made during the year.

#### *New Steam Plants.*

In view of the increased lighting requirements at the General Post Office and Circular Quay, tenders were invited during the year for the supply and erection of two (2) 200 horse-power boilers, and one (1) combined steam engine and dynamo of 70 kilowatt capacity, for the General Post Office, and one (1) 60-arc light plant complete, for Circular Quay.

The tender of Messrs. Lassetter & Co. for both plants was accepted.

In reviewing the business of the Postal and Electric Telegraph Department for the year 1898, there is reason for congratulation upon its augmented character as shown in this Report. The increase may, I think, be taken as an indication of an improvement in the general welfare of the Colony itself.

I have the honor to be,

Your Lordship's most obedient Servant,

VARNEY PARKES,

Postmaster-General.

Postal and Electric Telegraph Department,

General Post Office, Sydney, 30th June, 1899.

APPENDIX A.

RETURN showing names of Post and Telegraph Offices, number of Letters posted, Telegrams transmitted, Postal Notes paid, Money Orders issued and paid, Savings Bank Deposits and Withdrawals, Revenue received from each Office, Salaries and Allowances paid, and arrangements regarding premises during the year 1898.

Name of Office.	Business transacted.							Revenue.				Expenditure.										Arrangements regarding Premises.			
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Salaries.								Allowances.	Rent of Office.		Total.		
												Officers in charge.		Assistants.	Operators.	Letter Carriers.	Mail Boys.	Messengers.	Line Repairers.					Other Employés.	
												Gross Salary.	Deduction for Rent.												
Aberdeen .....	55,930	3,850	851	112	233	555	158	£ 518	£ 399	£ 49	£ 966	£ 190	£ 30	£ ...	£ 65	£ ...	£ ...	£ 26	£ ...	£ ...	£ 33/4/-	£ 52	£ 336/4/-	Rented At Rail'y Stn.	
<i>Aberdeen Railway Station.</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Abington <sup>1</sup> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	At Public Sch.	
Acacia Creek .....	3,620	.....	.....	.....	.....	.....	.....	49	.....	.....	49	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18	.....	
Adaminiy .....	32,650	1,379	712	90	152	81	54	314	80	36	430	170	20	20	.....	.....	.....	.....	.....	.....	3/10/-	.....	173/10/-	Govt. building	
Adamstown .....	32,640	606	194	710	360	443	300	206	29	13	248	140	20	25	.....	91	.....	39	.....	.....	34/4/-	.....	309/4/-	do	
<i>Adamstown Railway Station.</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.	
Adelong .....	90,520	4,230	1,686	423	490	543	348	806	341	76	1,223	220	30	40	.....	.....	.....	52	.....	.....	4	.....	286	Govt. building	
Adelong Crossing Place.	7,360	153	.....	.....	.....	.....	.....	60	8	.....	68	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	.....	
Airly .....	7,440	.....	.....	.....	.....	.....	.....	96	.....	16	112	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	
Albion Park .....	32,000	1,230	360	59	377	251	111	321	63	28	412	125	20	52	.....	.....	.....	39	.....	.....	15	.....	211	do	
Albury .....	476,360	18,836	2,496	1,779	5,351	2,205	1,350	3,951	1,202	164	5,317	370	50	200	190	144	78	52	140	78	202	.....	3,103	do	
												330	40	170	160	135	.....	26	.....	.....	.....	.....	.....	.....	.....
												2 at 150	101	125	120	120	.....	26	.....	.....	.....	.....	.....	.....	.....
												.....	.....	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Albury Railway Station.</i>	.....	902	.....	.....	.....	.....	.....	.....	46	.....	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.
Alectown .....	5,640	343	101	26	57	79	22	57	18	5	80	120	20	.....	.....	.....	.....	.....	.....	.....	3	32/10/-	135/10/-	Rented	
Alexandria .....	98,720	1,793	369	938	2,146	3,329	1,311	609	72	24	705	190	30	.....	88	2 at 144	.....	52	.....	.....	96/2/-	.....	1,253/2/-	Govt. building	
												135	.....	.....	.....	2 at 115	.....	26	.....	.....	.....	.....	.....	.....	.....
												100	.....	.....	.....	78	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alison .....	1,580	.....	.....	.....	.....	.....	.....	16	.....	.....	16	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	.....
Allandale .....	5,890	78	.....	.....	.....	.....	.....	38	4	2	44	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	At Rail'y Stn.
Allynbrook .....	8,100	.....	48	21	24	.....	.....	48	.....	4	52	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	.....
Ailstonville .....	12,720	1,119	258	49	53	113	40	132	74	23	229	120	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	128	Rented
Angledool .....	.....	229	.....	.....	.....	.....	.....	.....	14	.....	14	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....
Annandale .....	54,900	3,250	431	1,066	1,868	2,409	966	1,158	139	26	1,323	210	40	.....	65	2 at 91	.....	52	.....	.....	44/4/-	.....	591/4/-	Govt. building	
												78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Appin .....	6,400	145	134	33	96	.....	.....	55	8	6	69	59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	59	.....
Arable .....	500	.....	.....	.....	.....	.....	.....	8	.....	.....	8	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....
Arakoon .....	15,090	1,377	383	27	21	113	21	133	111	19	263	120	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	155	Rented
Araluen .....	21,450	818	537	197	256	62	107	249	42	31	322	170	20	78	.....	.....	.....	.....	.....	.....	3	52	230	Govt. building	
Arcadia .....	5,000	.....	.....	.....	.....	.....	.....	34	.....	.....	34	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	.....
Ardglen .....	3,900	98	.....	.....	.....	.....	.....	35	6	1	42	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	At Rail'y Stn.
Arding .....	720	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	At Public Sch.
Argent's Hill .....	1,210	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	.....
Argoon .....	2,490	.....	.....	.....	.....	.....	.....	15	.....	.....	15	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	.....
Arkstone .....	1,340	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	.....

NOTE.—Offices printed in Italics are Telegraph Offices only, and unless otherwise shown, the Telegraph returns are included in those of the nearest public office. For other references see page 69.





Barmedman	32,160	1,804	499	112	160	45	42	246	115	30	391	160	20	...	65	...	...	52	...	...	4	35	296	Rented	
Barraba	117,920	2,509	758	176	198	180	74	580	153	45	778	210	30	...	65	...	...	...	...	...	10	...	255	Govt. building	
Barragan	2,280	...	...	...	...	...	...	12	...	...	12	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	At Pilot Stn.	
Barranjoe	1,480	272	...	...	...	...	...	21	18	...	39	54	...	...	...	...	...	...	...	...	...	...	54	At Pilot Stn.	
Barrengarry	16,390	...	...	...	...	...	...	103	...	3	106	25	...	...	...	...	...	...	...	...	...	...	25	At Pilot Stn.	
Barrington	7,210	198	...	...	...	...	...	70	11	4	85	35	...	...	...	...	...	...	...	...	...	...	35	Rented	
Barrington	14,240	2,264	400	43	50	150	53	153	152	24	329	160	20	...	...	...	...	...	...	...	33/8/-	60	233/8/-	Rented	
Barry	3,090	...	...	...	...	...	...	27	...	...	27	11	...	...	...	...	...	...	...	...	...	...	11	At Pilot Stn.	
Barwang	1,860	...	...	...	...	...	...	11	...	...	11	11	...	...	...	...	...	...	...	...	...	...	11	At Pilot Stn.	
Bateman's Bay	21,380	1,835	529	250	162	109	51	231	101	23	355	160	20	...	65	...	...	...	...	...	11	...	216	Govt. building	
Bathurst	783,700	14,675	3,766	6,645	14,838	2,988	1,663	5,111	1,213	225	6,549	400	50	200	200	115	78	52	140	110	205	...	3,553	Govt. building do	
														190	2 at 160	105	52	2 at 26			Battery-man.				
														160	140	2 at 65									
														2 at 78	125							78			
															110						26	Switch attendants.			
<i>Bathurst Rail. Stn.</i>		1,015	...	...	...	...	...	...	102	...	102	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Batlow	10,210	447	94	25	30	27	17	136	27	7	170	51	...	...	...	...	...	...	...	...	...	...	51	Rented	
Baulkham Hills <sup>2</sup>	12,320	86	...	...	...	...	...	39	4	...	43	40	...	...	...	...	...	...	...	...	...	...	40	Rented	
Bayview	7,060	581	...	...	...	...	...	80	30	1	111	47/10/-	...	...	...	...	...	...	...	...	...	...	47/10/-	At Pilot Stn.	
Beachport	1,260	208	85	28	25	12	2	7	11	3	21	65/10/-	...	...	...	...	...	...	...	...	...	...	65/10/-	At Pilot Stn.	
Bear Hill	960	...	...	...	...	...	...	22	...	...	22	21	...	...	...	...	...	...	...	...	...	...	21	At Pilot Stn.	
Beaufort	2,850	...	...	...	...	...	...	27	...	...	27	14	...	...	...	...	...	...	...	...	...	6	14	Rented	
Bective	1,830	...	...	...	...	...	...	19	...	...	19	14	...	...	...	...	...	...	...	...	...	...	14	Rented	
Bedgerebong	2,550	...	...	...	...	...	...	13	...	...	13	13	...	...	...	...	...	...	...	...	...	...	13	Rented	
Beechwood	5,220	381	...	...	...	...	...	42	22	2	66	27	...	...	...	...	...	...	...	...	...	...	27	Rented	
Beecroft	10,960	397	...	...	...	...	...	75	15	...	90	20	...	...	...	...	...	...	...	...	...	...	20	Rented	
Bega	158,450	7,740	1,670	688	2,095	932	312	1,349	546	95	1,990	270	40	...	190	52	...	39	140	...	81/16/6	...	878/16/6	Govt. building	
															120			26							
Belarbigill	1,790	...	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	...	...	...	10	Rented	
Belford	4,220	...	...	...	...	...	...	60	...	...	60	15	...	...	...	...	...	...	...	...	...	10	25	Rented	
Belgravia	720	...	...	...	...	...	...	16	...	...	16	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	At Rail'y Stn.	
Bell	2,750	161	...	...	...	...	...	34	9	2	45	21	...	...	...	...	...	...	...	...	...	...	21	At Rail'y Stn.	
Bellambi	16,490	...	121	39	100	...	...	76	...	8	84	17	...	...	...	...	...	...	...	...	...	...	17	do	
Bellbrook	3,460	262	...	...	...	...	...	54	15	4	73	210	30	26	...	...	...	...	...	...	...	35/4/-	34	Rented	
Bellingen	41,250	3,197	633	261	412	145	53	332	226	29	587	150	20	...	...	...	...	39	...	...	3/10/-	40	275/4/-	Rented	
Bellingen Heads	6,970	370	24	8	21	...	...	49	26	2	77	60	...	...	...	...	...	...	...	...	...	...	60	212/10/-	do
Bellingen Heads	...	1,049	...	...	...	...	...	40	...	...	40	...	...	...	...	...	...	...	...	...	...	...	...	60	At Pilot Stn.
<i>Pilot Station.</i>																									
Bell's Creek	3,020	...	...	...	...	...	...	16	...	...	16	16/10/-	...	...	...	...	...	...	...	...	...	...	16/10/-	Rented	
Belltrees	748	...	...	...	...	...	...	49	...	...	49	...	...	...	...	...	...	...	...	...	...	...	...	166/16/-	Rented
Belmont	9,100	378	98	60	67	14	9	64	20	6	90	91	...	...	...	...	52	...	...	...	3	20/16/-	166/16/-	do	
Bemboka	51,260	1,067	207	33	155	76	13	202	63	17	282	140	20	...	78	...	...	...	...	...	5	20	223	do	
Bena	2,550	...	...	...	...	...	...	68	...	...	68	12	...	...	...	...	...	...	...	...	...	...	12	At Rail'y Stn.	
Ben Bullen	8,100	...	...	...	...	...	...	63	...	...	63	20	...	...	...	...	...	...	...	...	5	...	25	At Rail'y Stn.	
Bendemeer	9,950	329	223	28	65	...	...	110	20	11	141	120	20	...	...	...	...	...	...	...	...	2	26	128	Rented
Bendick Murrell <sup>2</sup>	1,540	...	...	...	...	...	...	21	...	...	21	19	...	...	...	...	...	...	...	...	...	15	...	25	Rented
Bendolba	3,640	...	...	...	...	...	...	17	...	...	17	29/10/-	...	...	...	...	...	...	...	...	...	...	...	29/10/-	At Rail'y Stn.
Ben Lomond Rail-way Station <sup>4</sup>	10,290	155	196	16	46	7	3	68	10	9	87	23	...	...	...	...	...	...	...	...	...	...	...	23	At Rail'y Stn.
Bergalia	2,650	...	...	...	...	...	...	34	...	...	34	14/10/-	...	...	...	...	...	...	...	...	...	...	...	14/10/-	Rented
Bernagui	10,740	443	266	114	139	...	...	103	26	13	142	50/10/-	...	...	...	...	...	...	...	...	...	8	58/10/-	26	At Rail'y Stn.
Bernagui South	...	819	...	...	...	...	...	42	...	...	42	26	...	...	...	...	...	...	...	...	...	...	...	26	At Rail'y Stn.
Berowra <sup>6</sup>	...	83	...	...	...	...	...	5	...	...	5	10	...	...	...	...	...	...	...	...	...	...	...	10	At Rail'y Stn.
Berrellan	3,000	...	...	...	...	...	...	13	...	...	13	10	...	...	...	...	...	...	...	...	...	...	...	10	At Rail'y Stn.
Berremangra	1,100	...	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	...	...	...	...	10	At Rail'y Stn.
Berridale	17,250	528	141	58	77	21	25	173	32	12	217	150	20	...	...	...	...	...	...	...	2/10/-	39	171/10/-	Rented	
Berrigan	60,900	5,081	755	205	418	275	129	533	337	47	922	150	20	91	...	...	...	52	...	...	10/10/-	48	357/10/-	do	
														26											
Berrima	22,250	765	340	130	201	115	43	148	57	16	221	160	20	...	...	...	...	...	...	...	10/10/-	...	150/10/-	Govt. building	

Note.—For references see page 60.

Name of Office.	Business transacted.							Revenue.				Expenditure											Arrangements as regards Premises.	
	No of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic.	Money Order and Postal Note.	Total.	Salaries.								Allow-ances.	Rent of Office.	Total.		
												Officers in charge		Assist-ants.	Opera-tors.	Letter Carriers	Mail Boys.	Messen-gers.	Line Re-pairs					Other Em-ployés
Gross Salary	Deduct-ation for Rent																							
Berry	168,150	2,933	697	152	554	404	146	£ 586	£ 185	£ 44	£ 815	£ 225	£ 30	£ 101	£ 91	£ 18	£ 405	Govt. building						
Beryl <sup>6</sup>	580	...	...	...	...	...	...	2	...	...	2	10	...	...	...	...	10	At Rail'y Stn.						
Bethungra	14,180	433	265	45	93	79	21	160	27	13	200	42	26	...	...	...	68	At Rail'y Stn.						
Bevendale	900	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	10/10/-	At Rail'y Stn.						
Bexhill	4,750	173	22	...	5	...	...	73	9	1	83	30	...	...	...	...	30	At Rail'y Stn.						
Bexley <sup>7</sup>	11,440	...	...	...	...	...	...	49	...	...	49	20	...	...	...	...	20	At Rail'y Stn.						
Bibbenluke	11,760	597	...	...	...	...	...	22	38	3	63	49/10/-	...	...	...	...	5	Rented						
Bigga	4,710	...	...	...	...	...	...	26	...	2	28	26/10/-	...	...	...	...	26/10/-	Rented						
Big Hill	3,080	...	...	...	...	...	...	25	...	...	25	20	...	...	...	...	20	Rented						
Billeroy	2,640	...	...	...	...	...	...	10	...	...	10	20	...	...	...	...	20	Rented						
Billinudgel	5,400	...	...	...	...	...	...	10	...	1	11	10	...	...	...	...	10	Rented						
Bimbi	2,360	...	...	...	...	...	...	56	...	1	57	21	...	...	...	...	21	Rented						
Binalong	32,830	543	430	75	206	128	67	242	32	24	298	64	12	...	...	...	76	At Rail'y Stn.						
Binda	10,740	263	223	67	66	...	...	110	15	10	135	65	...	...	...	...	65	At Rail'y Stn.						
Bingara	99,270	4,015	965	240	458	321	133	769	266	47	1,082	220	30	78	78	52	44/10/-	442/10/-	Govt. building					
Binnaway	5,600	...	...	...	...	...	...	44	...	2	46	22/10/-	...	...	...	...	22/10/-	Govt. building						
Birriwa	3,270	...	...	...	...	...	...	22	...	...	22	16	...	...	...	...	16	Rented						
Bishop's Bridge	1,990	...	...	...	...	...	...	21	...	...	21	17	...	...	...	...	17	Rented						
Blackheath	40,580	1,955	388	232	618	204	115	467	111	35	613	200	30	5	78	...	35/4/-	75	363/4/-	Rented				
Blackheath Rail Stn	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.		
Blackman's Point.	950	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	10/10/-	...	...	...	At Rail'y Stn.		
Black Mountain	11,100	186	200	32	82	...	...	93	10	11	114	28	...	...	...	...	...	28	...	...	...	At Rail'y Stn.		
Black Range	1,220	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	10/10/-	...	...	...	At Rail'y Stn.		
Black Springs	2,990	...	...	...	...	...	...	24	...	...	24	17/10/-	...	...	...	...	...	17/10/-	...	...	...	do		
Blacktown	12,240	312	114	89	133	...	...	87	16	4	107	55	...	...	...	...	...	55	...	...	...	do		
Blackville	6,370	313	174	18	41	44	19	87	20	8	115	52	...	...	...	...	1/10/-	53/10/-	...	...	...	do		
Blackwall	10,840	620	210	113	145	55	16	75	38	10	123	65	...	...	...	...	...	65	...	...	...	do		
Blakehurst	1,700	...	...	...	...	...	...	16	...	...	16	10/10/-	...	...	...	...	...	...	...	...	...	...	do	
Blandford	15,800	297	...	...	...	...	...	98	20	2	120	29	...	...	...	52	...	...	...	...	...	...	do	
Blanket Flat <sup>8</sup>	3,170	...	...	...	...	...	...	23	...	...	23	10	...	...	...	...	...	...	...	...	...	...	do	
Blayne	151,340	3,487	836	441	1,108	452	261	818	213	54	1,085	240	40	130	130	110	26	39/4/-	635/4/-	...	...	...	Govt. building	
Blayne Rail'y Stn.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.	
Blowering	6,250	...	...	...	...	...	...	3	...	...	3	14	...	...	...	...	...	...	...	...	...	...	At Public Sch.	
Bluey	1,590	...	...	...	...	...	...	13	...	...	13	12	...	...	...	...	...	...	...	...	...	...	At Public Sch.	
Bobadah	10,580	...	...	...	...	...	...	143	...	4	147	16	...	...	...	...	...	...	...	...	...	...	Rented	
Bodalla	13,761	942	297	79	86	91	21	147	54	14	215	170	20	26	...	...	34	36	246	...	...	...	Rented	
Bodangora	21,580	551	710	52	145	383	111	227	46	37	310	54	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.	
Bogan Gate	23,240	...	...	...	...	...	...	178	...	3	181	10	...	39	...	...	...	...	...	...	...	...	At Rail'y Stn.	
Boggabilla	18,630	1,951	451	31	69	96	43	213	124	25	362	160	20	...	...	...	23	36	199	...	...	...	Rented	
Boggabri	65,120	2,617	724	173	373	329	104	514	159	40	713	210	30	140	...	...	4	...	324	...	...	...	Govt. building	
Boggabri Railway Station.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Boggy Camp <sup>9</sup>	2,000	...	...	...	...	...	...	14	...	...	14	10	...	...	...	...	...	...	...	...	...	...	...	At Public Sch.
Boggy Flat	1,090	...	...	...	...	...	...	14	...	...	14	12/10/-	...	...	...	...	...	...	...	...	...	...	...	do
Bohvia	5,040	67	93	9	19	4	...	42	4	5	51	34	...	...	...	...	...	...	...	...	...	...	...	do
Boloko	3,530	...	...	...	...	...	...	26	...	...	26	12	...	...	...	...	...	...	...	...	...	...	...	At Public Sch.
Bolong	1,550	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	...	...	...	At Public Sch.
Bomaderry	5,460	100	...	...	...	...	...	36	6	...	42	13	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Bomaderry Railway Station.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Bombala	157,100	5,204	1,012	338	1,115	255	108	944	371	54	1,369	250	40	110	91	78	...	...	38/4/-	527/4/-	...	...	...	Govt. building
Bombo	2,320	...	...	...	...	...	...	13	...	...	13	18	...	...	...	...	...	...	10	28	...	...	...	At Rail'y Stn.
Bomen	8,820	89	50	24	42	29	21	25	6	3	34	18	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Bondi	53,440	2,069	307	288	560	1,109	440	312	87	18	417	110	...	...	...	...	...	...	62/8/-	26	393/8/-	...	...	Rented

Bongongolong	2,180							39			39	10/10/-									10/10/-									
Bonnyrigg	4,620							7			7	10										10								
Bonshaw	4,510							67			67	26										26								
Bookham	6,980		244	26	37			88		9	97	31/10/-										31/10/-								
Boolambayte	2,020							24			24	15/10/-										15/10/-								
Booligal	46,270	1,917	297	56	65	59	33	474	119	19	612	180	30		125						46	321	Govt. building							
Boomey	2,810							20			20	11/10/-										11/10/-								
Booral	12,700	197						55	11	1	67	56										56								
Boorooma <sup>10</sup>	860	537							35		35	26										26								
Booroorban	23,460							69			69	30/10/-										30/10/-								
Boppy Mountain	7,070							75		3	78	20										20								
Borenore	9,840	95	81	34	65	42	19	68	5	5	78	36										36	At Rail'y Stn.							
Boro	3,540							43			43	30/10/-										30/10/-								
Botany	22,120							53			53	67/10/-				130					31/4/-	28/12/-	Rented							
Bourbah	5,390							14			14	14/10/-										14/10/-								
Bourke	402,846	27,365	2,570	1,578	2,215	1,820	915	3,206	2,002	163	5,371	400	50	200	190	78			52	140	359	2,335	Govt. building							
															<sup>2 at 140</sup>							<sup>39</sup>								
															<sup>2 at 120</sup>							<sup>26</sup>								
															<sup>3 at 101</sup>															
															78															
Bourke Railway Stn.																								At Rail'y Stn.						
Bowan Park	1,500							11			11	11/10/-											11/10/-							
Bowenfels	21,590	71	202	72	168	100	52	126	4	12	142	56										56	do							
Bowling Alley Point <sup>11</sup>	5,980	80						87	4	2	93	22										22								
Bowna	20,820	356	199	20	14	30	13	78	22	7	107	130	20								3	20	133	Rented						
Bowning	28,450	247	375	81	147	87	39	136	14	17	167	60		20								80	At Rail'y Stn.							
Bowral	143,960	4,094	901	774	2,226	903	402	1,338	253	76	1,667	250	40		78	125					52		68/18/-	611/18/-	Govt. building					
Bowraville	13,900	1,472	539	74	149	177	22	171	95	23	289	140	20										2/10/-	31/4/-	153/14/-	Rented				
Box Ridge	1,110							12			12	11/10/-													11/10/-					
Boyd	6,170							10			10	10													10					
Braidwood	130,600	3,427	1,397	611	1,482	482	261	1,047	262	78	1,387	225	30	78	120	78					52		61/4/-		584/4/-	Govt. building				
Branxton	51,420	946	675	195	246	241	106	311	55	27	393	150	20		100								4	58/10/-	292/10/-	Rented				
Branxton Ry. Stn.																											At Rail'y Stn.			
Brawlin	6,740							25			25	10/10/-													10		20/10/-			
Breadalbane	17,890	244	180	48	172	38	17	94	14	10	118	45		20												65	do			
Bredbo <sup>12</sup>	7,250	32						93	2	3	98	25														40				
Breeza	23,840	756	463	25	47	55	18	148	45	21	214	54														54	do			
Brewarrina	123,260	7,104	977	334	465	382	146	1,163	470	54	1,687	260	40	100	180										114/10/-	731/10/-	Govt. building			
															65															
Brewongle	9,040	187	88	92	180			50	10	4	64	53														53	At Rail'y Stn.			
Bridgeman	490							17			17	14/10/-															14/10/-			
Brindabella	1,810							10		1	11	10/10/-															10/10/-			
Bringagee	9,020	1,343						24	98		122	10															10	do		
Bringelly	17,260		58	111	119			61		4	65	25														25				
Broadwater	34,200	3,212	764	145	262	445	163	291	194	45	530	200	30	78											3/10/-	26	277/10/-	Rented		
Brobenah <sup>13</sup>	950							41			41	10															10			
Brocklehurst	1,590							12			12	12															12			
Brocklesby	3,160	404						24	23		47	60															60	At Rail'y Stn.		
Brodie's Plains	1,230							10			10	10/10/-															10/10/-			
Brogo	3,670							25			25	22/10/-															22/10/-			
Broke	6,100	258	127	8	37			58	15	5	78	52															52			
Broken Hill	522,970	36,867	11,504	3,133	2,831	9,820	3,644	5,967	3,217	732	9,916	400	50	190	<sup>2 at 200</sup>	115					52	140	200	655/15/-		4,594/15/-	Govt. building			
															170	<sup>2 at 150</sup>	175	<sup>2 at 78</sup>												
															160		65													
															<sup>2 at 150</sup>	<sup>2 at 125</sup>														
															110	<sup>2 at 120</sup>														
															101															
															78															
Broken Hill Rail- way Station.	35,940	1,312	1,696	107	105	919	400	352	99	80	531	160				65											84	52	400	Rented
Brookfield	1,020							16			16	15/10/-																15/10/-		

NOTE.—For references see page 69.

Name of Office.	Business transacted.							Revenue.				Expenditure.												Arrangements as regards Premises.			
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders Paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic.	Money Order and Postal Note.	Total.	Salaries.								Allow-ances.	Rent of Office.	Total.					
												Officers in charge.		Assist-ants.	Opera-tors.	Letter Carriers	Mail Boys.	Messen-gers.	Line Re-pairers.				Other Em-ployés.		Gross Salary.	Deduc-tion for Rent.	
Brooklyn (See Hawkesbury).	31,000	.....	286	1,027	1,113	94	35	£ 82	£ ...	£ 11	£ 93	£ 27	£ ...							£ ...	£ ...	£ ...		£ ...			£ ...
Brooman .....	1,560	.....	...	...	...	...	...	.....	.....	.....	.....	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	At Public Sch.		
Broughton Vale .....	720	.....	...	...	...	...	...	.....	.....	.....	.....	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	do		
Broughton Village .....	1,610	.....	...	...	...	...	...	.....	.....	.....	.....	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	do		
Brownlow Hill .....	5,400	.....	...	...	...	...	...	.....	.....	.....	.....	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	do		
Brown's Creek .....	3,680	.....	...	...	...	...	...	.....	.....	.....	.....	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12/10/-	do		
Brownsville .....	16,410	.....	...	...	...	...	...	.....	.....	.....	.....	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	do		
Brundah Creek .....	890	.....	...	...	...	...	...	.....	.....	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	do		
Brungle.....	3,260	.....	...	...	...	...	...	.....	.....	.....	.....	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13/10/-	do		
Brushgrove .....	29,360	1,193	366	66	100	192	82	196	63	31	290	140	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	16/10/-	Govt. building			
Brushy Hill.....	1,260	.....	...	...	...	...	...	.....	.....	.....	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	At Public Sch.		
Bryan's Gap .....	600	.....	...	...	...	...	...	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	do		
Buchanan <sup>14</sup> .....	2,030	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	do		
Buckendoon .....	1,380	.....	...	...	...	...	...	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	do		
Buckley's Crossing Place.	14,940	743	144	33	88	25	15	175	48	11	234	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	92	do		
Budgee Budgee .....	1,530	.....	...	...	...	...	...	.....	.....	.....	.....	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17/10/-	do		
Bugaldi.....	1,680	.....	...	...	...	...	...	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	do		
Bugilbone .....	1,430	1,031	.....	.....	.....	.....	.....	.....	.....	.....	.....	27	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	55	do		
Bulahdelah .....	17,990	1,239	730	247	137	79	31	194	77	29	300	150	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	Rented		
Bulga .....	3,730	227	.....	.....	.....	.....	.....	.....	.....	.....	.....	56	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36/10/-	do		
Bullagreen .....	6,570	.....	...	...	...	...	...	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	do		
Bullarah .....	7,780	.....	...	...	...	...	...	.....	.....	.....	.....	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	do		
Bulli .....	27,580	932	145	189	200	107	49	148	53	10	211	89	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	89	do		
Bulli Railway Station.	35,520	2,279	383	74	316	299	143	245	127	25	397	225	.....	.....	110	2 at 78	.....	.....	.....	.....	.....	.....	.....	68/8/-	At Rail'y Stn.		
Bulyeroi <sup>15</sup> .....	4,120	610	53	2	4	12	2	42	42	3	87	120	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	Free by guarantors		
Bumberry .....	2,430	.....	...	...	...	...	...	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20/10/-	do		
Bundanoon .....	27,820	.....	292	168	275	114	45	193	.....	20	213	48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do		
Bundanoon Rail-way Station.	.....	486	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.	
Bundarra .....	23,100	1,477	385	78	111	109	49	254	86	20	360	160	20	.....	.....	65	.....	.....	.....	.....	.....	.....	.....	4	Govt. building		
Bundella .....	4,410	604	.....	.....	.....	.....	.....	.....	.....	.....	.....	117	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47/10/-	do	
Bungawalbin .....	1,680	.....	...	...	...	...	...	.....	.....	.....	.....	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	do	
Bungendore.....	75,560	1,753	454	216	615	145	111	477	99	34	610	200	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37/4/-	do		
Bungonia .....	6,600	.....	55	27	28	.....	.....	.....	.....	.....	.....	61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41/10/-	do	
Bungowannah .....	1,800	.....	...	...	...	...	...	.....	.....	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14/10/-	do	
Bungwahl.....	11,900	771	271	18	30	36	9	112	49	13	174	125	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	Rented		
Bunnan.....	7,110	.....	...	...	...	...	...	.....	.....	.....	.....	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	do	
Burns, Philp, & Co.	.....	5,124	.....	.....	.....	.....	.....	.....	1,461	.....	1,461	125	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	125	do
Burnt Yards .....	5,460	.....	...	...	...	...	...	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do	
Burradoo .....	21,270	469	.....	.....	.....	.....	.....	.....	.....	.....	.....	87	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	106/10/-	do	
Burraga .....	16,440	880	956	125	150	114	85	166	49	34	249	125	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	do	
Burragate .....	3,350	.....	...	...	...	...	...	.....	.....	.....	.....	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do	
Burragorang .....	8,510	.....	...	...	...	...	...	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	do	
Burrawang .....	12,110	308	159	29	106	94	29	94	18	8	120	140	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	do		
Burren <sup>16</sup> .....	570	263	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	do	
Burrendong .....	6,570	.....	...	...	...	...	...	.....	.....	.....	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	do	
Burrier .....	1,860	.....	...	...	...	...	...	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	do	
Burringbar .....	6,930	266	.....	.....	.....	.....	.....	.....	.....	.....	.....	33	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	do	
Burrowa .....	69,840	1,855	695	231	654	205	101	707	131	45	883	225	30	.....	.....	65	78	.....	.....	.....	.....	.....	.....	39/10/-	Govt. building		
Burrumbuttock .....	5,290	.....	...	...	...	...	...	.....	.....	.....	.....	58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12/10/-	do	

Burwood	254,470	4,530	589	1,040	3,075	2,542	1,204	2,143	197	51	2,391	250	40	190	110	3 at 125	...	3 at 52	...	3 at 78	249/12/-	32/10/-	2,055/2-	do
														78	...	120	...	...	...	...	...	...	...	...
																105	...	...	...	...	...	...	...	...
																91	...	...	...	...	...	...	...	...
																78	...	...	...	...	...	...	...	...
Buxton	2,420	.....	...	...	...	...	...	35	...	1	36	15	...	...	...	...	...	...	...	...	...	...	15	
Bylong	3,040	.....	...	...	...	...	...	24	...	...	24	14	...	...	...	...	...	...	...	...	...	...	14	
Byng	4,790	.....	...	...	...	...	...	24	...	...	24	16	...	...	...	...	...	...	...	...	...	...	16	
Byrock	43,000	2,295	550	101	145	178	85	379	128	33	540	200	30	...	101	...	...	39	...	...	32	...	344	
<i>Byrock Railway Station.</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Govt. building
<i>Byron Bay</i>	54,110	2,146	414	112	265	147	81	409	117	23	549	150	20	...	78	...	...	...	...	...	2	.....	210	
Bywong	3,000	.....	...	...	...	...	...	39	...	1	40	10	...	...	...	...	...	...	...	...	...	...	10	
Cabramatta	8,570	.....	...	...	...	...	...	42	...	1	43	14	...	...	...	...	...	...	...	...	...	...	14	
Cadia	3,050	.....	52	32	19	...	...	41	...	3	44	16/10/-	...	...	...	...	...	...	...	...	...	...	16/10/-	
Cal Lal	2,000	188	.....	.....	.....	.....	.....	45	12	...	57	78	...	...	...	...	...	...	...	...	14	13	105	
Caloola	1,670	.....	.....	.....	.....	.....	.....	30	.....	.....	30	16/10/-	...	...	...	...	...	...	...	...	.....	.....	16/10/-	
Camberwell	3,270	.....	.....	.....	.....	.....	.....	36	.....	.....	36	11/2/-	...	...	...	...	...	...	...	...	.....	.....	11/2/-	
Cambewarra	13,790	211	224	50	81	70	22	109	14	9	132	84/10/-	...	...	...	...	...	...	...	...	1/10/-	25	111	
Camden	105,870	3,062	755	441	1,439	630	242	741	176	39	956	220	30	...	110	110	...	52	...	...	28	.....	490	
Camden Haven	3,490	.....	.....	.....	.....	.....	.....	16	.....	.....	16	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	
<i>Camden Haven Heads.</i>	.....	85	.....	.....	.....	.....	.....	.....	4	.....	4	26	...	...	...	...	...	...	...	...	.....	.....	26	
Campbelltown	88,140	1,798	393	545	1,306	381	155	584	100	32	716	230	30	...	110	100	...	...	...	...	41/4/-	.....	529/4/-	
Camperdown	89,580	2,682	421	864	1,243	1,623	762	801	97	21	919	225	30	...	78	2 at 110	...	2 at 52	...	...	37/9/-	.....	556/9/-	
Canadian Lead	3,170	.....	82	2	19	.....	.....	32	.....	3	35	22	...	...	...	...	...	...	...	...	.....	.....	22	
Canberra	4,020	.....	.....	.....	.....	.....	.....	46	.....	2	48	16	...	...	...	...	...	...	...	...	.....	.....	16	
Candelo	38,460	2,300	628	158	433	208	65	424	143	31	598	190	30	...	78	...	52	...	...	...	5	.....	295	
Canimbla <sup>17</sup>	4,710	.....	.....	.....	.....	.....	.....	11	.....	.....	11	10	...	...	...	...	...	...	...	...	.....	.....	10	
Cauley Vale	6,970	54	.....	.....	.....	.....	.....	8	3	.....	11	19	...	...	...	...	...	...	...	...	.....	.....	19	
Cannonbar	5,270	611	.....	.....	.....	.....	.....	46	39	3	88	52	...	...	...	...	...	...	...	...	.....	.....	52	
Canoblas	940	.....	.....	.....	.....	.....	.....	5	.....	.....	5	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	
Canowindra	36,890	1,541	630	125	196	99	30	358	89	30	477	160	20	...	65	...	...	...	...	...	3	26	234	
Canterbury	61,130	715	123	303	536	350	203	256	25	7	288	125	...	...	...	...	...	...	...	...	62/8/-	20	346/8/-	
Canyon Leigh	1,350	.....	.....	.....	.....	.....	.....	13	.....	.....	13	10	...	...	...	...	...	...	...	...	.....	.....	10	
Capertee	9,640	369	580	84	162	61	36	184	22	26	232	60	...	...	...	...	...	...	...	...	.....	.....	60	
Captain's Flat	47,400	3,851	1,801	201	411	703	318	562	295	84	941	150	20	...	26	...	...	...	...	...	31	.....	239	
Carcoar	70,970	2,734	444	498	1,293	223	149	515	164	32	711	220	30	65	...	...	...	26	...	...	4	.....	285	
<i>Carcoar Railway Stn.</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Railway Stn.
Cardiff	10,020	.....	.....	.....	.....	.....	.....	11	.....	.....	11	13	...	...	...	...	...	...	...	...	.....	.....	13	
Cargo	18,220	885	471	92	131	42	20	188	51	23	262	130	20	10	...	...	...	...	...	...	3	.....	123	
Carinda <sup>18</sup>	8,310	1,538	151	4	13	35	8	162	100	10	272	53	...	...	...	...	...	...	...	...	.....	.....	53	
Carlingford	11,380	331	37	125	161	.....	.....	70	11	4	85	51/10/-	...	...	...	...	...	...	...	...	78	.....	129/10/-	
<i>Carlingford Railway Station.</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Railway Stn.
Carlton	28,770	313	.....	.....	.....	.....	.....	74	10	2	86	78	...	...	...	...	...	39	...	...	3	42	162	
Carnsdale	2,460	.....	.....	.....	.....	.....	.....	25	.....	.....	25	13/10/-	...	...	...	...	...	...	...	...	.....	.....	13/10/-	
Carrathool	23,450	2,969	692	150	254	124	46	305	172	33	510	180	30	...	...	...	...	52	...	...	3/10/-	.....	205/10/-	
Carrick	5,420	.....	.....	.....	.....	.....	.....	49	.....	.....	49	18	...	...	...	...	...	...	...	...	.....	.....	18	
Carrington	77,370	1,258	533	252	415	575	232	496	68	36	600	160	20	91	2 at 78	...	26	...	...	...	.....	.....	413	
Carroll	10,620	779	113	34	45	103	38	97	47	7	151	89	...	...	...	...	...	...	...	...	.....	.....	89	
Carrow Brook	930	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10	...	...	...	...	...	...	...	...	.....	.....	10	
Casino	98,170	5,340	919	457	725	444	104	919	358	63	1,340	250	40	...	91	78	...	52	...	...	29	.....	525	
Cassilis	25,690	2,202	563	185	270	107	54	410	131	45	586	170	20	78	...	...	...	...	...	...	4	.....	232	
Castle Hill	20,340	229	.....	.....	.....	.....	.....	38	12	.....	50	58/10/-	...	...	...	...	...	...	...	...	.....	.....	58/10/-	
Castle Mountain	1,500	.....	.....	.....	.....	.....	.....	11	.....	.....	11	11/10/-	...	...	...	...	...	...	...	...	.....	.....	11/10/-	
Castlereagh	3,580	.....	.....	.....	.....	.....	.....	26	.....	.....	26	13/10/-	...	...	...	...	...	...	...	...	.....	.....	13/10/-	
Cathcart <sup>19</sup>	6,270	575	9	1	2	.....	.....	77	33	5	115	48	...	...	...	...	...	...	...	...	.....	.....	48	
Catherine Hill Bay	15,580	1,056	521	54	180	187	44	112	60	29	201	110	...	...	...	...	...	...	...	...	10	26	146	

NOTE.—For references see page 69.





Comobella	2,300							10			10	10									2	25	137	Rented				
Conargo	17,450	1,053	142	18	40	52	24	95	71	13	179	110									62/8/-	45/10/-	468/18/-	do				
Concord	32,750	847	131	151	334	533	206	224	34	10	268	160	20															
Condobolin	121,520	7,213	940	274	674	342	179	1,081	452	60	1,593	240	40	2 at 120							89/10/-		646/10/-	Govt. building				
Condong <sup>23</sup>	2,170							1			1	10																
Congewai	1,620							40			40	10																
Conjola	10,000							33			38	35																
Coogee <sup>24</sup>	6,420	857	46	38	80	91	41	117	34	3	154	120	20									4	46/16/-	202/16/-	Rented			
Cookamidgera	1,140							27			27	10																
Cookardinia	9,910	146						58	8	3	69	29																
Coolabah	15,980	945	432	35	57	99	58	183	56	26	265	29													At Rail'y Stn.			
Coolac	13,720	456	332	44	51			140	26	16	182	33													do			
Coolah	28,190	1,938	266	85	74	188	57	249	114	24	387	140	20									5		203	Govt. building			
Coolamon	82,100	2,722	1,273	187	481	262	150	907	148	62	1,117	199	30										12/10/-	250/10/-	do			
Coolangatta	10,140		78	27	23	5	7	78		4	82	23													23			
Coolatai		327							21		21	13													13			
Coolonglook	3,890							100		3	103	13/10/-													13/10/-			
Cooma	186,100	6,897	1,104	634	2,205	456	263	1,446	454	78	1,978	270	40	2 at 65											945	do		
Cooma Railway Station.																											At Rail'y Stn.	
Coonabarabran	66,340	3,255	815	177	491	252	142	635	215	48	898	190	30													339	Govt. building	
Coonamble	159,700	10,325	1,666	397	711	433	220	1,221	692	86	1,999	300	40	101	120	78										713/10/-	do	
Cooperook	18,680	1,459	468	44	132	146	44	157	92	21	270	87/10/-											3	26	116/10/-	Rented		
Coorabell Creek	4,320	73						24	4		28	20														20		
Cooranbong	20,670	431	278	198	292	70	53	178	26	14	218	125	20													107/8/-	Govt. building	
Cootamundra	202,140	8,112	1,446	1,265	2,747	1,033	517	1,785	508	106	2,399	330	40	140	150	78										1,205/14/-	do	
Cooyal	6,880							12			12	11/10/-															11/10/-	
Copeland North	9,470	409	276	53	301	49	19	106	24	18	148	52														52	do	
Copmanhurst	4,540	161						44	8		52	37														37		
Coraki, Richmond River	62,050	4,167	606	132	511	141	59	342	269	28	639	170	20													272	do	
Coramba	8,440	800						73	49	5	127	40														40		
Cordeaux	980							10			10	10														10		
Corindi—Clarence	1,980							10			10	10														10		
Corndale	1,080							13			13	10														10		
Cornelia <sup>25</sup>												12														12		
Corowa	242,720	8,588	1,350	482	1,139	719	343	1,539	528	79	2,146	260	40	101	150	65	2 at 65									26	do	
Corrimal <sup>26</sup>	8,370	163	25		24	15	11	73	9	6	88	26														26		
Corrowong	5,020							26			26	16														16		
Corunna	2,860							52		2	54	13														13		
Courabyra	1,580							29			29	13														13	At Public Sch.	
Coutt's Crossing	2,920							12			12	10/10/-														10/10/-		
Cow Flat	3,760		39	13	3	2	3	20		1	21	33/10/-														33/10/-		
Cowlong	770							10			10	10/10/-														10/10/-		
Cowra	146,140	6,052	1,445	576	1,438	775	412	1,377	366	92	1,835	270	40	101	150	105										682/10/-	Govt. building	
Cowra Creek	2,800							33		3	36	10														10		
Cowra Railway Station.																												At Rail'y Stn.
Cox's River	1,120							11			11	11/10/-															11/10/-	
Crabbe's Creek	3,280							25			25	15														5	20	
Craigie	6,630	236	174	13	40			50	14	9	73	30														30		
Cranbury	1,460							12			12	12/10/-															12/10/-	
Cranebrook	1,830							13			13	12															12	
Crookhaven Heads		20							1		1	26															26	At Public Sch.
Crookwell	52,910	1,826	908	263	676	445	166	657	114	49	820	220	30													271	At Pilot Stn.	
Croome	1,180							9			9	11															11	Govt. building
Cross Roads	2,310							25			25	12/10/-															12/10/-	At Public Sch.
Crowdy Head																												At Pilot Stn.

NOTE.—For references see page 69.

Name of Office	Business transacted							Revenue.				Expenditure.											A range nts as reg'ds from es.								
	No of Letters posted	No of Telegrams transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal	Telegraphic	Money Order and Postal Note	Total.	Salaries.						Allowances.	Rent Office.	Total											
												Offices in charge		Assistants.	Operators	Letter-Carriers	Mail Boys.				Messengers	Line Repairers.		Other Employees.							
Crow Mountain	3,130							£ 22	£	£ 1	£ 23	£ 15	£					£	£	£			£		£	£	£	£	£	£	£
Crow's Nest <sup>27</sup> ..	23,530	710	70	12	202			116	27	6	149	65														153/10/-					
Croydon	112,000	1,730	308	564	940	675	408	508	69	21	598	190		101		2 at 110										632/13/-	Govt. building				
Cudine	1,380							29			29	19/10/-														19/10/-					
Cudal	26,900	1,256	483	70	207	196	93	320	71	27	418	150	20														185	do			
Cuddell Siding	2,590							14			14	10															10				
Cudjebagong Creek	680							25			25	10/10/-												15			25/10/-				
Cudjebagong	8,900		111	18	39			70		5	75	23															23				
Cudgen	9,530	729	303	34	29	205	113	116	45	17	178	140	20											2			122	do			
Culcairn	49,350	1,300	272	60	63	42	34	266	74	18	358	70															70	At Rail'y Stn.			
Cullenbone	1,320							13			13	13															13				
Cullen Bullen	8,740	82	99	39	60			79	5	8	92	53/10/-																58/10/-			
Cullinga	4,570							49			49	15/10/-																15/10/-	At Public Sch.		
Cummoek	29,140	945	521	54	100	148	48	182	57	19	258	78												1			79				
Cundletown	19,620	1,053	438	78	170	154	47	248	61	28	332	140	20	65											8/10/-			193/10/-	Govt. building		
Cunningham	7,680							70		3	73	34																34			
Curban <sup>28</sup>	5,390	107						51	7		58	20																20			
Curlewis	22,720	562	361	49	71	48	23	165	33	15	213	33																33	At Rail'y Stn.		
Currabubula	26,540	434	330	35	97			193	26	18	237	27																27	do		
Currawang	1,530		55	25	15			18		2	20	20																20			
Curraweela	2,140							5			5	15/10/-																15/10/-			
Cuttabri	2,650							5			5	10																10			
Dalmorton	10,330	356	112	50	39	46	14	120	22	7	140	100													3	35	138	Rented			
Dalton	15,000	206	218	55	149	78	53	149	12	11	172	125	20												1/10/-	18/4/-	124/14/-	do			
Dalwood	1,540							5			5	11																11			
Dandaloo	25,710	1,517	229	54	122	120	26	296	94	18	403	140		26											2	40	208	do			
Dapto	35,960	2,122	733	268	614	399	158	451	178	51	680	140	20	78			30								28	52	317	do			
Dapto Railway St'n																													317	At Rail'y Stn.	
Darby's Falls	1,000							11			11	11/10/-																11/10/-			
Dark Corner <sup>29</sup>	1,000							4			4	10																10			
Darlington	134,700	2,530	364	690	1,527	2,247	939	770	104	22	896	190	30		110												98	420	Rented		
Darlington Point	43,440	665	233	39	58			227	39	15	281	150													2/10/-			152/10/-	Prov'd by Postm'r		
Darlington Railway St	2,090	137						12	7		19	24																24	At Rail'y Stn.		
Davies' Creek	1,490							13			13	10/10/-																10/10/-			
Davis Town	5,010							38			38	15																15			
Daysdale	14,330	1,314	125	19	59			120	81	7	208	120	20												2	52	154	Rented			
Deepwater	35,690	724	282	132	296	128	54	185	40	19	244	140	20		65										4	26	215	do			
Deepwater Railway Station																														215	At Rail'y Stn.
Delegate	25,230	2,114	515	108	160	105	23	351	127	27	505	160			78										3			241	Govt. building		
Demondville	620	15						10	1		11	10																10	At Public Sch.		
Demingham	236,200	11,958	1,415	688	1,586	941	456	2,180	841	119	3,140	350	50	160	200	78	65	2 at 52	140							371/7/6			2,640/7/6	Govt. building	
															170																
															2 at 160																
															140																
															91																
															65																
Denman	18,520	1,387	457	63	118	128	42	245	83	22	350	150	20												4			186	do		
Devlin's Siding <sup>30</sup>	7,050	59						20	4		24	30																	30		
Dignam's Creek	1,610							17		1	18	12																	12		
Doia Creek	5,770		100	595	201	66	30	57		1	58	27/10/-																	27/10/-		
Dorrigo	1,150							10			10	10																	10		
Double Peak	1,500							11		2	13	18																	18		
Douglas	6,120	175						28	9	3	40	22																	22	At Rail'y Stn.	



Name of Office.	Business transacted.							Revenue.				Expenditure.										Arrangements as regards Premises.			
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic	Money Order and Postal Note.	Total.	Salaries.								Allow-ances.	Rent of Office.		Total.		
												Officers in charge.		Assist-ants.	Opera-tors.	Letter-carriers	Mail Boys.	Messen-gers.	Line Re-pairers.					Other Em-ployés.	Gross Salary.
Eglington .....	3,120	.....	...	...	...	...	...	£ 13	£	£	£ 13	£ 18	£							£	£	£	£		
Elderslie .....	1,040	.....	...	...	...	...	...	8	...	...	8	13/10/-	...	...	...	...	...	...	...	...	...	...	...	13/10/-	Rented
Elizabeth-street South	57,000	3,977	603	315	1,682	2,213	970	661	234	58	953	190	30	...	110	...	...	2 at 52	...	...	...	...	90	464	Rented
Ellalong .....	3,750	.....	...	...	...	...	...	40	...	2	42	15/10/-	...	...	...	...	...	...	...	...	...	...	...	15/10/-	20
Ellenborough .....	3,620	.....	...	...	...	...	...	21	...	...	21	20	...	...	...	...	...	...	...	...	...	...	...	20	20
Elsmore .....	5,180	.....	...	...	...	...	...	71	...	...	71	20	...	...	...	...	...	...	...	...	...	...	...	20	15
Eltham .....	5,200	.....	...	...	...	...	...	36	...	1	37	15	...	...	...	...	...	...	...	...	...	...	...	15	At Rail'y Stn.
Emerald Hill .....	1,960	.....	...	...	...	...	...	35	...	...	35	11	...	...	...	...	...	...	...	...	...	...	...	11	11
Emmaville .....	37,640	1,413	588	263	578	315	119	417	82	35	534	220	30	...	78	...	...	...	...	...	7	...	275	Govt. building	
Emu .....	4,220	.....	...	...	...	...	...	37	...	...	37	37	...	...	...	...	...	...	...	...	...	...	...	37	37
Emu Plains .....	10,140	191	168	185	381	...	...	34	10	...	44	40	...	10	...	...	...	...	...	...	...	...	50	At Rail'y Stn.	
Enfield .....	69,670	1,162	119	237	663	327	155	255	51	9	315	150	...	...	...	...	52	...	...	89/13/-	20	502/13/-	Rented		
Enmore.....	130,820	5,467	760	1,405	3,931	3,672	1,550	1,402	233	55	1,690	250	40	78	78	...	...	52	...	9/2/6	...	466/2/6	Govt. building		
Enngonia .....	15,490	1,888	171	38	38	53	16	188	125	16	329	125	20	...	...	...	...	...	...	...	23	...	128	do	
Ennis .....	2,400	.....	...	...	...	...	...	17	...	...	17	21/10/-	...	...	...	...	...	...	...	...	...	...	21/10/-	21/10/-	
Erina .....	2,440	.....	...	...	...	...	...	10	...	1	11	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	10/10/-	
Ermington .....	7,640	354	...	...	...	...	...	52	12	...	64	58/10/-	...	...	52	...	...	...	...	31/4/-	...	...	141/14/-	243	
Erskineville.....	71,000	1,237	345	526	1,142	1,657	746	474	43	19	536	150	20	...	...	...	52	...	...	...	...	61	243	Rented	
Estbank .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fskdale .....	590	.....	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	10/10/-	
Esrom .....	14,730	.....	...	...	...	...	...	20	...	...	20	44	...	...	...	...	...	...	...	...	20	...	64	64	
Essington.....	2,290	.....	...	...	...	...	...	9	...	...	9	11/10/-	...	...	...	...	...	...	...	...	...	...	11/10/-	11/10/-	
Fugowra .....	13,510	828	390	47	72	61	49	160	45	20	225	160	20	...	...	...	...	...	...	3/10/-	...	...	143/10/-	Govt. building	
Eilourie .....	2,490	.....	...	...	...	...	...	15	...	...	15	15/10/-	...	...	...	...	...	...	...	...	...	...	15/10/-	15/10/-	
Eureka .....	2,350	.....	...	...	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	10/10/-	
Euriowie .....	31,200	1,191	...	...	...	...	...	110	85	1	196	130	...	...	...	...	...	...	...	23	20/16/-	...	173/16/-	Rented	
Eurobodalla.....	3,300	215	69	3	5	...	...	38	13	3	54	59	...	...	...	...	...	...	...	...	...	...	59	59	
Eurongilly .....	6,240	.....	...	...	...	...	...	49	...	...	49	19/10/-	...	...	...	...	...	...	...	...	...	...	19/10/-	19/10/-	
Eurunderee .....	2,890	.....	...	...	...	...	...	18	...	...	18	18/10/-	...	...	...	...	...	...	...	...	...	...	18/10/-	18/10/-	
Euston .....	19,140	1,646	328	31	47	34	19	104	111	16	231	130	20	...	100	...	...	...	...	105/17/6	...	315/17/6	Govt. building		
Evan's Plains .....	2,000	.....	...	...	...	...	...	13	...	...	13	13	...	...	...	...	...	...	...	...	...	...	13	13	
Exeter .....	11,890	369	119	72	119	32	22	97	22	8	127	15	...	...	...	...	...	...	...	...	...	...	15	15	
Failford .....	4,860	.....	...	...	...	...	...	59	...	2	61	19	...	...	...	...	...	...	...	...	...	...	19	19	
Fairfield <sup>32</sup> .....	48,520	423	...	...	...	...	...	80	21	...	101	27	...	...	39	...	...	...	...	1/5-	...	...	67/5/-	do	
Fairview .....	703	.....	...	...	...	...	...	11	...	...	11	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	10/10/-	
Fairy Meadow .....	2,131	.....	...	...	...	...	...	.....	.....	.....	.....	25	...	...	...	...	...	...	...	...	...	...	25	25	
Falls Creek .....	2,490	.....	...	...	...	...	...	20	...	...	20	16	...	...	...	...	...	...	...	...	...	...	16	16	
Farley .....	4,760	54	.....	...	...	...	...	10	3	...	13	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	10/10/-	
Farnham .....	3,890	.....	...	...	...	...	...	71	...	4	75	20	...	...	...	...	...	...	...	...	...	...	20	20	
Fassifern .....	2,120	51	.....	...	...	...	...	15	3	...	18	11	...	...	...	...	...	...	...	...	...	...	11	11	
Faulconbridge.....	2,530	.....	...	...	...	...	...	.....	.....	.....	.....	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	10/10/-	
Fernmount .....	25,800	1,299	588	167	216	106	34	221	82	25	328	125	20	...	91	...	...	52	...	3/10/-	24/17/6	276/7/6	Rented		
Pifield <sup>24</sup> .....	5,830	565	.....	...	...	...	...	77	39	5	121	26	...	...	...	...	...	...	...	...	...	...	26	26	
Fig-tree .....	8,990	.....	...	...	...	...	...	15	...	1	16	35/10/-	...	...	...	...	...	...	...	...	...	...	35/10/-	35/10/-	
Fingal Heads .....	.....	89	.....	...	...	...	...	.....	5	.....	5	.....	...	...	...	...	...	...	...	...	...	...	.....	.....	
Finley .....	33,140	2,299	474	83	141	158	55	315	137	33	455	120	20	...	...	...	...	26	...	3	35	164	164		
Fish River Creek..	1,680	.....	...	...	...	...	...	9	...	...	9	13/10/-	...	...	...	...	...	...	...	...	...	...	13/10/-	13/10/-	
Five Dock .....	17,460	567	48	130	483	237	145	115	19	4	138	110	20	...	...	125	78	...	...	62/8/-	...	355/8/-	Govt. building		
Forbes .....	396,720	13,172	2,146	847	2,372	871	537	2,297	849	128	3,274	300	40	200	160	120	...	2 at 26	140	...	88/18/-	...	1,310/18/-	do	
Ford's Bridge .....	6,400	1,533	260	13	12	9	3	102	94	13	209	125	...	...	...	...	...	...	...	13/10/-	.....	138/10/-	Free by Guarantors		

Forest Reefs	14,640	165	63	80	...	100	12	112	36/10/-	...	...	...	...	...	...	...	...	...	3	36/10/-	Govt. building		
Forster	13,650	1,780	326	336	185	106	18	115	100	17	232	140	20	...	...	...	...	26	...	149	Govt. building		
Fox Ground	4,260	...	...	...	...	...	...	28	...	...	28	10/10/-	...	...	...	...	...	...	...	10/10/-	Rented		
Frederickton	14,000	746	233	44	90	...	...	109	42	10	161	150	20	...	...	...	...	26	4/10/-	30	At Public Sch.		
Freeman's Reach	4,130	...	...	...	...	...	...	22	...	2	24	15/10/-	...	...	...	...	...	...	...	15/10/-	At Public Sch.		
Freemantle	1,440	...	...	...	...	...	...	17	...	...	17	10/10/-	...	...	...	...	...	...	...	10/10/-	At Public Sch.		
Frogmoor	8,470	167	49	42	...	...	...	93	...	8	101	23/10/-	...	...	...	...	...	...	...	23/10/-	At Public Sch.		
Fullerton	2,540	...	...	...	...	...	...	33	...	...	33	14	...	...	...	...	...	...	...	14	At Pilot Stn.		
Gabo Island	433	...	...	...	...	...	...	8	...	...	8	26	...	...	...	...	...	...	...	26	At Pilot Stn.		
Gallymont <sup>35</sup>	16,890	639	51	118	29	13	...	211	...	33	244	25	...	...	...	...	...	...	...	25	At Rail'y Stn.		
Galong	7,500	226	201	26	44	31	19	95	13	10	118	23	...	...	...	...	...	...	...	23	At Rail'y Stn.		
Galston	9,360	...	58	83	91	...	...	63	4	...	67	23	...	...	...	...	...	...	...	23	At Rail'y Stn.		
Ganmain	13,000	472	236	53	85	...	...	148	28	14	190	50	...	...	...	...	...	...	...	50	At Rail'y Stn.		
Gannon's Creek	830	...	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	10	At Rail'y Stn.		
Garah <sup>25</sup>	3,030	...	...	...	...	...	...	45	...	1	46	10	...	...	...	...	...	...	...	10	At Public Sch.		
Garra	980	...	...	...	...	...	...	12	...	...	12	16	...	...	...	...	...	...	...	16	At Public Sch.		
Gentleman's Halt	1,130	...	...	...	...	...	...	28	...	...	28	11	...	...	...	...	...	...	...	11	At Public Sch.		
George's Plains	10,400	165	...	...	...	...	...	66	9	2	77	35	...	...	...	...	...	...	...	35	At Rail'y Stn.		
George's Plains Railway Station	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.	
George-st. North	670,960	15,369	1,620	148	1,252	1,366	557	3,375	2,466	120	5,961	250	...	...	140	...	...	52	...	80	686 Rented (estimated value of portion of premises occupied as a Post and Telegraph Office)		
George-st. West	173,090	7,140	874	1,127	12,109	3,620	1,762	1,748	360	58	2,166	260	40	...	140	...	...	52	...	130	693 Rented		
German Creek	3,230	...	...	...	...	...	...	37	...	1	38	12	...	...	...	...	...	...	...	16	28		
German's Hill	610	...	...	...	...	...	...	13	...	...	13	10/10/-	...	...	...	...	...	...	...	...	10/10/-	Govt. building	
Germanton	77,390	2,315	502	118	393	234	90	605	142	33	780	200	30	65	...	...	...	...	24/10/-	...	285/10/-	At Rail'y Stn.	
Gerogery	5,550	320	211	31	37	39	22	129	18	10	157	31	...	...	...	...	...	...	...	...	31	At Rail'y Stn.	
Gerringong	37,920	595	169	101	193	151	85	307	31	12	350	150	20	...	...	...	...	52	...	3	16/5/-	Rented	
Gerrymberryn	970	...	...	...	...	...	...	2	...	...	2	10	...	...	...	...	...	...	...	...	10	At Rail'y Stn.	
Geurie	10,290	323	160	41	63	32	26	100	18	12	130	17	...	...	...	...	...	...	...	...	17	At Rail'y Stn.	
Ghinni Ghinni	4,440	...	...	...	...	...	...	10	...	...	10	19	...	...	...	...	...	...	...	...	19	At Rail'y Stn.	
Giant's Creek <sup>57</sup>	76	...	...	...	...	...	...	5	...	...	5	5	...	...	...	...	...	...	...	...	5	At Rail'y Stn.	
Gilgai	2,350	...	...	...	...	...	...	14	...	...	14	15	...	...	...	...	...	...	...	...	15	At Rail'y Stn.	
Gilgandra	35,940	2,265	398	91	153	71	30	618	132	29	779	180	30	...	101	...	...	52	4/10/-	52	359/10/-	Rented	
Gilgunnia	5,870	...	...	...	...	...	...	77	...	3	80	22	...	...	...	...	...	...	...	...	22	At Rail'y Stn.	
Gilmore	3,590	...	...	...	...	...	...	22	...	...	22	14/10/-	...	...	...	...	...	...	...	...	14/10/-	At Rail'y Stn.	
Gingerra Station	660	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	10/10/-	At Rail'y Stn.	
Gingkin	2,740	...	...	...	...	...	...	20	...	...	20	14	...	...	...	...	...	...	...	...	14	At Rail'y Stn.	
Ginninderra	9,500	390	95	33	68	56	31	214	23	8	245	125	20	13	...	...	...	...	1/10/-	20	139/10/-	do	
Girilambone	21,270	2,060	1,064	98	131	146	71	298	122	44	464	39	...	36	...	...	...	...	...	...	75	At Rail'y Stn.	
Girilambone Mine <sup>25</sup>	18,240	...	574	3	37	195	41	245	...	31	276	27	...	...	...	...	...	...	...	20	47	At Rail'y Stn.	
Gladsville	67,140	1,302	248	200	290	195	89	246	54	12	312	110	...	...	78	...	...	52	33/4/-	33/16/-	307	Rented	
Gladstone	10,370	1,169	196	38	146	97	47	103	70	13	186	130	20	...	...	...	...	...	...	8	36	do	
Glanmire	2,560	...	...	...	...	...	...	25	...	...	25	25	...	...	...	...	...	...	...	...	25	At Rail'y Stn.	
Glasston	1,460	...	...	...	...	...	...	20	...	...	20	15/10/-	...	...	...	...	...	...	...	...	15/10/-	At Rail'y Stn.	
Glebe	190,860	7,658	759	2,641	5,548	4,876	2,264	2,259	376	57	2,692	225	40	91	2 at 125	...	...	52	...	5	750	Govt. building	
Glen Alice	1,350	...	...	...	...	...	...	42	...	...	42	15	...	...	...	...	...	...	2 at 26	...	15	At Rail'y Stn.	
Glenbrook	3,560	83	...	...	...	...	...	4	...	...	4	10	...	...	...	...	...	...	...	...	10	At Rail'y Stn.	
Glencoe	9,480	151	142	17	59	28	17	66	10	9	85	29	...	...	...	...	...	...	...	...	29	do	
Glendon Brook	4,300	...	...	...	...	...	...	55	...	...	55	17	...	...	...	...	...	...	...	...	17	At Rail'y Stn.	
Glen Elgin	1,610	...	...	...	...	...	...	31	...	1	32	10	...	...	...	...	...	...	...	...	10	At Rail'y Stn.	
Glenhaven	1,470	...	...	...	...	...	...	14	...	...	14	10/10/-	...	...	...	...	...	...	...	...	10/10/-	At Rail'y Stn.	
Glen Innes	249,480	7,410	1,399	932	2,396	848	407	1,719	497	82	2,298	290	40	130	2 at 190	120	...	2 at 52	140	78	1,302	Govt. building	
Glen Innes Railway Station	...	224	...	...	...	...	...	...	13	...	13	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Glenmore	1,830	...	...	...	...	...	...	11	...	...	11	10/10/-	...	...	...	...	...	...	...	...	...	10/10/-	At Rail'y Stn.

NOTE.—For references see page 69.







Name of Office	Business transacted							Revenue.				Expenditure											Arrangements as regards Premises				
	No of Letters posted	No of Telegrams trans mitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal	Tele graphic	Money Order and Postal Note	Total	Salaries								Allow ances	Rent of Office	Total					
												Officers in charge		Assist ants	Opera tors	Letter Carriers	Mail Boys	Messen gers	Line Re pairers					Other Em ployés	Gross Salary	Deduc tion for Rent	
Haymarket	1,482 500	28,075	4,728	16,380	78,802	10,943	5,892	£ 7,710	£ 1,776	£ 289	£ 9,775	£ 400	£							£ 200	£ 160	£ 125	£ 110				£
Hazelgrove	4,620							15			15	27											27				
Hazlebrook <sup>40</sup>	1,900							13			13	10											10				
Heathcote	1,320	51							3		3	10											10	At Rail'y Stn.			
Helensburgh	34,260	916	663	343	412	543	158	260	55	35	350	150	20	26		78				46	40	320	Rented				
Henty	51,830	952	368	31	131	66	50	301	55	21	377	30		26								56	At Rail'y Stn.				
Hermidale <sup>46</sup>	11,360	79						111	5	3	119	20										20	do				
Hexham	12,580	238	182	180	84	66	86	47	13	8	68	57/10/-										62/10/	do				
<i>Hexham Railway Stn</i>																								do			
Hickey's Creek <sup>47</sup>	3,300							39		1	40	17											17				
Hill End	27,170	975	524	453	519	252	177	266	53	34	353	200	30									34/14/	314/14/-	Govt building			
Hillgrove	92,180	4,455	1,547	553	615	1,235	491	748	305	83	1,136	200	30		110	78						39	397	do			
Hill Plain <sup>48</sup>	660							14			14	10											10				
Hillston	115 670	5,602	894	237	383	352	151	815	412	49	1,276	240	40		125	91	52	140				115/2/6	723/2/6	do			
Hilltop	2,970	17						34	1	1	36	11		5									16	At Rail'y Stn.			
Hinton	17,720	289	162	42	184	99	19	126	14	9	149	120	20								3	39	142	Rented			
Hobby's Yards	6,070							70		3	73	26/10/											26/10/				
Holdsworth	1,040							2			2	10											10	At Public Sch.			
Holmwood	3,210							24			24	20											20				
Holroyd <sup>49</sup>	2,870	78						42	4		46	13											13				
Holt's Flat	6,380	266						35	16		51	30											30				
Homebush	87,100	11,484	187	268	625	759	303	339	707	15	1,061	250	40		120	100	91					63/13/	675/13/-	Govt building			
<i>Homebush Cattle Yds</i>		1,002							59		59																
Home Rule	5,800		114	47	86	57	44	63		6	69	30												30			
<i>Honeysuckle Point</i>																											
Hornsby	6,380							58			58	41											41				
Hornsby Junction	59,430	1,772	281	132	545	482	236	245	62	20	327	125	20	65	39							8/10/	39	256/10/	Rented		
<i>Hornsby Junction Railway Station</i>																											
Hoskins' Fawn	6,670		83	7	40			51		6	57	25												25			
Howe's Valley	1,570							16		1	17	12												12			
Howlong	12 000	1,214	234	35	104	158	70	199	69	14	282	140	20									3		175	Govt building		
Hoxton Park	3,870							29			29	12/10/											25		37/10/		
Humula	5,100							67		3	70	12												12			
Hungerford	23,230	2,017	266	23	22	97	22	94	130	21	245	120										22		142	Freeby Guarantors		
Hunter's Hill	66,860	1,837	192	365	935	299	134	517	87	14	618	200	30		110	3 at 78	52					2 at 65	93/12/-	841/12/-	Govt building		
<i>Hunter's Hill Railway Station</i>																											
Huntingdon	2,240							23			23	17													17		
Hurstville	80,720	1,617	276	978	1,552	882	538	527	56	21	604	160	20		78	115	78						52	101/12/-	81/16/-	646/8/-	Rented
Huskisson	2,000							23			23	11													11		
Iandra	3,640							11			11	10													22		
Idaville	1,130							25			25	10/10/													10/10/-		
Iford	9,130		281	37	109			75		13	88	53/10/													53/10/-		
Illabo	6,560	227	134	15	73			80	14	9	103	30													30	At Rail'y Stn.	
Iluka	4,100							41			41	24													24		
Ingleburn	20,630	183						78	10	3	91	22													22	do	

Inverell	197,470	11,043	2,226	759	1,434	1,069	414	2,132	892	127	3,151	299	40	110	120 78	100	...	2 at 39	...	...	46/4/-	.....	791/4/-	Govt. building		
Invergowrie	850	.....	.....	.....	.....	.....	.....	2	.....	.....	2	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do		
Irvington	1,600	195	.....	.....	.....	.....	.....	16	13	.....	29	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	36	do		
Isabella <sup>50</sup>	440	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do		
Islington	29,070	.....	.....	.....	.....	.....	.....	154	.....	.....	154	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	do		
Ivanhoe	14,790	1,369	109	21	28	24	9	267	101	8	376	170	20	.....	.....	.....	.....	.....	.....	.....	.....	15/10/-	165/10/-	do		
Jamberoo	36,130	629	274	85	25	81	39	299	35	13	347	91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	91	do		
Jamison Town	2,450	.....	.....	.....	.....	.....	.....	18	.....	.....	18	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	do		
Jasper's Brush	5,270	.....	.....	.....	.....	.....	.....	31	.....	.....	31	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	12/10/-	23	do		
Jeir	4,450	.....	.....	.....	.....	.....	.....	35	.....	1	36	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18	do		
Jembaicumbene	5,000	.....	.....	.....	.....	.....	.....	14	.....	.....	14	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	do		
Jennings (See Wallangarra)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	do	
Jenolan Caves	8,950	715	327	18	53	139	40	83	40	19	142	110	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	111	do		
Jerangle	3,940	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	557	do	
Jerilderie	93,800	4,481	527	195	425	211	111	968	284	36	1,288	270	40	.....	140 78	65	.....	.....	.....	.....	.....	44	.....	557	do	
Jerrara	1,400	.....	.....	.....	.....	.....	.....	11	.....	5	16	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	At Public Sch.	
Jerrawa	4,130	52	.....	.....	.....	.....	.....	36	3	.....	39	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	At Rail'y Stn.		
Jerrong	1,070	.....	.....	.....	.....	.....	.....	28	.....	2	30	11/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11/10/-	Govt. building	
Jerry's Plains	29,150	878	201	57	82	38	10	141	50	9	200	140	20	26	.....	.....	.....	.....	.....	.....	.....	4	150	Govt. building		
Jerseyville	6,750	1,018	448	60	60	.....	.....	61	59	17	137	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	At Light-house		
Jervis Bay	.....	387	.....	.....	.....	.....	.....	.....	23	.....	23	72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	72	At Light-house		
Jiggi	400	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	15	do	
Jimnban	2,500	.....	.....	.....	.....	.....	.....	43	.....	.....	43	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65	do	
Jindabyne	16,340	894	157	41	75	.....	.....	204	50	10	264	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65	At Public Sch.		
Jindalee	2,000	.....	.....	.....	.....	.....	.....	2	.....	.....	2	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	20	At Public Sch.		
Jindera	6,980	319	107	15	31	38	24	68	20	6	94	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57	do		
Jingellic	3,660	606	.....	.....	.....	.....	.....	48	37	.....	85	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	do		
Joadja Creek	5,100	.....	177	73	92	69	51	57	.....	8	65	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	65	do		
Jones's Island	13,100	974	322	134	210	95	32	115	51	14	180	125	20	.....	.....	.....	.....	.....	.....	.....	.....	3/10/-	39	147/10/-	Rented	
Judd's Creek	2,840	.....	.....	.....	.....	.....	.....	24	.....	.....	24	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	do		
Jugiong	12,500	397	255	23	17	.....	.....	103	25	10	138	33/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	33/10/-	804/4/-	Govt. building	
Junee	213,800	5,517	1,492	481	1,251	939	425	1,354	316	104	1,774	250	40	110	160 150	65	.....	52	.....	.....	.....	57/4/-	.....	804/4/-	Govt. building	
Junee Railway Station	.....	668	.....	.....	.....	.....	.....	.....	41	.....	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.	
Kangaloon	6,800	.....	108	18	39	.....	.....	36	.....	5	41	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	do		
Kangaroo Creek	1,750	.....	.....	.....	.....	.....	.....	20	.....	.....	20	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	do		
Kangaroo Valley	29,750	1,141	342	82	192	187	57	216	67	19	302	140	20	.....	.....	.....	.....	.....	.....	.....	.....	52	26	230/4/-	Rented	
Karang	4,400	236	.....	.....	.....	.....	.....	20	14	.....	34	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	do		
Kar's Springs	1,620	.....	.....	.....	.....	.....	.....	22	.....	.....	22	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	10/10/-	do	
Karuah	4,480	.....	.....	.....	.....	.....	.....	26	.....	.....	26	14/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14/10/-	14/10/-	do	
Katoomba	162,460	4,715	1,000	687	1,654	616	297	1,166	272	82	1,520	250	40	.....	110	105	.....	39	.....	.....	.....	70/4/-	100	660/4/-	do	
Katoomba Rail. St'n.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.
Kayuga	1,640	.....	.....	.....	.....	.....	.....	17	.....	.....	17	11/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11/10/-	10	do
Keiraville	2,520	.....	.....	.....	.....	.....	.....	16	.....	.....	16	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do	
Kelly's Plains	1,360	.....	.....	.....	.....	.....	.....	12	.....	.....	12	12/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12/10/-	16	At Public Sch.
Kellyville	5,490	94	.....	.....	.....	.....	.....	17	5	.....	22	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	do	
Kelso	41,090	667	369	138	333	218	91	247	38	20	305	170	20	40	.....	.....	.....	.....	.....	.....	.....	2	40	232	Rented	
Kelso Railway Station	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.
Kembla Heights	6,000	.....	151	33	114	109	31	66	.....	9	75	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	42	do	
Kempsey	106,310	6,838	956	438	1,255	511	184	760	439	56	1,255	200	30	.....	2 at 78	78	.....	26	140	.....	.....	82/8/-	.....	652/8/-	Govt. building	
Kendall	6,620	323	262	41	100	24	5	44	18	11	73	68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	68	do	
Kensington <sup>51</sup>	.....	32	.....	.....	.....	.....	.....	7	.....	1	8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	do	
Kenthurst	6,240	.....	.....	.....	.....	.....	.....	28	.....	.....	28	12/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12/10/-	26	do
Kentucky	9,060	166	104	10	39	.....	.....	94	9	12	115	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	At Rail'y Stn.	
Kerrabee	5,860	.....	.....	.....	.....	.....	.....	26	.....	.....	26	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	do	
Kerr's Creek	3,340	42	.....	.....	.....	.....	.....	48	3	.....	51	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	do	
Kew	7,980	829	.....	.....	.....	.....	.....	63	53	5	121	48/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	48/10/-	48/10/-	do
Khancoban	760	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	10/10/-	do
Kiah	1,140	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	10/10/-	do

Note.—For references see page 69.

Name of Office.	Business transacted							Revenue				Expenditure.											Arrangements as regards Premises.					
	No of Letters posted	No of Telegrams transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal.	Telegraphic	Money Order and Postal Note	Total	Salaries								Allowances	Rent of Office	Total						
												Officers in charge		Assistants	Operators.	Letter Carriers	Mail Boys	Messengers	Line Receivers					Other Employees	Gross Salary	Deduction for Rent		
Kialla	3,160							£ 52	£	£	£ 52	£ 13/10/-	£							£	£	£	£				£	£
Kiama	135,850	4,191	648	509	2,088	607	242	939	224	54	1,217	240	40	160	91	91	39	140	98/12/-									Govt. building
Kiandra	8,730	874	266	24	39	22	34	113	51	14	178	120	20	13						23								do
Kilgin	790							10			10	10/10/-																
Killawarra	1,120							10			10	10/10/-																
Kimbriki	1,120							11			11	11/10/-																
Kinchela Creek	4,850	385	129	22	54	35	13	47	21	7	75	36																
Kincumber	3,590							29		1	30	23								5/4/-								
Kingstown	1,050							10			10	10/10/-																
King street	934,670	32,777	1,700	431	945	1,013	427	4,109	3,080	106	7,295	350	50	91	170		52		5		300							Rented
Kingswood	3,650							12			12	15																
Kiora	610							3			3	11/10/-																
Kirkdale <sup>22</sup>	680							7			7	10																
Kirkenong <sup>53</sup>	260							4			4	10																
Knorrit Flat	1,300							3			3	11																
Kogarah	157,120	2,225	398	689	2,095	1,477	607	518	111	28	657	180	30	25	2 at 91	78	78	52			2 at 39	93/12/-						Govt. building
Kookabookra	2,080		16	1	3			18		3	21	20																
Koorawatha	10,290	482	207	28	67	8	13	140	27	10	177	20																
Krambach	9,810	388	150	17	35			73	23	7	163	66/10/-																At Rail'y. Stn.
Krawarree	3,080							35		3	38	20																
Kunopia	3,290	740						82	51	4	137	52																
Kurrajong	8,280	280						53	16	1	70	52																
Kurrajong Heights	10,440	223						12			12	47/10/-									2							
Kyamba	7,130	191						45	12		57	190	30	16														
Kybean	930							14			14	10																Govt. building
Lady Robinson's B'ch <sup>54</sup>		54							2		2	20																
Laggan	13,630	275						98	14		112	64/10/-																
Laguna	3,540							24			24	19																
Lake Albert	1,600							5			5	10																
Lake Bathurst	10,000							63			63	19/10/-																At Public Sch.
Lake Cudgellico	19,610	921	294	48	56	95	46	189	55	19	263	120	20	101														
Lakesland	3,040							20		1	21	10																Rented
Lambton	75,430	1,003	351	741	913	547	319	379	47	26	452	160	20	91	91		39											
Lansdale <sup>55</sup>	4,260	86						108	5	4	117	17																Govt. building
Lansdowne	1,250							11			11	11/10/-																
La Prouse	6,920	1,138							41		41	*																do
Largs	9,310	251	92	28	40			56	12	4	72	59																
Laurieton	16,750	1,783	507	119	111	278	53	166	110	25	301	150	20	78														do
Lawrence	14,850	987	320	80	145	81	25	166	50	16	232	120	20															do
Lawson	23,630	898	215	166	338	162	84	258	45	21	324	170	20	110														do
Lawson Rly. Stn.																												Rented
Leadville	12,400	785	274	55	94	95	37	159	48	14	221	120																At Rail'y Stn.
Leet's Vale	1,770							14			14	11																Rented.
Leichhardt	281,690	4,100	889	2,255	3,608	4,793	2,036	1,809	172	58	2,039	225	40		125	144	2 at 78	2 at 52										Govt. building

Leura	8,560	351	...	...	...	...	...	34	19	5	5	34	...	...	...	...	...	...	...	...	...	34		
Lewis Ponds	5,370	245	80	80	26	34	12	40	18	5	63	52	...	...	...	...	...	...	...	...	...	52		
Liddell	2,120	...	...	...	...	...	...	8	...	...	8	10/10/-	...	...	...	...	...	...	...	...	7	17/10/-		
Lidsdale	3,840	...	29	29	37	20	20	23	...	2	25	34	...	...	...	...	...	...	...	...	...	34		
Lilyfield	10,410	183	...	...	...	...	...	59	7	...	66	30	...	...	...	...	...	...	...	...	...	30		
Limburner's Crepek	3,010	...	...	...	...	...	...	39	...	...	39	26	...	...	...	...	...	...	...	...	...	26		
Limekilns	1,530	...	...	...	...	...	...	13	...	...	13	11/10/-	...	...	...	...	...	...	...	...	...	11/10/-		
Limestone	1,190	...	...	...	...	...	...	5	...	...	5	17	...	...	...	...	...	...	...	...	...	17		
Linburn	2,930	...	...	...	...	...	...	12	...	...	12	11	...	...	...	...	...	...	...	...	...	11		
Lincoln	1,030	...	...	...	...	...	...	11	...	...	11	14/10/-	...	...	...	...	...	...	...	...	...	14/10/-		
Linden	...	18	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...		
Lindfield	16,500	464	...	...	...	...	...	73	15	...	88	30	...	...	39	...	...	...	...	...	...	69		
Lionsville	3,050	...	...	...	...	...	...	20	...	...	20	20	...	...	...	...	...	...	...	...	...	20		
Lismore	304,300	14,872	2,199	1,185	2,929	1,203	592	1,993	1,016	136	3,145	270	40	150	120	91	...	2 at 26	140	3 at 26	119/8/-	1,233/8/-	Govt. building	
															110	78	...							
															65	...								
Lithgow	162,200	4,828	1,644	1,158	2,972	1,637	657	1,438	278	121	1,837	290	40	2 at 78	...	91	...	26	...	2 at 5	106/12/-	717/12/-	do	
																78	...							
Lithgow Rly. Stn.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y. Stn.
Little Billabong	2,900	...	...	...	...	...	...	22	...	...	22	23	...	...	...	...	...	...	...	...	...	...	23	
Little Coogee <sup>56</sup>	...	28	...	...	...	...	...	9	1	...	10	39	...	...	...	...	...	...	...	...	...	...	39	
Little Hartley <sup>57</sup>	7,360	29	46	10	33	...	...	40	2	3	45	34/10/-	...	...	...	...	...	...	...	...	...	...	34/10/-	
Little Plain	2,570	...	...	...	...	...	...	22	...	...	22	16	...	...	...	...	...	...	...	...	...	...	16	
Liverpool	101,420	2,533	674	1,250	2,889	1,132	578	694	135	39	868	220	30	...	91	2 at 78	78	...	...	5	93/12/-	613/12/-	Govt. building	
Llandilo	480	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	
Llangothlin	11,410	...	...	...	...	...	...	82	...	2	84	17	...	...	...	...	...	...	...	...	25	42		
Lochinvar	18,000	428	160	117	179	170	52	125	24	8	157	110	...	...	...	...	...	...	...	...	27/10/-	30	167/10/-	
Lochinvar Railway Station	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y. Stn.
Lockhart <sup>58</sup>	11,270	195	50	4	8	...	...	63	12	3	78	125	20	...	...	...	...	...	...	...	3	52	160	
Locksley	5,080	116	...	...	...	...	...	68	6	...	74	12	...	...	...	...	...	...	...	...	...	...	12	
Long Creek <sup>59</sup>	3,110	61	...	...	...	...	...	40	4	...	44	21	...	...	...	...	...	...	...	...	...	...	21	
Long Flat	1,170	...	...	...	...	...	...	2	...	...	2	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	
Long Reach	3,960	...	...	...	...	...	...	12	...	...	12	21	...	...	...	...	...	...	...	...	...	...	21	
Longueville	26,200	267	...	...	...	...	...	158	10	1	169	52	...	...	...	...	...	...	...	...	62/4/-	...	114/4/-	
Lord Howe Island	1,640	...	...	...	...	...	...	16	...	...	16	10/10/-	...	...	...	...	...	...	...	...	6	...	16/10/-	
Lostock	3,840	...	...	...	...	...	...	8	...	...	8	16	...	...	...	...	...	...	...	...	...	...	16	
Louth	21,150	1,498	307	36	82	151	51	308	98	21	427	160	20	...	...	...	...	...	...	...	30	209	Govt. building	
Lower Botany	18,920	986	218	180	385	524	215	161	38	12	211	160	20	...	...	...	78	26	...	...	62/8/-	60	366/8/-	Rented
Lower Bucca	3,990	...	...	...	...	...	...	19	...	2	21	10	...	...	...	...	...	...	...	...	...	...	10	
Lower Forest <sup>60</sup>	1,380	...	...	...	...	...	...	6	...	...	6	10	...	...	...	...	...	...	...	...	...	...	10	
Lower Hawkesbury	900	...	...	...	...	...	...	11	...	...	11	14	...	...	...	...	...	...	...	...	...	...	14	
Lower Mangrove	3,230	...	...	...	...	...	...	24	...	3	27	12/10/-	...	...	...	...	...	...	...	...	...	...	12/10/-	
Lower Portland	3,510	...	188	23	28	...	...	38	...	7	45	17/10/-	...	...	...	...	...	...	...	...	...	...	17/10/-	
Lower Southgate	4,400	...	...	...	...	...	...	12	...	1	13	12	...	...	...	...	...	...	...	...	5	...	17	
Lower Tarcutta	2,420	...	...	...	...	...	...	19	...	...	19	14/10/-	...	...	...	...	...	...	...	...	...	...	14/10/-	
Lower Yammatree	1,520	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	...	...	10/10/-	
Lowesdale	2,360	295	...	...	...	...	...	...	16	...	16	24	...	...	...	...	...	...	...	...	...	...	24	
Lowther	2,960	...	...	...	...	...	...	30	...	1	31	13	...	...	...	...	...	...	...	...	...	...	13	
Lucknow	49,660	1,931	1,092	377	440	897	401	423	189	62	674	125	...	-65	...	65	...	...	...	...	34/4/-	289/4/-	At Public Sch. Provided free of rent.	
Luddenham	5,470	...	68	53	47	...	...	40	...	5	45	25/10/-	...	...	...	...	...	...	...	...	...	...	25/10/-	
Lue	13,700	329	167	26	74	...	...	126	24	9	159	40	...	...	...	...	...	...	...	...	...	...	40	
Lyndhurst	20,560	320	216	50	154	...	...	99	16	11	126	49	...	...	...	...	...	...	...	...	...	...	49	
Macdonaldtown	10,840	...	57	120	490	423	207	165	...	4	169	30	...	...	...	...	...	...	...	...	...	...	30	
Macksville	12,640	1,207	455	91	133	115	37	171	74	21	266	110	20	...	78	...	...	...	...	...	3	30	201	
Maclean	71,460	4,734	1,201	493	910	520	135	639	303	55	997	220	30	78	150	105	...	...	...	...	40/4/-	563/4/-	Rented Govt. building	
Mahonga	1,270	...	...	...	...	...	...	13	...	...	13	12/10/-	...	...	...	...	...	...	...	...	...	...	12/10/-	
Major's Creek	12,680	455	378	117	209	121	81	145	25	17	187	150	...	...	...	...	...	...	...	...	2	...	152	
Malebo	750	...	...	...	...	...	...	7	...	...	7	10	...	...	...	...	...	...	...	...	...	...	10	
Mallan	630	...	...	...	...	...	...	12	...	...	12	10	...	...	...	...	...	...	...	...	...	...	10	

\* Cable Company allowed £300 per annum for maintenance of telegraph station ; £15 per annum allowed to Company for postal duties. NOTE.—For other references see page 69.





Merimbula	11,550	1,341	148	48	65	48	18	65	51	7	123	125	20	...	...	...	...	...	...	2	30	137	Rented	
Merindee	2,320	...	...	...	...	...	...	22	...	...	22	14/10/-	...	...	...	...	...	...	...	...	...	14/10/-	...	
Merrilla	1,650	...	...	...	...	...	...	16	...	...	16	16/10/-	...	...	...	...	...	...	...	...	...	16/10/-	...	
Merriwa	47,020	2,143	519	73	303	125	46	463	136	28	627	200	30	65	...	...	...	...	...	30/10/-	...	265/10/-	Govt. building	
Merrygoen	6,250	...	...	...	...	...	...	55	...	...	55	27/10/-	...	...	...	...	...	...	...	...	...	27/10/-	...	
Merrylands	13,440	341	...	...	...	...	...	54	13	...	67	11	...	...	65	...	...	...	...	31/4/-	...	107/4/-	At Rail'y Stn.	
Metz	16,990	1,072	550	61	69	393	131	145	64	29	238	120	...	39	...	...	...	...	...	2	20	181	Rented	
Mewburn <sup>62</sup>	1,000	...	...	...	...	...	...	13	...	...	13	10	...	...	...	...	...	...	...	...	...	10	...	
Michelago	14,240	388	329	38	63	20	14	145	23	17	185	40	...	...	...	...	...	...	...	...	...	40	At Rail'y Stn.	
Middle Arm	1,960	...	...	...	...	...	...	13	...	...	13	13/10/-	...	...	...	...	...	...	...	...	...	13/10/-	...	
Middledale	660	...	...	...	...	...	...	26	...	...	26	10/10/-	...	...	...	...	...	...	...	...	...	10/10/-	...	
Middleton-street	37,400	...	...	...	...	...	...	239	...	2	241	56/10/-	...	...	...	...	...	...	...	...	...	56/10/-	...	
Mila	2,250	...	...	...	...	...	...	19	...	2	21	10	...	...	...	...	...	...	...	...	...	10	...	
Military Road	...	719	...	...	...	...	...	...	25	...	25	26	...	...	...	...	...	...	...	...	...	26	...	
Millamurra	460	...	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	...	...	11/10/-	...	
Miller's Forest	6,410	106	97	22	79	...	...	49	6	5	60	28	...	...	16	...	...	...	...	...	...	44	...	
Miller's Point	82,330	2,066	515	185	401	1,371	639	295	95	30	420	160	20	...	...	...	52	...	...	...	130	322	Rented	
Millfield	2,110	94	...	...	...	...	...	47	6	...	53	43/10/-	...	...	...	...	...	...	...	...	...	43/10/-	...	
Millie	50,800	1,389	270	23	68	...	...	356	90	17	463	120	20	78	...	...	...	...	...	...	35	50	263	do
Millthorpe	68,940	2,125	836	235	575	353	212	593	110	46	749	200	30	26	88	...	...	...	...	5	...	239	Govt. building	
Millthorpe Railway Station	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Millwood <sup>64</sup>	1,000	...	...	...	...	...	...	3	...	...	3	10	...	...	...	...	...	...	...	...	...	10	...	
Milperinka	8,760	1,394	216	64	58	44	10	192	113	12	317	144	20	...	...	...	26	...	...	...	22	40	212	Rented
Milson's Point	89,670	4,632	457	296	1,220	...	...	1,646	322	35	2,003	200	...	...	110	91	2 at 52	...	...	...	100	761	do	
Milton	55,610	1,548	727	232	457	305	101	493	90	42	625	220	30	...	110	78	...	...	140	...	67/8/-	...	585/8/-	Govt. building
Mingelo	2,470	...	...	...	...	...	...	11	...	...	11	11	...	...	...	...	...	...	...	...	...	...	11	...
Minmi	56,060	1,280	541	338	514	606	314	293	50	33	376	160	20	78	...	105	...	...	...	...	28	351	do	
Minto	11,700	268	99	117	279	...	...	94	14	7	115	35	...	...	...	...	26	...	...	...	...	61	At Rail'y Stn.	
Mitchell's Flat	510	...	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	...	...	10	...	
Mitchell's Island	1,550	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	...	10/10/-	At Public Sch.	
Mittagong	63,920	1,976	603	647	1,367	523	292	589	99	49	737	220	30	...	65	91	...	52	140	...	36/4/-	...	574/4/-	Govt. building
Mittagong Railway Station	...	11	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Mitta Mitta	3,240	...	...	...	...	...	...	26	...	...	26	13	...	...	...	...	...	...	...	...	...	13	...	
Moama	45,550	1,177	270	168	416	117	93	281	74	14	369	160	20	...	91	78	...	...	...	...	8	...	317	Govt. building
Moatefield	3,700	...	176	2	16	...	...	51	...	8	59	26	...	...	...	...	...	...	...	...	...	26	...	
Mogilla	2,320	...	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	...	...	...	20/10/-	At Public Sch.
Mogil Mogil	7,530	682	95	14	9	19	8	132	43	8	183	140	20	...	...	...	...	...	...	...	26	37	183	Rented
Mogo	7,060	507	...	...	...	...	...	8	29	2	39	36	...	...	...	...	...	...	...	...	...	36	...	
Moira	3,530	...	...	...	...	...	...	28	...	...	28	34	...	...	...	...	...	...	...	...	...	34	...	
Molong	198,000	3,657	1,142	654	1,890	624	307	1,004	196	77	1,277	250	40	78	...	91	...	52	...	...	35/4/-	...	466/4/-	Govt. building
Molong Railway Stn.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Molonglo	11,850	225	104	9	29	38	36	55	13	7	75	74	...	...	...	...	...	...	...	...	...	74	...	
Money Order Office	...	8,602	...	...	...	...	...	...	435	...	435	...	...	...	...	...	...	...	...	...	...	...	...	Govt. building
Mongarlowe	7,000	...	144	23	32	...	...	59	...	6	65	15/10/-	...	...	...	...	...	...	...	...	...	15/10/-	...	
Monkerai	2,020	...	...	...	...	...	...	35	...	...	35	17	...	...	...	...	...	...	...	...	...	17	At Public Sch.	
Monteagle	4,270	...	...	...	...	...	...	78	...	...	78	17/10/-	...	...	...	...	...	...	...	...	26	...	43/10/-	...
Montefiores	31,160	...	...	...	...	...	...	45	...	...	45	28	...	...	...	...	...	...	...	...	...	28	...	
Moonan Brook	9,630	382	161	7	35	36	24	132	25	9	166	50/10/-	...	...	...	...	...	...	...	...	...	50/10/-	...	
Moonan Flat	3,160	...	...	...	...	...	...	56	...	3	59	15	...	...	...	...	...	...	...	...	...	15	...	
Moonbah	2,580	...	...	...	...	...	...	...	...	1	1	11/10/-	...	...	...	...	...	...	...	...	...	11/10/-	...	
Moonbi	1,170	...	...	...	...	...	...	10	...	...	10	10	...	...	...	...	...	...	...	...	...	10	...	
Moonbi Railway Station	6,260	314	220	48	135	61	33	77	20	11	108	30	...	...	...	...	...	...	...	...	...	30	At Rail'y Stn.	
Moongulla <sup>65</sup>	700	600	...	...	...	...	...	...	39	...	39	25	...	...	...	...	...	...	...	...	...	25	...	
Moorbank <sup>66</sup>	1,010	...	...	...	...	...	...	12	...	...	12	10	...	...	...	...	...	...	...	...	12	...	22	...
Moorilda	5,400	...	...	...	...	...	...	32	...	2	34	27	...	...	...	...	...	...	...	...	...	27	...	
Moorland	3,070	...	...	...	...	...	...	45	...	...	48	25/10/-	...	...	...	...	...	...	...	...	...	25/10/-	...	
Moorwatha	1,940	...	...	...	...	...	...	19	...	...	19	11	...	...	...	...	...	...	...	...	...	11	At Public Sch.	
Morangarell	10,730	513	85	13	28	17	16	67	30	7	104	120	20	...	...	...	...	...	...	3	...	103	Govt. building	

NOTE.—For references see page 69.

Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.			
	No. of Letters posted.	No. of Telegrams Transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic.	Money Order and Postal Note.	Total.	Salaries.								Allow-ances.	Rent of Office.	Total.				
												Officers in charge.		Assist-ants.	Opera-tors.	Letter Carriers.	Mail Boys.	Messen-gers.	Line Re-pairers.					Other em-ployes.		
												Gross Salary.	Deduction for Rent.													
Moree .....	235,760	15,529	2,007	667	1,224	870	344	£ 2,417	£ 1,035	£ 123	£ 3,575	£ 299	£ 40	£ 91	£ 180	£ 78	£ ...	£ 52	£ ...	£ ...	£ 157/8/-	£ .....	£ 963/8/-	Govt. building		
Moree Railway Stn .....		264	...	...	...	...	...	...	15	...	15	...	...	...	...	...	...	26	...	...	...	...	...	...	At Rail'y Stn.	
Morisset <sup>67</sup> .....		174	...	...	...	...	...	...	11	...	11	10	...	...	...	...	...	...	...	...	...	...	10	do		
Morongla Creek .....	2,040	...	...	...	...	...	...	15	...	...	15	15/10/-	...	...	...	...	...	...	...	...	...	...	15/10/-	do		
Morpeth .....	79,000	2,853	437	254	648	489	232	568	147	29	744	220	30	110	...	91	...	39	...	...	39/4/-	...	469/4/-	Govt. building		
Morpeth Railway Station. ....		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.	
Mortdale .....	4,130	...	...	...	...	...	...	86	...	...	86	11/10/-	...	...	...	...	...	...	...	...	...	...	11/10/-	...		
Mortlake .....	8,650	306	...	...	...	...	...	37	10	...	47	30	...	...	...	...	...	...	...	...	...	...	30	do		
Morundah <sup>68</sup> .....	22,250	1,167	57	12	30	...	...	152	76	5	233	30	...	26	...	...	...	...	...	...	...	...	56	do		
Moruya .....	134,330	3,660	1,255	422	929	296	88	648	228	53	929	225	30	...	2 at 91	78	...	140	...	...	117	...	712	Govt. building		
Moruya Heads.....		113	...	...	...	...	...	6	...	...	6	52	...	...	...	...	...	...	...	...	...	...	52	At Pilot St'n.		
Morven .....	6,400	...	...	...	...	...	...	29	...	...	29	20	...	...	...	...	...	...	...	...	...	...	20	do		
Mosman .....	99,600	2,454	296	393	598	807	284	447	110	21	578	170	20	...	110	2 at 91	65	2 at 52	...	3 at 26	94/17/-	78	939/17/-	Rented		
Mosman .....		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mossiel .....	20,120	1,500	179	39	56	98	34	331	100	15	446	175	30	...	...	...	...	26	...	...	...	...	35/10/-	206/10/-	Govt. building	
Moss Vale .....	212,440	4,751	782	865	7,099	658	236	1,036	302	57	1,395	250	40	170	110	91	...	52	...	...	...	...	50/14/-	683/14/-	do	
Moulamein .....	26,370	1,782	235	37	60	50	14	286	117	15	418	160	20	101	...	...	...	...	...	...	...	91/17/6	332/17/6	do		
Mount Adrah .....	560	...	...	...	...	...	...	5	...	...	5	10	...	...	...	...	...	...	...	...	...	...	10	do		
Mountain Home .....	740	...	...	...	...	...	...	2	...	...	2	10	...	...	...	...	...	...	...	...	...	...	10	do		
Mount Costigan .....	3,190	...	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	...	...	...	10	do		
Mount David .....	6,000	...	...	...	...	...	...	42	...	...	42	12	...	...	...	...	...	...	...	...	...	...	12	do		
Mount Druitt .....	3,760	158	...	...	...	...	...	9	...	...	9	10	...	...	...	...	...	...	...	...	...	...	10	do		
Mount Drysdale <sup>69</sup> .....	13,430	351	183	49	82	52	28	122	22	12	156	110	...	...	...	...	...	...	...	...	...	...	12	26	148	At Rail'y Stn.
Mount Elliott .....	1,100	...	...	...	...	...	...	8	...	...	8	15/10/-	...	...	...	...	...	...	...	...	...	...	...	15/10/-	Rented	
Mount Harris .....	8,970	...	...	...	...	...	...	25	...	...	25	20	...	...	...	...	...	...	...	...	...	...	...	20	do	
Mount Hope .....	6,620	1,756	302	36	71	45	26	114	111	16	241	150	20	...	...	...	52	...	...	...	...	21	52	255	do	
Mount Hunter .....	1,970	...	...	...	...	...	...	29	...	...	29	12	...	...	...	...	...	...	...	...	...	...	...	12	At Public Sch.	
Mount Ida .....	4,960	...	...	...	...	...	...	27	...	...	27	15	...	...	...	...	...	...	...	...	...	...	...	15	do	
Mount Keira .....	3,070	...	...	...	...	...	...	15	...	...	15	...	...	...	...	...	...	...	...	...	...	...	...	15	do	
Mount Kembla .....	10,140	1,094	97	32	96	39	21	28	64	4	96	40	...	15/13/-	...	...	...	...	...	...	...	...	...	55/13/-	10	do
Mount Kimo <sup>70</sup> .....	960	...	...	...	...	...	...	1	...	...	1	10	...	...	...	...	...	...	...	...	...	...	...	10	do	
Mount M'Donald .....	27,580	1,532	955	81	101	297	137	301	161	41	503	120	...	...	...	...	...	...	...	...	...	3	24	147	Rented	
Mount Mitchell .....	1,530	...	...	...	...	...	...	29	...	...	29	11/10/-	...	...	...	...	...	...	...	...	...	...	...	11/10/-	10	do
Mount Rae .....	2,490	...	...	...	...	...	...	7	...	...	7	10	...	...	...	...	...	...	...	...	...	...	...	10	do	
Mount Victoria .....	42,770	2,201	454	186	501	310	103	350	113	34	497	270	40	...	110	...	52	140	...	...	...	36/4/-	...	568/4/-	Govt. building	
Mount Victoria Railway Station. ....		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Mount Vincent <sup>71</sup> .....	5,110	173	176	18	92	...	...	45	11	7	63	24	...	...	...	...	...	...	...	...	...	...	...	24	do	
Mount Wilson .....	4,540	...	...	...	...	...	...	73	...	...	73	17	...	...	...	...	...	...	...	...	...	...	...	...	17	do
Mudgee .....	304,530	9,180	2,334	1,540	4,093	1,129	543	2,632	622	147	3,401	330	40	150	160	125	...	39	140	...	5	121/2/-	...	1,356/2/-	Govt. building	
Mudgee .....		...	...	...	...	...	...	...	...	...	...	...	...	110	125	65	...	...	...	...	...	Receiver clearer.	...	...	...	...
Mudgee Rail'y Stn. ....		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Mulgoa .....	12,370	266	107	87	213	30	15	83	14	6	103	125	20	20	...	...	...	...	...	...	...	...	3	128	Govt. building	
Mulgrave .....	3,290	25	...	...	...	...	...	12	1	...	13	21	...	...	...	...	...	...	...	...	...	...	...	21	At Rail'y Stn.	
Mullaley .....	5,350	1,024	...	...	...	...	...	62	...	...	62	48	...	...	...	...	...	...	...	...	...	...	...	48	do	
Mullengandra .....	6,820	...	...	...	...	...	...	10	...	...	10	21	...	...	...	...	...	...	...	...	...	...	...	21	do	
Mullengudgery .....	5,490	...	...	...	...	...	...	27	...	...	27	17/10/-	...	...	...	...	...	...	...	...	...	...	...	17/10/-	do	
Mullion Creek .....	7,150	182	...	...	...	...	...	7	10	...	17	11	...	...	...	...	...	...	...	...	...	...	...	11	do	
Mulloon .....	780	...	...	...	...	...	...	16	...	...	16	12/10/-	...	...	...	...	...	...	...	...	...	...	...	12/10/-	do	
Mullumbimby <sup>72</sup> .....	12,020	628	189	52	90	18	7	90	35	11	136	88	...	...	...	...	...	...	...	...	...	4	13	105	Rented.	

Mulwala	26,460	1,653	339	68	87	186	78	267	99	17	383	170	20	10	...	...	...	...	9/10/-	169/10/-	Govt. building				
Mumbil	7,120	103	...	...	...	...	...	...	11	4	15	11	...	...	...	...	...	...	...	11	At Rail'y Stn.				
Mummell	2,440	...	...	...	...	...	...	13	...	...	13	14/10/-	...	...	...	...	...	...	...	14/10/-	Rented				
Mundooran	23,520	874	307	46	56	49	14	281	51	16	348	160	20	...	...	...	...	2	45	187	do				
Mungindi	34,770	4,121	715	96	108	141	51	361	276	39	676	190	30	...	78	...	...	38	35	311	do				
Mungunyah	1,080	...	...	...	...	...	...	13	...	...	13	13/10/-	...	...	...	...	...	...	...	13/10/-	do				
Murga	3,470	...	...	...	...	...	...	24	...	...	24	24	...	...	...	...	...	...	...	24	do				
Murrayville	...	610	...	...	...	...	...	43	...	...	43	26	...	...	...	...	...	...	...	26	At Rail'y Stn.				
Murrumbateman	4,680	...	...	...	...	...	...	36	...	1	37	20	...	...	...	...	...	...	...	20	do				
Murrumbidgee	12,470	321	165	47	84	...	...	82	17	11	110	21	...	...	...	...	...	...	...	21	At Rail'y Stn.				
Murrumburrah	101,080	2,531	937	328	665	296	172	791	171	55	1,017	225	30	...	88	...	...	52	...	361/10/-	Govt. building				
Murrungandy	3,370	...	...	...	...	...	...	3	...	...	3	12	...	...	...	...	...	...	...	12	do				
Murrurundi	51,610	1,109	618	258	925	606	247	338	76	40	454	225	30	140	...	...	...	52	...	393	do				
Murrurundi Railway Stn. (See Haydinton)	...	642	...	...	...	...	...	...	37	...	37	...	...	...	...	...	...	52	...	52	At Rail'y Stn.				
Murwillumbah	158,300	4,688	1,023	291	759	469	208	701	332	64	1,097	250	40	...	120	...	...	26	140	50/12/6	39	691/12/6	Rented		
Muscle Creek	3,520	...	...	...	...	...	...	10	...	...	10	10/10/-	...	...	...	...	...	...	...	10/10/-	do				
Muswellbrook	268,350	6,490	1,070	544	1,492	500	322	1,435	414	77	1,926	290	40	140	110	91	...	2 at 39	...	36/4/-	...	10/10/-	805/4/-	Govt. Building	
Muswellbrook Railway Station.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Muttama	5,330	...	...	...	...	...	...	59	...	2	61	20	...	...	...	...	...	...	...	...	20	do			
Myra Vale	8,840	...	60	29	72	...	...	61	...	5	66	25	...	...	...	...	...	...	...	...	25	Free by Guarantors			
Myrtle Creek	5,838	237	...	...	...	...	...	22	13	2	37	30	...	...	...	...	...	...	...	...	30	do			
Myrtleville	3,310	...	...	...	...	...	...	8	...	...	8	15/10/-	...	...	...	...	...	...	...	...	15/10/-	...	...	do	
Nabiac	8,310	...	217	28	62	...	...	71	...	10	81	22	...	...	...	...	...	...	...	...	22	Free by Guarantors			
Nadjingomar	2,500	...	...	...	...	...	...	17	...	1	18	11/10/-	...	...	...	...	...	...	...	...	11/10/-	...	...	Rented	
Nambucca Heads	8,710	1,350	281	90	70	64	40	122	81	15	218	150	20	...	...	...	...	...	2/10/-	20	152/10/-	...	...	At Pilot Stn.	
Nambucca Heads Pilot Station.	...	149	...	...	...	...	...	...	8	...	8	26	...	...	...	...	...	...	...	...	26	...	...	...	
Nana Glen	6,100	...	...	...	...	...	...	53	...	2	55	18	...	...	...	...	...	...	...	...	18	...	...	...	
Nangus	2,300	...	...	...	...	...	...	10	...	...	10	13	...	...	...	...	...	...	...	...	13	...	...	...	
Narara	2,710	...	...	...	...	...	...	34	...	...	34	10/10/-	...	...	...	...	...	...	5	...	15/10/-	...	...	...	
Narellan	19,180	395	...	...	...	...	...	153	22	...	175	65/10/-	...	...	...	...	...	...	...	...	65/10/-	...	...	...	
Narooma	10,800	563	137	105	106	...	...	53	33	8	99	45	...	...	...	...	...	...	...	...	45	...	...	...	
Narrabeen <sup>3</sup>	3,380	257	...	...	...	...	...	38	12	...	50	15	...	...	...	...	...	...	...	...	15	...	...	...	
Narrabri	253,600	12,482	1,593	862	1,940	1,239	511	1,904	811	103	2,818	320	40	...	170	135	...	26	140	107/9/-	...	1,124/9/-	Govt. building		
Narrabri Railway Stn.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	110	91	65	...	...	...	...	...	...	...	At Rail'y Stn.
Narrabri West	78,050	3,260	533	144	400	308	97	485	165	29	679	190	...	...	120	...	...	52	...	33/4/-	15	410/4/-	Rented		
Narraburra	3,780	...	...	...	...	...	...	37	...	...	37	12	...	...	...	...	...	...	...	20/16/-	...	32/16/-	...	...	
Narramine	106,370	4,712	1,323	231	492	385	222	871	286	64	1,221	220	30	78	...	...	...	...	...	21/10/-	...	289/10/-	Govt. building		
Narramine R. Station	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Narrandera	368,310	12,415	2,005	892	2,292	747	467	2,118	795	112	3,025	299	40	190	160	115	...	52	...	86/8/-	...	1,201/8/-	Govt. building		
Narrawa	4,800	...	...	...	...	...	...	52	...	2	54	20	...	...	...	...	...	...	...	...	20	...	...	...	
Narrow Plains	2,460	...	...	...	...	...	...	11	...	...	11	10	...	...	...	...	...	...	...	...	10	...	...	...	
Nelligen	12,750	595	267	70	146	29	18	108	50	13	151	110	20	...	...	...	...	...	2	26	118	Rented			
Nelson's Bay	6,250	984	166	633	736	63	28	61	43	8	112	120	20	...	...	...	...	...	9	...	109	Govt. building			
Nelson's Plains	2,550	...	...	...	...	...	...	15	...	...	15	14	...	...	...	...	...	...	...	...	14	At Public Sch.			
Nemingha	2,260	...	...	...	...	...	...	15	...	...	15	10	...	...	...	...	...	...	...	...	10	...	...	...	
Nerriga	9,140	...	82	58	27	...	...	91	...	5	96	27	...	...	...	...	...	...	...	...	27	...	...	...	
Nerrigundah	6,670	...	136	19	57	...	...	99	...	10	109	22/10/-	...	...	...	...	...	...	...	...	22/10/-	...	...	...	
Neurea	4,760	...	...	...	...	...	...	20	...	...	20	20/10/-	...	...	...	...	...	...	...	...	20/10/-	...	...	...	
Neutral Bay	30,230	458	116	207	350	369	200	288	31	8	327	120	20	...	...	...	...	52	...	5/4/-	65	222/4/-	Rented		
Never Never	3,580	...	...	...	...	...	...	26	...	...	26	12/10/-	...	...	...	...	...	...	...	...	12/10/-	...	...	...	
Nevertire	40,800	2,201	671	87	135	154	89	372	121	31	527	200	...	...	...	...	...	52	...	3	20	275	do		
Nevertire Railway Station.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.

NOTE.—For references see page 60.



<b>Korth Yurrunga.</b>	2,400	.....	...	...	...	...	18	..	...	18	10	..	...	...	...	...	...	...	...	...	10		
<b>Nowendoc</b>	2,000	.....	...	...	...	...	20	...	...	20	14	...	...	...	...	...	...	...	...	...	14		
<b>Nowra</b>	101,790	4,327	1,310	564	1,745	706	327	1,076	244	66	1,386	250	40	...	110	91	...	52	...	37/14/-	600/14/-	Govt. building	
<b>Nubba</b>	3,240	.....	...	...	...	...	.....	.....	.....	.....	11	...	...	...	...	...	...	...	...	...	11	At Rail'y Stn.	
<b>Nullamanna</b>	1,500	.....	...	...	...	...	22	.....	.....	.....	22	10/10/-	...	...	...	...	...	...	...	...	10/10/-	At Public Sch.	
<b>Numba<sup>76</sup></b>	3,580	121	85	14	40	18	7	37	6	3	46	35	...	...	...	...	...	...	...	...	35		
<b>Number One</b>	1,200	.....	...	...	...	...	11	.....	.....	.....	11	10/10/-	...	...	...	...	...	...	...	...	10/10/-		
<b>Numbugga</b>	3,090	.....	...	...	...	...	41	.....	.....	.....	41	13	...	...	...	...	...	...	...	...	13		
<b>Numeralla</b>	3,210	.....	...	...	...	...	24	.....	.....	.....	24	21	...	...	...	...	...	...	...	...	24		
<b>Nundle</b>	17,820	879	424	127	175	100	67	191	81	22	294	160	20	10	.....	.....	.....	.....	.....	.....	207	Rented	
<b>Nunnagoyt</b>	1,210	.....	...	...	...	...	11	.....	.....	.....	11	10/10/-	...	...	...	...	...	...	...	5	52		
<b>Nymagee</b>	60,300	3,635	1,298	183	334	285	135	474	220	60	754	210	30	...	140	...	52	26	...	56	454	Govt. building	
<b>Nymboida</b>	2,450	.....	...	...	...	...	16	.....	.....	.....	16	14	...	...	...	...	...	...	...	...	14		
<b>Nyngan</b>	194,060	7,650	3,107	804	1,779	1,060	562	1,530	467	151	2,148	240	40	2 at 120	91	...	26	...	...	48	605	do	
<b>Nyngan Rail'y Stn.</b>		1,722	.....	.....	.....	.....	.....	.....	97	.....	97	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.
<b>Oaklands</b>	4,600	.....	...	...	...	...	41	.....	.....	2	43	17	...	...	...	...	...	...	...	.....	17		
<b>Oakwood</b>	2,330	.....	...	...	...	...	18	.....	.....	.....	18	13/10/-	...	...	...	...	...	...	...	.....	13/10/-		
<b>Oalley's</b>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	do	
<b>Oban</b>	1,160	.....	...	...	...	...	15	.....	.....	1	16	13/10/-	...	...	...	...	...	...	...	.....	13/10/-		
<b>Oberon</b>	41,970	1,300	605	203	366	273	114	414	66	38	518	150	20	.....	.....	.....	52	.....	.....	4	186	Govt. building	
<b>Obley</b>	7,750	488	170	30	46	66	23	84	31	8	123	52	...	...	...	...	...	...	...	.....	52		
<b>O'Connell</b>	12,720	229	2.9	64	170	.....	.....	114	13	12	139	64/10/-	...	...	...	...	...	...	...	.....	64/10/-		
<b>Old Junee</b>	15,900	335	186	18	80	26	10	154	19	10	183	30	...	...	...	...	...	...	13	.....	43	At Rail'y Stn.	
<b>Olinda</b>	4,070	.....	...	...	...	...	37	.....	1	38	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	12		
<b>Omega</b>	1,750	.....	...	...	...	...	11	.....	.....	.....	11	11	...	...	...	...	...	...	.....	.....	11	At Public Sch.	
<b>One Tree</b>	3,830	.....	...	...	...	...	10	.....	.....	.....	10	10	...	...	...	...	...	.....	.....	.....	10		
<b>Ophir</b>	800	.....	...	...	...	...	10	.....	.....	.....	10	10/10/-	...	...	...	...	...	.....	.....	.....	10		
<b>Orange</b>	508,130	15,754	2,531	3,051	6,982	2,181	1,388	3,679	966	198	4,843	350	50	125	2 at 190	120	78	2 at 52	140	105/2/-	1,772/2/-	Govt. building	
<b>Orange Rail'y Stn.</b>		525	.....	.....	.....	.....	.....	.....	34	.....	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.
<b>Orton Park</b>	1,280	.....	...	...	...	...	24	.....	.....	.....	24	10/10/-	...	...	...	...	...	.....	.....	.....	.....	10/10/-	
<b>Orandumbi</b>	990	.....	...	...	...	...	20	.....	.....	.....	20	10/10/-	...	...	...	...	...	.....	.....	.....	.....	10/10/-	
<b>Oxford</b>	2,720	53	.....	.....	.....	.....	41	3	.....	44	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	do	
<b>Ourimbah</b>	9,070	358	.....	.....	.....	.....	127	21	4	152	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	do	
<b>Overton</b>	2,380	.....	...	...	...	...	14	.....	.....	.....	14	11	.....	.....	.....	.....	.....	.....	.....	.....	11		
<b>"Oxford Hotel"</b>		11,655	.....	.....	.....	.....	.....	627	.....	627	125	.....	.....	.....	.....	.....	.....	.....	.....	.....	125		
<b>Oxford-street</b>	187,730	15,261	1,984	2,956	21,585	9,050	4,476	2,812	750	137	3,699	299	40	190	160	.....	5 at 52	.....	.....	5	260	1,530	Rented
<b>Oxley</b>	11,950	854	132	21	72	42	19	204	51	9	264	120	20	2 at 110	150	.....	26	.....	.....	21	35	182	do
<b>Oxley Island</b>	2,030	.....	...	...	...	...	13	.....	.....	.....	13	13/10/-	...	...	...	...	.....	.....	.....	.....	.....	13/10/-	
<b>Paddington</b>	143,940	8,254	1,195	3,239	4,623	4,791	2,293	1,974	333	76	2,437	299	40	.....	160	.....	3 at 52	.....	3 at 26	5	.....	794	Govt. building
<b>Pallamallawa<sup>77</sup></b>	4,720	.....	...	...	...	...	55	.....	2	57	30/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<b>Palmer's Island</b>	10,050	1,353	405	532	120	88	55	94	58	16	168	120	20	.....	.....	.....	.....	.....	.....	.....	26	129/10/-	Rented
<b>Palmer's Oakley</b>	1,880	.....	...	...	...	...	8	.....	.....	.....	8	11/10/-	...	...	...	...	.....	.....	.....	.....	.....	11/10/-	
<b>Pambula</b>	39,970	3,103	684	208	590	200	98	467	187	34	683	200	30	40	91	.....	52	.....	29/10/-	42	424/10/-	do	
<b>Pampoolah</b>	2,630	.....	...	...	...	...	13	.....	.....	.....	13	13/10/-	...	...	...	...	.....	.....	.....	.....	.....	13/10/-	
<b>Parkes</b>	199,300	9,048	2,120	859	1,827	832	538	1,733	550	115	2,398	299	40	.....	190	105	26	.....	.....	43	.....	919	Govt. building
<b>Parkes Railw'y Stn.</b>		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<b>Park-street</b>	314,070	21,179	2,832	1,008	17,836	4,559	2,271	3,275	1,080	187	4,542	300	.....	120	100	.....	52	.....	.....	5	400	1,112	At Rail'y Stn. Rented
<b>Parkville</b>	4,680	.....	...	...	...	...	72	.....	.....	.....	72	19/10/-	...	...	...	...	.....	.....	.....	.....	20	39/10/-	
<b>Parliament House..</b>	52,560	2,627	120	2	57	.....	.....	267	146	9	422	200	.....	.....	91	.....	52	.....	.....	.....	.....	343	Govt. building
<b>Parragundy</b>	.....	347	.....	.....	.....	.....	.....	.....	.....	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—For references see page 69.



Name of Office.	Business transacted							Revenue				Expenditure.											Arrangements as regards Premises.				
	No of Letters posted	No of Telegrams Transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal.	Tele graphic	Money Order and Postal Note	Total	Salaries									Allow ances	Rent of Office		Total.			
												Officers in charge		Assist-ants.	Opera-tors	Letter Carriers	Mail Boys	Messen-gers	Line Re-paners	Other Em-ployés							
												Gross Salary.	Deduct ion for Rent														
Parramatta	967,750	8,967	1,603	3,490	9,395	3,712	1,767	£ 2,851	£ 415	£ 111	£ 3,377	£ 350	£ 50	£ 200	2 at 160	2 at 144	2 at 78	2 at 52	£ 2 at 78	£ 65	£ 26	106/2-	£	£ 2,649/2-	Govt. building		
Paterson	39,040	1,167	275	134	214	191	58	255	66	15	336	140	20	...	78							4,10/-	52	202/10/-	do		
Peak Hill	37,800	2,658	901	329	366	346	233	416	162	47	625	200	30	65	..							11/10/-	..	298/10/-	Rented		
Peakhurst	5,510	..	..	..	..	..	..	9	..	..	9	13	..	..	..	..	..	..	..	..	..	..	..	55	..		
Pearce's Creek	1,480	..	..	..	..	..	..	10	..	..	10	10/10/-	..	..	..	..	..	..	..	..	..	..	..	41	..		
Peel	12,910	..	..	..	..	..	..	50	..	1	51	41	..	..	..	..	..	..	..	..	..	..	..	25	..		
Peelwood	3,600	..	116	21	13	..	..	45	..	6	51	25	..	..	..	..	..	..	..	..	..	..	..	..	..		
Pejar	1,510	..	..	..	..	..	..	15	..	..	15	13/10/-	..	..	..	..	..	..	..	..	..	..	..	..	13/10/-	..	
Pelican Island	1,580	..	..	..	..	..	..	14	..	..	14	10/10/-	..	..	..	..	..	..	..	..	..	..	..	..	10/10/-	..	
Pennant Hills <sup>8</sup>	2,470	166	..	..	..	..	..	16	4	..	20	18	..	..	..	..	..	..	..	..	..	..	..	18	At Rail'y Stn.		
Pennrth	127,820	2,995	1,161	925	3,396	1,402	565	1,205	178	69	1,452	240	40	..	150	78	..	39	..	..	31/4/-	..	..	608/4/-	Govt building		
<i>Pennrth Railway Stn</i>	..	486	..	..	..	..	..	..	25	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..	10	At Rail'y Stn.	
Penrose	3,630	..	..	..	..	..	..	13	..	1	14	10	..	..	..	..	..	..	..	..	..	..	..	..	25	do	
Pera Bore <sup>9</sup>	850	49	..	..	..	..	..	4	3	..	7	15	..	..	..	..	..	..	..	..	..	10	..	36	..		
Pericoe	4,100	..	..	..	..	..	..	50	..	2	52	11	..	..	..	..	..	..	..	..	..	25	..	..	..		
Perricoota	1,830	..	..	..	..	..	..	12	..	..	12	12/10/-	..	..	..	..	..	..	..	..	..	..	..	..	12/10/-	..	
Perth	15,380	346	186	112	141	61	39	109	18	8	135	37	..	..	..	..	..	26	..	..	..	..	..	63	do		
Petersham	660,320	5,456	692	1,864	3,680	2,710	1,161	1,672	233	47	1,952	280	40	..	170	144	78	52	..	78	172,17/-	..	..	2,253/17/-	Govt. Building		
															110	135	..	39	..	65	..	..	..	..	..		
															..	130	..	2 at 26	..	52	..	..	..	..	..		
															..	125	..	..	..	26	..	..	..	..	..		
															..	115	..	..	..	..	..	..	..	..	..		
															..	110	..	..	..	..	..	..	..	..	..		
															..	101	..	..	..	..	..	..	..	..	..		
															..	100	..	..	..	..	..	..	..	..	..		
															2 at 78	..	..	..	..	..	..	..	..	..	..		
Picton	134,470	2,374	803	397	1,173	598	232	668	138	49	855	220	30	..	78	78	..	52	..	..	..	36/4/-	..	..	434/4/-	do	
Picton Lakes	1,800	37	..	..	..	..	..	4	2	..	6	10	..	..	..	..	..	..	..	..	..	..	..	..	10	At Rail'y Stn	
<i>Picton Railway Stn</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Pilgna	26,200	2,179	354	57	66	98	50	399	136	19	554	190	30	..	78	..	..	..	..	..	..	38	..	..	276	Govt. building	
Pine Ridge	3,970	634	..	..	..	..	..	37	41	..	78	101	..	..	..	..	..	..	..	..	..	1/10/-	..	..	102/10/-	Free by Guarantors	
Pinnacles	1,410	..	..	..	..	..	..	17	..	..	17	26	..	..	..	..	..	..	..	..	..	..	..	..	26	..	
Pipeclay Creek	5,100	566	..	..	..	..	..	2	35	2	39	36	..	..	..	..	..	..	..	..	..	..	..	..	36	..	
Piper's Flat	2,190	115	..	..	..	..	..	21	6	..	27	21	..	10	..	..	..	..	..	..	..	20	..	..	51	At Rail'y Stn.	
Pitt Town	8,090	73	..	..	..	..	..	43	4	2	49	26	..	..	..	..	..	..	..	..	..	..	..	..	26	..	
Pitt Town Co operative Settlement	1,490	..	..	..	..	..	..	13	..	..	13	10	..	..	..	..	..	..	..	..	..	..	..	..	10	..	
Pleasant Hills	3,880	..	..	..	..	..	..	60	..	..	60	18	..	..	..	..	..	..	..	..	..	..	..	..	18	..	
Pleasant Valley <sup>61</sup>	960	..	..	..	..	..	..	15	..	..	15	10	..	..	..	..	..	..	..	..	..	..	..	..	10	..	
Plumpton	6,770	..	65	44	154	50	38	71	..	5	76	20	..	..	..	..	..	..	..	..	..	15	..	..	35	..	
Pokolbin	5,259	..	..	..	..	..	..	28	..	..	28	10/10/-	..	..	..	..	..	..	..	..	..	..	..	..	10/10/-	..	
Ponto	3,000	..	..	..	..	..	..	12	..	..	12	12	..	..	..	..	..	..	..	..	..	..	..	..	12	..	
Pooncarie	12,330	1,041	105	38	24	..	..	174	90	8	272	180	30	..	..	..	..	..	..	..	..	87/17/6	..	..	237/17/6	Govt. building	
Porter's Retreat <sup>52</sup>	200	..	..	..	..	..	..	4	..	..	4	10	..	..	..	..	..	..	..	..	..	..	..	..	10	..	
Portland	8,400	..	..	..	..	..	..	113	..	..	120	13/10/-	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Port Macquarie	64,550	5,821	896	398	672	238	85	657	354	52	1,063	225	30	..	140	75	..	52	..	..	..	7/10/-	..	..	472/10/-	do	
<i>Port Macquarie Heads</i>	..	..	..	..	..	..	..	..	..	..	..	26	..	..	..	..	..	..	..	..	..	..	..	..	..	26	At Pilot Stn.
<i>Port Stephens</i>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	do



Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.					
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic.	Money Order and Postal Note.	Total.	Salaries.							Allow-ances.	Rent of Office.	Total.							
												Officers in charge.		Assist-ants.	Opera-tors.	Letter-carriers.	Mail-boys.	Messen-gers.				Line Pe-ripleers.		Other Em-ployés.				
												Gross Salary.	Deduction for Rent.															
Rolland's Plains ...	5,110	196	133	20	21	...	...	£ 57	£ 11	£ 8	£ 76	£ 59/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	£ 59/10/-	Rented
Rookwood .....	67,150	1,210	194	598	1,199	679	275	318	62	16	396	160	...	...	...	78	...	52	...	78	32/9/-	32/10/-	497/19/-	...	...	...	...	...
Rooty Hill .....	21,850	734	74	201	332	...	...	111	41	7	159	29	...	...	...	...	...	26	...	...	...	...	...	...	...	55	At Rail'y Stn.	
Rose Bank .....	1,580	...	...	...	...	...	...	15	...	...	15	10/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	10/10/-	...	
Rosedale .....	3,150	...	...	...	...	...	...	44	...	...	44	10/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	10/10/-	At Public Sch.	
Rose Valley .....	1,560	...	...	...	...	...	...	7	...	...	7	10/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	10/10/-	...	
Rosewood .....	6,310	...	...	...	...	...	...	61	...	5	66	22	...	...	...	...	...	...	...	...	...	...	...	...	...	22	...	
Rossmore .....	1,680	...	...	...	...	...	...	9	...	...	9	10	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	
Rothbury .....	3,120	...	...	...	...	...	...	50	...	...	50	13/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	13/10/-	...	
Rouchell Brook ...	4,950	...	...	...	...	...	...	29	...	...	29	12/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	12/10/-	...	
Round Swamp .....	2,230	...	...	...	...	...	...	22	...	...	22	10	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	
Rous .....	3,600	...	...	...	...	...	...	69	...	...	69	21	...	...	...	...	...	...	...	...	...	...	...	...	...	21	...	
Rouse Hill .....	10,060	156	...	...	...	...	...	39	8	1	48	26	...	...	...	...	...	...	...	...	...	...	...	...	...	26	...	
Rous Mill .....	13,290	727	490	69	67	218	81	125	42	53	220	63	...	...	...	...	...	...	...	...	...	...	...	...	...	13	Rented	
"Royal Hotel" .....	...	4,633	...	...	...	...	...	...	256	...	256	120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	120	...
Rozelle .....	501,850	3,687	881	1,155	2,569	5,587	1,994	1,112	175	42	1,329	200	40	101	88	3 at 144	2 at 78	52	...	...	...	156	...	...	...	1,210	Govt. building	
Rydal .....	14,850	245	383	78	117	48	31	77	14	31	122	75	...	10	...	...	...	...	...	...	...	45	...	...	...	85	At Rail'y Stn.	
Rydalmere .....	18,820	228	...	...	...	...	...	102	8	...	110	20	...	...	...	...	...	...	...	...	...	...	...	...	...	65	...	
Ryde .....	125,560	1,991	234	343	1,044	600	262	407	83	15	505	160	...	...	...	3 at 78	...	26	...	...	...	5	129/12/-	25	579/12/-	Rented		
Ryde Railway Station.	...	54	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Rye Park .....	8,560	...	155	27	70	...	...	91	...	8	99	24/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24/10/-	...
Rylstone .....	55,490	1,432	419	306	664	268	109	538	83	33	654	200	30	...	110	78	...	...	...	...	...	...	...	2	...	360	Govt. building	
Rylstone Railway Station.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
Sackville Reach ...	5,030	212	...	...	...	...	...	27	12	...	39	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	...
St. Albans .....	5,690	327	253	98	61	...	...	73	20	12	105	49	...	...	...	...	...	...	...	...	...	...	...	...	...	...	49	...
St. Clair .....	670	...	...	...	...	...	...	11	...	...	11	11/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11/10/-	...
St. Ives .....	3,030	...	...	...	...	...	...	31	...	...	31	11/10/-	...	...	...	...	...	...	...	...	...	...	20	...	...	31/10/-	...	
St. John's Park ...	3,740	...	...	...	...	...	...	23	...	...	23	11	...	...	...	...	...	...	...	...	...	...	...	...	...	11	...	
St. Leonard's Creek.	1,040	...	...	...	...	...	...	9	...	...	9	10/10/-	...	...	...	...	...	...	...	...	...	...	...	17/10/-	...	28	...	
St. Leonards Rail-way Station.	...	48	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	do
St. Mary's .....	50,940	1,174	309	365	1,092	466	184	295	60	19	374	190	30	20	...	91	...	...	...	...	...	49	...	...	...	320	Govt. building	
St. Mary's Railway Station.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	At Rail'y Stn.
St. Peter's .....	47,320	1,280	220	549	811	1,230	581	427	51	13	491	160	20	...	110	120	105	...	...	...	...	19/5/-	...	...	...	546/5/-	Govt. building	
Salisbury Plains ...	530	...	...	...	...	...	...	5	...	...	5	10/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10/10/-	At Public Sch.
Sally's Flat .....	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...
Salt Ash .....	990	...	...	...	...	...	...	23	...	...	23	10/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10/10/-	...
Sandy Flat .....	3,400	...	...	...	...	...	...	12	...	...	12	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	At Rail'y Stn.
Sandy Hill .....	1,970	...	...	...	...	...	...	16	...	...	16	17/10/-	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17/10/-	...
Sans Souci .....	4,460	231	...	...	...	...	...	15	8	...	23	64	...	...	...	...	...	...	...	...	...	...	...	...	...	...	95/4/-	...
Savernake .....	3,260	...	...	...	...	...	...	53	...	2	55	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	...
Sawyer's Gully <sup>6</sup> .....	360	...	...	...	...	...	...	3	...	...	3	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...

60

Scone .....	143,400	5,114	1,028	382	1,292	441	192	1,368	318	73	1,759	250	40	...	101	78	...	52	...	...	36/4/-	...	565/4/-	Govt. building		
<i>Scone Railway Station</i> .....	.....	.....	...	...	...	...	...	.....	...	...	.....	...	...	...	...	...	...	...	...	...	.....	.....	.....	At Rail'y Stn.		
Scott's Flat .....	1,510	.....	.....	.....	.....	.....	.....	14	..	..	14	14/10/-	...	...	...	...	...	...	...	...	.....	.....	14/10/-	...		
Seaham .....	9,530	156	.....	.....	.....	.....	.....	43	8	1	52	52/10/-	...	...	...	...	...	...	...	...	.....	.....	52/10/-	...		
<i>Seal Rocks</i> .....	.....	99	.....	.....	.....	.....	.....	.....	5	...	5	52	...	...	...	...	...	...	...	...	.....	.....	52	At Lighthouse		
Sebastopol .....	2,400	.....	.....	.....	.....	.....	.....	31	...	...	31	13	...	...	...	...	...	...	...	...	.....	.....	13	...		
Sedgefield .....	1,090	.....	.....	.....	.....	.....	.....	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	...		
Seven Hills .....	9,070	174	.....	.....	.....	.....	.....	56	9	...	65	26	...	...	...	...	...	...	...	...	.....	.....	26	At Rail'y Stn.		
Shaw .....	1,840	.....	.....	.....	.....	.....	.....	11	...	...	11	11	...	...	...	...	...	...	...	...	.....	.....	11	At Public Sch.		
Shellharbour .....	14,400	942	151	51	259	184	47	152	48	11	211	92/10/-	...	...	...	...	...	...	...	...	.....	.....	92/10/-	...		
Shepard's Town... ..	13,870	.....	.....	.....	.....	.....	.....	88	...	3	91	28	...	...	...	...	...	...	...	...	.....	.....	28	...		
Sherbrooke .....	1,720	.....	.....	.....	.....	.....	.....	28	...	...	28	11	...	...	...	...	...	...	...	...	.....	20	31	...		
Sherwood .....	1,660	.....	.....	.....	.....	.....	.....	11	...	...	11	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	...		
Shooter's Hill .....	4,550	.....	31	10	17	...	...	30	...	3	33	15	...	...	...	...	...	...	...	...	.....	.....	15	...		
Silverton .....	14,960	1,270	251	84	50	98	58	130	80	15	225	150	20	...	...	...	...	...	...	...	.....	37	30	223	Rented	
Singleton .....	337,920	7,509	2,107	1,337	3,046	1,337	566	2,050	465	121	2,636	320	40	190	125	135	...	...	...	...	73/18/-	.....	1,064/18/-	Govt. building		
<i>Singleton Railway Station.</i> .....	.....	797	...	...	...	...	...	.....	45	...	45	...	...	...	...	...	...	...	...	...	.....	.....	.....	At Rail'y Stn.		
Skillion Flat .....	2,640	.....	.....	.....	.....	.....	.....	22	...	...	22	15	...	...	...	...	...	...	...	...	.....	.....	15	...		
Smithfield .....	35,890	361	106	232	551	292	120	124	18	11	153	60	...	...	...	...	...	...	...	...	.....	.....	44/4/-	156/4/-	Rented	
Smith Town .....	13,840	921	234	47	77	85	41	101	52	12	165	125	20	...	...	...	...	...	...	...	.....	26	160/10/-	26	160/10/-	Govt. building
<i>Smoky Cape</i> .....	.....	15	.....	.....	.....	.....	.....	.....	1	...	1	26	...	...	...	...	...	...	...	...	.....	.....	26	At Signal Stn.		
Sofala .....	19,460	637	294	137	257	149	74	191	35	17	243	160	20	...	...	...	...	...	...	...	.....	3	182	Govt. building		
Somerton .....	7,080	.....	120	15	24	...	...	70	...	6	76	29/10/-	...	...	...	...	...	...	...	...	.....	.....	29/10/-	...		
South Bowenfels... ..	4,530	.....	99	19	...	...	...	46	...	4	50	26/10/-	...	...	...	...	...	...	...	...	.....	.....	26/10/-	...		
South Broken Hill .....	44,530	1,844	1,969	366	111	1,364	524	435	138	95	668	190	...	...	...	...	...	...	...	...	92/10/-	.....	386/10/-	do		
<i>South Clifton</i> <sup>57</sup> .....	<i>a</i>	110	.....	.....	.....	.....	.....	.....	6	...	6	10	...	...	...	...	...	...	...	...	.....	.....	10	At Rail'y Stn.		
Southdown .....	3,390	.....	.....	.....	.....	.....	.....	22	...	...	22	5	...	...	...	...	...	...	...	...	.....	.....	5	...		
Southgate .....	5,680	177	.....	.....	.....	.....	.....	79	10	2	91	50	...	...	...	...	...	...	...	...	.....	.....	50	...		
South Grafton .....	79,140	3,108	720	411	543	281	127	661	179	35	875	220	30	...	110	78	78	...	...	...	50/10/-	.....	506/10/-	Govt. building		
South Gundagai .....	6,980	.....	.....	.....	.....	.....	.....	37	...	...	37	25	...	...	...	...	...	...	...	...	.....	.....	25	...		
<i>South Head</i> .....	.....	413	.....	.....	.....	.....	.....	.....	16	...	16	101	...	...	...	...	...	...	...	...	.....	.....	52	153	At Signal Stn.	
South Mount Hope .....	2,950	.....	.....	.....	.....	.....	.....	27	...	...	27	15	...	...	...	...	...	...	...	...	.....	.....	15	...		
South Murwillumbah... ..	2,250	297	.....	.....	.....	.....	.....	21	17	3	41	20	...	...	...	...	...	...	...	...	.....	.....	20	At Rail'y Stn.		
<i>South Solitary Signal Station.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	...	...	.....	100	...	...	...	...	...	...	...	...	.....	.....	100	At Signal Stn.		
South Woodburn.. ..	23,080	1,782	558	117	234	230	103	228	104	27	359	190	30	...	91	...	...	...	...	...	35/9/-	.....	325/9/-	Govt. building		
Spicer's Creek .....	4,710	.....	.....	.....	.....	.....	.....	39	...	3	42	13	...	...	...	...	...	...	...	...	.....	.....	13	...		
Springbrook .....	1,040	.....	.....	.....	.....	.....	.....	20	...	...	20	20/10/-	...	...	...	...	...	...	...	...	.....	.....	20/10/-	...		
Spring Dale .....	4,020	.....	.....	.....	.....	.....	.....	43	...	2	45	10	...	...	...	...	...	...	...	...	.....	.....	10	...		
Spring Hill .....	17,950	204	98	56	66	48	23	39	11	9	59	30	...	5	...	...	...	...	...	...	.....	.....	35	At Rail'y Stn.		
Spring Ridge <sup>58</sup> .....	800	.....	.....	.....	.....	.....	.....	3	...	...	3	10	...	...	...	...	...	...	...	...	.....	.....	10	...		
Springside .....	370	.....	.....	.....	.....	.....	.....	16	...	...	16	16/10/-	...	...	...	...	...	...	...	...	.....	.....	16/10/-	...		
Spring Terrace <sup>59</sup> .....	23,780	.....	.....	.....	.....	.....	.....	.....	...	...	.....	10	...	...	...	...	...	...	...	...	17/10/-	.....	27/10/-	...		
Springwood .....	2,790	1,016	150	126	467	150	84	259	61	17	337	160	...	...	...	...	...	...	...	...	34/4/-	13	298/4/-	Rented		
<i>Springwood Railway Station.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	...	...	.....	...	...	...	...	...	...	...	...	...	.....	.....	.....	At Rail'y Stn.		
Stanborough .....	2,020	.....	.....	.....	.....	.....	.....	9	...	...	9	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	...		
Stannifer .....	1,230	.....	.....	.....	.....	.....	.....	10	...	...	10	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	At Public Sch.		
Steinbrook .....	1,230	.....	.....	.....	.....	.....	.....	3	...	...	3	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	...		
Stewart's Brook .....	7,020	477	125	15	31	...	...	92	29	8	129	46/10/-	...	...	...	...	...	...	...	...	.....	.....	46/10/-	...		
<i>Stock Exchange</i> .....	.....	17,979	.....	.....	.....	.....	.....	.....	1,771	...	1,771	200	...	65	...	...	...	...	...	...	.....	.....	265	Provided free		
Stockinbingal .....	8,260	.....	.....	.....	.....	.....	.....	68	...	3	71	26	...	...	...	...	...	...	...	...	.....	.....	26	At Rail'y Stn.		
Stockton .....	40,640	1,243	389	540	504	515	336	337	72	24	433	160	...	91	...	110	...	...	...	...	4/10/-	33/16/-	399/6/-	Rented		
Stockyard Creek... ..	1,110	.....	.....	.....	.....	.....	.....	16	...	...	16	10/10/-	...	...	...	...	...	...	...	...	.....	.....	10/10/-	...		
Stonehenge .....	3,230	.....	.....	.....	.....	.....	.....	31	...	...	31	11	...	...	...	...	...	...	...	...	.....	20	31	...		
Stony Creek .....	2,890	.....	.....	.....	.....	.....	.....	35	...	...	35	13	...	...	...	...	...	...	...	...	.....	.....	13	At Public Sch.		
Stony Crossing .....	2,350	.....	.....	.....	.....	.....	.....	9	...	...	9	19	...	...	...	...	...	...	...	...	.....	.....	19	...		
Strathfield .....	244,810	4,692	385	448	1,342	...	...	1,103	211	39	1,353	220	40	...	78	125	...	...	...	...	32/9/-	70	667/9/-	Rented		
																91								39		

<sup>a</sup> Included in Clifton returns.

NOTE.—For references see page 69.

Name of Office.	Business transacted.							Revenue.				Expenditure.										Arrangements as regards Premises.					
	No. of Letters Posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic.	Money Order and Postal Note.	Total	Salaries.								Allow-ances.	Rent of Office.		Total.				
												Officers in charge.		Assist-ants.	Opera-tors.	Letter-Carriers	Mail Boys.	Messen-gers.	Line Re-pairers.					Other em-ployés.	Gross Salary.	Deduct- ion for Rent.	
Stroud .....	30,480	1,285	346	215	499	211	83	295	72	20	387	150	20							78	...	...	...				52
Stuart's Point .....	1,310	317	...	...	...	...	...	6	17	1	24	36	...	...	...	...	...	...	...	5	6/10/-	47/10/-	Rented				
Stuart Town .....	37,800	1,076	1,135	209	389	188	149	358	96	61	515	160	20	...	...	...	26	...	...	2	...	168	Govt. building				
Stuart Town Rail-way Station.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.			
Summer Hill .....	205,630	5,103	608	1,360	2,899	2,973	1,249	1,460	216	47	1,723	230	40	78	110	144	130	100	78	2 at 52	2 at 26	63/13/-	104	1,203/13/-	Rented		
Summer Island .....	1,640	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10	.....	.....	.....	.....	.....	.....	.....	.....	23	.....	33	At Rail'y Stn.			
Summervale .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.		
Sunny Corner .....	26,580	1,006	632	708	559	202	176	347	57	41	445	190	30	20	.....	78	.....	.....	.....	.....	35/4/-	.....	293/4/-	Govt. building			
Sunnyside .....	1,310	.....	.....	.....	.....	.....	.....	11	.....	.....	11	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	At Public Sch.			
Surry Hills .....	74,510	4,800	736	2,170	3,187	3,109	1,424	1,063	207	52	1,322	220	30	.....	140	91	.....	.....	.....	.....	.....	100	677	Rented			
Sussex-street .....	544,600	17,383	848	583	2,235	885	434	3,312	1,418	55	4,785	290	.....	65	110	.....	.....	.....	.....	.....	.....	.....	208	673	do		
Sutherland .....	22,800	1,097	145	135	394	207	89	163	54	12	229	130	20	.....	.....	.....	.....	.....	.....	.....	1	.....	111	At Rail'y Stn.			
Sutton .....	2,500	.....	.....	.....	.....	.....	.....	26	.....	.....	26	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	.....	Govt. building		
Sutton Forest .....	28,730	4,667	276	117	186	95	53	187	43	15	245	160	20	78	.....	.....	.....	.....	.....	.....	14	.....	232	Govt. building			
Swamp Oak <sup>90</sup> .....	8,760	97	251	44	53	.....	.....	96	6	12	114	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34	.....			
Swan Bay .....	2,350	137	68	4	16	.....	.....	27	8	3	38	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	38	.....			
Swansea .....	7,080	277	131	148	73	31	16	38	16	7	61	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	20/16/-	86/16/-	Rented			
Swan Vale .....	1,750	.....	.....	.....	.....	.....	.....	34	.....	.....	34	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	.....			
Sylvania .....	5,810	.....	.....	.....	.....	.....	.....	28	.....	.....	28	21/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21/10/-	.....			
Table Top .....	6,180	183	.....	.....	.....	.....	.....	.....	10	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	At Rail'y Stn.		
Tabulam .....	9,150	412	124	13	54	52	7	120	24	8	152	175	20	25	.....	.....	.....	.....	.....	.....	39/10/-	.....	219/10/-	Govt. building			
Tacking Point .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	.....		
Tahlee .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Tallagandra .....	1,580	.....	.....	.....	.....	.....	.....	13	.....	.....	13	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....		
Tambaroora .....	6,720	.....	187	40	45	.....	.....	70	.....	10	80	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	91	Rented		
Tambar Springs .....	8,660	654	195	15	35	.....	.....	192	42	10	244	58/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	58/10/-	.....			
Tamworth .....	794,960	15,638	2,532	2,303	5,614	2,741	1,223	3,296	1,042	164	4,502	350	50	160	3 at 100	144	120	115	110	78	2 at 110	110	110	140	146/18/-	2,314/18/-	Govt. building
Tamworth Rail-way Station.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.	
Tangmangaroo .....	2,690	.....	.....	.....	.....	.....	.....	19	.....	2	21	19/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19/10/-	.....		
Tanja .....	2,200	.....	.....	.....	.....	.....	.....	23	.....	.....	23	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	.....		
Tantawanglo .....	840	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....		
Tarago .....	18,710	635	180	125	216	20	16	159	39	12	210	Nil	.....	Nil	.....	.....	52	.....	.....	.....	.....	.....	.....	52	do		
Taralga .....	29,800	844	499	123	273	88	30	364	46	27	437	170	20	65	.....	.....	.....	.....	.....	.....	2	.....	.....	217	Govt. building		
Tarana .....	39,280	442	275	64	208	122	19	186	24	19	229	45	.....	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	120	.....		
Tarcutta .....	12,770	533	151	25	52	38	15	120	33	9	162	140	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	122/10/-	do		
Taree .....	121,440	4,807	771	586	1,195	274	107	690	314	47	1,051	220	30	.....	110	78	.....	.....	.....	.....	.....	.....	64/10/-	.....	725/10/-	do	
Tareena .....	4,980	245	.....	.....	.....	.....	.....	47	16	.....	63	190	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	118/1/6	.....	278/1/6	do
Tarlo .....	1,880	.....	.....	.....	.....	.....	.....	20	.....	.....	20	20/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20/10/-	.....	
Tarro Railway Station.	6,500	.....	.....	.....	.....	.....	.....	68	.....	.....	68	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	At Rail'y Stn.	

Tartna Point	8,420							102			102	10										10						
Tatáila	850							18			18	10/10/-										10/10/-	At Public Sch.					
Tatham	9,330	411						65	24	4	93	33										33	Free by Guarantors					
Tathra	2,880	846						16	41	1	58	110										131/10/-	Rented					
"Tattersall's"		9,926						201	506		707	160										160						
Taylor's Arm	1,060							10		1	11	10/10/-										10/10/-	do					
Tea Gardens	9,470	801	243	234	152	59	24	95	47	14	156	110									2	13	125	do				
Telegraph Point	5,640							47			47	27/10/-											27/10/-					
Temora	157,850	6,602	1,624	600	1,241	873	456	1,318	459	88	1,865	250	40	65	101	78	78					67/8/-	Govt. building					
Tempe	8,740		27	40	93			64		2	66	39/10/-										16	599/8/-					
Tenandra	3,580							22			22	21											55/10/-	do				
Tenterfield	154,270	5,173	1,375	710	1,599	672	297	1,342	365	76	1,783	270	40		180	115						80/8/-	1,025/8/-	do				
															2 at 140													
Tenterfield Railway Station.																								At Rail'y Stn.				
Tent Hill	5,950							72		3	75	18/10/-											18/10/-					
Teralba	12,910	397	179	75	166	90	119	135	20	12	167	51											90	do				
Terara	9,360	123	116	43	88	14	12	41	6	5	52	30											31					
Terneil	1,950							15			15	11											11					
Terra Bella	1,220							22			22	10											10					
Thackaringa	4,620	411	79	3	13			51	24	6	81	39											39					
Tharwa	3,830							38		2	40	15											15					
The Exchange	979,590	69,830	5,640	35	1,446			7,215	11,215	301	18,731	300		140	200		78	52					200	1,343	Rented			
															160													
															125													
															88													
The Gulf	240							10			10	10												10				
The Junction	28,220							7			7	35/10/-												35/10/-				
The Lagoon	830							11			11	11/10/-												11/10/-				
The Oaks	14,000	348	244	23	93			141	19	9	169	47											47					
The Reefs	2,460							16			16	13											13					
The Rock	51,600	820	275	51	93			354	46	17	417	42		26									68	At Rail'y Stn.				
The Valley	1,800							10			10	10/10/-												10/10/-				
Thirlmere	18,160	228	175	219	463			122	13	12	147	24		39									73	do				
														10														
Thirrourl	8,150		144	185	114			147		11	158	25												25	do			
Thornleigh	13,390	559	73	70	211			123	21	7	151	21												21	do			
Thornton																									do			
Thuddungra	4,450							39			39	11/10/-												11/10/-				
Thurgoona	8,710	327						70	23		93	40												40				
Tibooburra	20,890	1,695	230	43	59	121	23	323	128	14	470	175	30		101								30	65	341	Rented		
Tichborne	3,240							26			26	11												15	26			
Tighe's Hill	13,280	605	324	239	243	326	106	166	28	14	208	93		26									30	149				
Tilba Tilba	12,520	815	392	59	167	230	56	111	45	18	174	110											2	6/10/-	118/10/-	do		
Tilpa	10,850	1,101	189	6	29			252	75	13	340	150	20										23	30	192	do		
Timbarra	4,110							47			47	15/10/-													15/10/-			
Timbery Range	4,570							38			38	18													18			
Timbilica	1,000							13			13	13/10/-													13/10/-			
Timbriebungie	3,070							15			15	16/10/-													16/10/-			
Timor	3,450							58			58	14													14			
Tinda Tank <sup>91</sup>	2,300							5			5	10													10			
Tingha	35,950	1,128	542	199	367	108	53	244	64	34	342	150	20										5	20	do			
Tinonee	16,780	768	198	49	127	89	28	183	44	9	236	160	20										39		182/10/-	Govt. building		
Tintalra (Victoria)												30														30		
Tintenbar <sup>92</sup>	10,620	478	268	29	56	21	5	84	27	35	146	52														52	do	
Tintin Hull	930							10			10	10/10/-														10/10/-		
Tocumwal	41,120	2,923	682	86	191	155	98	489	169	38	696	210	30		101								4	52	376	Rented		
Tomago	2,920							14			14	12														33		
Tomalcin		129							8		8																	

NOTE.—For references see page 69.



Name of Office.	Business transacted.							Revenue				Expenditure.										Arrangements as regards Premises.					
	No of Letters posted.	No. of Telegrams transmitted.	No of Money Orders issued	No of Money Orders paid.	No. of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal.	Telegraphic.	Money Order and Postal Note.	Total.	Salaries.								Allowances.	Rent of Office.		Total.				
												Officers in charge.		Assistants.	Operators.	Letter carriers.	Mail-boys.	Messengers.	Line Repairers.					Other Employees.	Gross Salary.	Deduction for Rent.	
<b>Tonambii<sup>92</sup></b> .....	900	..	..	..	..	..	7	..	..	..	..	10	..							..	..	..	..				..
<b>Tonerong</b> .....	6,380	263	134	105	54	33	7	61	15	5	81	61/10/-	..	..	..	..	..	..	..	..	..	..	..	..	61/10/-	Rented	
<b>Tonmingley</b> .....	14,580	1,136	451	50	61	164	70	138	61	22	221	100	..	..	..	..	..	..	..	..	..	..	1	10	111	..	
<b>Tonooroma</b> .....	1,570	..	..	..	..	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..	..	..	..	..	10	..	
<b>Tongarra</b> .....	1,510	..	..	..	..	..	..	9	..	..	9	10/10/-	..	..	..	..	..	..	..	..	..	..	..	..	10/10/-	..	
<b>Toogong</b> .....	5,280	..	..	..	..	..	..	24	..	..	24	24	..	..	..	..	..	..	..	..	..	..	..	..	24	..	
<b>Tooloom</b> .....	3,600	..	..	..	..	..	..	18	..	1	19	18	..	..	..	..	..	..	..	..	..	..	..	..	18	..	
<b>Tooma</b> .....	4,900	576	..	..	..	..	..	5	39	..	44	38	..	..	..	..	..	..	..	..	..	..	..	..	38	..	
<b>Toongabbie</b> .....	3,410	..	..	..	..	..	..	21	..	..	21	15	..	..	..	..	..	..	..	..	..	..	..	..	15	..	
<b>Tooraweenah</b> ..	3,900	..	..	..	..	..	..	103	..	2	105	25	..	..	..	..	..	..	..	..	..	..	..	..	25	..	
<b>Torington</b> .....	3,200	..	..	..	..	..	..	26	..	2	28	19/10/-	..	..	..	..	..	..	..	..	..	..	..	..	19/10/-	..	
<b>Toronto</b> .....	8,020	544	116	264	166	30	38	70	27	9	106	50	..	..	..	..	..	..	..	..	..	..	6	13	63	do	
<b>Torrowangee</b> ..	7,570	1,756	152	19	31	59	28	102	113	9	224	52	..	..	..	..	..	..	..	..	..	..	65	123	do	..	
<b>Towamba</b> .....	6,870	509	128	20	76	..	..	108	33	6	147	41/10/-	..	..	..	..	..	..	..	..	..	..	..	..	41/10/-	..	
<b>Towrang</b> .....	5,790	111	..	..	..	..	..	50	6	3	59	21	..	..	..	..	..	..	..	..	..	..	..	..	21	At Rail'y Stn.	
<b>Trangie</b> .....	75,200	3,978	684	143	271	203	96	648	223	42	913	160	20	..	65	..	..	..	52	..	..	4	..	261	Govt. building	..	
<b>Trangie Railway Station.</b>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	At Rail'y Stn.	
<b>Trevallyn</b> .....	6,160	..	..	..	..	..	..	36	..	..	36	21	..	..	..	..	..	..	..	..	..	..	..	..	21	..	
<b>Trundle</b> .....	24,870	1,438	317	29	64	84	53	351	82	19	452	150	20	52	..	..	..	..	..	..	..	2/10/-	30	214/10/-	Rented	..	
<b>Trankey Creek</b> ..	20,300	872	413	76	150	101	63	184	56	19	259	125	20	78	..	..	..	..	..	..	..	2	..	185	Govt. building	..	
<b>Tucklan</b> .....	6,500	..	..	..	..	..	..	64	..	3	67	15	..	..	..	..	..	..	..	..	..	..	..	..	15	..	
<b>Tuena</b> .....	12,060	648	489	89	113	75	42	160	39	20	219	125	20	..	..	..	..	..	..	..	..	3/10/-	30	138/10/-	Rented	..	
<b>Tuggerah Lakes</b> ..	4,690	..	..	..	..	..	..	52	..	..	52	22	..	..	..	..	..	..	..	..	..	..	..	..	22	..	
<b>Tumberumba</b> .....	45,540	2,543	856	201	297	223	123	526	156	57	739	190	30	..	..	..	..	52	..	..	..	4	..	216	Govt. building	..	
<b>Tumbulgum</b> .....	6,480	512	400	44	55	256	93	102	29	34	165	120	20	..	..	..	..	..	..	..	..	4	39	143	Rented	..	
<b>Tumut</b> .....	129,860	6,379	1,088	347	846	336	137	1,126	410	72	1,608	250	40	..	110	..	..	39	..	..	..	36/4/-	..	483/4/-	Govt. building	..	
<b>Tuncurry</b> .....	5,930	..	..	..	..	..	..	91	..	5	96	20	..	..	..	..	..	..	..	..	..	1/6/-	..	..	21/6/-	..	
<b>Turill</b> .....	1,650	..	..	..	..	..	..	12	..	..	12	10	..	..	..	..	..	..	..	..	..	..	..	..	10	..	
<b>Turimjah</b> .....	2,680	..	..	..	..	..	..	23	..	..	23	18	..	..	..	..	..	..	..	..	..	..	..	..	18	..	
<b>Turramarra</b> .....	30,100	674	..	..	..	..	..	61	24	..	85	15	..	..	..	39	..	..	..	..	..	..	..	..	54	At Rail'y Stn.	
<b>Tweed Heads</b> .....	18,760	1,464	268	64	101	94	33	132	104	14	250	150	20	..	..	..	..	..	..	..	..	3/10/-	31/4/-	164/14/-	Rented	..	
<b>Tweed Heads Signal Station.</b>	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	At Signal Stn.	..
<b>Two-mile Flat</b> .....	1,500	..	..	..	..	..	..	13	..	..	13	13/10/-	..	..	..	..	..	..	..	..	..	..	..	..	13/10/-	..	
<b>Tyndale</b> .....	1,860	..	..	..	..	..	..	18	..	..	18	12/10/-	..	..	..	..	..	..	..	..	..	..	16	..	28/10/-	..	
<b>Tyringham</b> .....	2,910	..	..	..	..	..	..	3	..	..	3	12	..	..	..	..	..	..	..	..	..	..	..	..	12	..	
<b>Uarbry</b> .....	3,750	..	..	..	..	..	..	8	..	..	8	11/10/-	..	..	..	..	..	..	..	..	..	..	..	..	..	11/10/-	..
<b>Ulan</b> .....	2,420	..	..	..	..	..	..	11	..	..	11	11	..	..	..	..	..	..	..	..	..	..	..	..	11	..	
<b>Ulladulla</b> .....	9,180	431	98	201	312	46	13	61	23	7	91	95	..	..	..	..	..	..	..	..	..	18	..	113	At Light-house	..	
<b>Umarra</b> .....	31,780	1,815	409	97	256	243	117	263	94	30	387	130	20	..	..	..	..	26	..	..	..	3/10/-	..	139/10/-	Govt. building	..	
<b>Ultimo</b> .....	42,070	2,307	303	596	1,355	1,719	842	857	96	18	971	190	30	110	..	..	..	52	..	..	..	..	78	400	Rent l	..	
<b>Umara la</b> .....	3,690	..	..	..	..	..	..	19	..	..	19	10	..	..	..	..	..	..	..	..	..	..	..	..	10	..	
<b>Uranderra</b> .....	19,210	282	..	..	..	..	..	67	15	6	88	59/10/-	..	..	..	..	..	..	..	..	..	..	..	..	59/10/-	..	
<b>Underbank</b> .....	3,930	..	..	..	..	..	..	40	..	..	40	25/10/-	..	..	..	..	..	..	..	..	..	..	..	..	25/10/-	..	
<b>Ungarie</b> .....	8,790	770	128	17	26	28	11	77	48	7	132	130	..	..	..	..	..	..	..	..	..	5/5/-	..	135/5/-	Free by Guarantors	..	
<b>Upper Bankstown</b> ..	2,880	..	..	..	..	..	..	5	..	..	5	16/10/-	..	..	..	..	..	..	..	..	..	..	..	..	16/10/-	..	
<b>Upper Botobolar.</b>	440	..	..	..	..	..	..	10	..	..	10	10/10/-	..	..	..	..	..	..	..	..	..	..	..	..	10/10/-	..	
<b>Upper Bucca</b> .....	7,890	897	..	..	..	..	..	46	59	6	111	40	..	..	..	..	..	..	..	..	..	..	..	..	40	..	

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Name of Office	Business transacted							Revenue.				Expenditure											Arrangements as regards Premises.					
	No of Letters posted.	No of Telegrams transmitted	No of Money Orders issued	No of Money Orders paid	No of Postal Notes paid	No of Savings Bank deposits	No of Savings Bank withdrawals	Postal	Telegraphic	Money Order and Postal Note	Total	Salaries									Allowances	Rent of Office.		Total.				
												Officers in charge		Assistants	Operatives	Letter carriers	Mail boys	Messengers	Line Receivers	Other Employees					Gross Salary	Deduction for Rent		
Wamboyne	1,510							37			37	10																
Wanaaring	33,310	2,291	527	46	63	211	47	471	154	25	650	220	30											32	52	300	Rented	
Wandandian	1,760							14			14	14/10/-														14/10/-		
Wandella	1,110							10			10	10/10/-														10/10/-		
Wandsworth	8,830		196	12	16			82		9	91	27														27		
Wanganella	17,560							61		3	64	36														36		
Wangat	1,830							32			32	11														11		
Waratah	64,000	1,212	311	399	664	419	224	691	54	20	765	190	30		91	78							62/8/-		443/8/-	Govt. building		
Waratah Railway Station.																											At Rail'y Stn.	
Wardell	13,460	1,064	313	125	226	139	50	185	54	16	255	140	20										3/10/-	19/10/-	195	Rented		
Warden's Head Lighthouse.																											At Lighthouse	
Warge Rock	1,250							15			15	10/10/-														10/10/-		
Warialda	74,250	3,819	552	133	543	303	76	774	265	34	1,073	220	39		101		52	140					98/12/6		581/12/6	Govt. building		
Watkon	2,180							12			12	12/10/-														12/10/-		
Warkworth	6,400	190						50	10		60	30		26											15/12/-	71/12/-	Rented	
Warmatta	1,940							14			14	10/10/-														10/10/-		
Warne	10,860	314	335	52	114	38	52	244	17	17	278	39														39	At Rail'y Stn.	
Warneton	1,880							13			13	15/10/-														15/10/-		
Waroo	7,660	2,221	122	3	4	18	7	134	144	6	284	110												1		111	Free by Guarantors	
Warrah Ridge	2,010							10			10	10/10/-														10/10/-		
Warren	179,670	9,866	1,752	356	712	742	269	1,765	583	96	2,444	270	40	91	140	78							45/14/-		636 14/-	Govt. building		
Warrumbungle	5,440							76		2	78	10														10		
Waterfall	810	42						7		2	9	10														10	At Rail'y Stn.	
Waterloo	55,400	1,425	135	890	929	1,049	415	239	63	12	364	150					2 at 52								306	Rented		
Watson's Bay	24,740	1,205	169	73	162	324	97	161	41	10	212	130	20		115		39						41/4/-	36/8/-	341/12/-	do		
Wattamolla	1,710							19			19	10/10/-														10/10/-		
Wattle Flat	16,790	730	278	166	163	119	71	173	80	14	267	140	20				52							2	174	Govt building		
Wauchope	17,030	1,205	415	61	106	77	39	185	69	21	275	140	20				26							1	183	Rented		
Waverley	319,040	6,025	763	2,058	3,220	3,281	1,371	1,993	301	55	2,349	240	40	101	125	135	78	2 at 52					171		1,693	Govt. building		
														78	110	130		2 at 26										
																78		Switch attendants										
Wedderburn	1,830							25			25	10														10		
Weddin	2,640							4			4	16														16	At Public Sch.	
Wee Jasper	1,246							11			11	10														10		
Wee Waa	37,669	3,617	411	93	255	127	55	473	224	26	723	220	30		65		26						38		319	Govt. building		
Weismantel's	4,290							71			71	21														21		
Welcome Reefs	1,110							8			8	10/10/-														10/10/-		
Wellingrove	2,850							21			21	21/10/-														21/10/-		
Wellington	183,870	5,920	2,429	817	1,737	1,131	562	1,565	337	143	2,045	290	40	78	125	100								42/14/-		634/14/-	do	
Wellington Railway Station.		463							26		26																At Rail'y Stn.	
Wentworth	85,120	5,123	442	230	392	188	105	629		33	1,019	280	40	160	125		39	140						169/7/6/-		1,071/7/6	Govt. building	
Wentworth Falls	31,740	960	200	61	206	71	32	241	52	18	311	19		91											31/4/-		146/4/-	At Rail'y Stn.
Wentworthville	3,840	60							3		3	10															10	do
Werombi	2,500							34			34	13															13	



Name of Office.	Business transacted.							Revenue.				Expenditure.											Arrangements as regards Premises.																			
	No. of Letters posted.	No. of Telegrams transmitted.	No. of Money Orders issued.	No. of Money Orders paid.	No. of Postal Notes paid.	No. of Savings Bank deposits.	No. of Savings Bank withdrawals.	Postal.	Tele-graphic.	Money Order and Postal Note.	Total.	Salaries.								Allow-ances.	Rent of Office.	Total.																				
												Officers in charge.		Assist-ants.	Opera-tors.	Letter-carriers.	Mail. boys.	Messen-gers.	Line Re-pairers.					Other Em-ployés.																		
Gross Salary.		Deduct-ion for Rent.																																								
																						£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Wollar .....	8,420	.....	185	13	45	...	...	63	...	7	70	30	...	...	...	...	...	...	...	...	30	Govt. building																				
Wollombi .....	23,550	625	411	113	149	101	22	176	37	25	238	225	30	...	91	...	...	...	...	...	39/10/-	325/10/-	Govt. building																			
Wollomombi .....	11,250	386	125	14	20	...	...	89	23	6	118	32	...	...	...	...	...	...	...	...	...	32	Govt. building																			
Wollongbar .....	2,500	.....	.....	.....	.....	.....	.....	20	.....	.....	20	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	do																			
Wollongong .....	211,210	7,508	1,274	1,430	3,197	1,434	574	1,586	439	100	2,125	270	40	...	160	2 at 78	...	2 at 26	.....	67/8/-	.....	775/8/-	do																			
Wolumla .....	18,550	835	300	68	160	49	34	137	47	15	199	125	20	13	...	...	...	...	...	...	2/10/-	35	155/10/-	Rented																		
Wombat .....	4,050	.....	.....	.....	.....	.....	.....	27	.....	.....	27	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	Rented																			
Woodburn .....	7,550	442	265	54	59	.....	.....	83	23	12	118	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	Rented																			
Woodfordleigh .....	4,160	.....	.....	.....	.....	.....	.....	18	.....	.....	18	22/10/-	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	26/10/-	Rented																		
Woodhill .....	900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	Rented																		
Woodhouselee .....	6,190	.....	.....	.....	.....	.....	.....	47	.....	.....	47	24/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24/10/-	Rented																		
Woodlands .....	2,480	.....	.....	.....	.....	.....	.....	6	.....	.....	6	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	Rented																		
Woodside .....	3,160	110	.....	.....	.....	.....	.....	38	6	.....	44	40/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40/10/-	Rented																		
Wood's Reef .....	2,350	.....	.....	.....	.....	.....	.....	9	.....	.....	9	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	Rented																		
Woodstock .....	17,410	563	219	40	134	64	39	186	35	17	238	120	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	123	Rented																		
Woodville .....	8,670	278	.....	.....	.....	.....	.....	57	13	1	71	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	Rented																		
Woolabra <sup>99</sup> .....	.....	182	.....	.....	.....	.....	.....	.....	10	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.																	
Woolbrook .....	4,270	106	118	4	71	.....	.....	66	6	8	80	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	do																		
Woolgoolga .....	10,570	1,115	293	73	94	48	20	99	68	17	184	110	.....	.....	.....	.....	.....	.....	.....	.....	2	30	142	Rented																		
Woolgoolga Jetty .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	do																	
Woollahra .....	53,580	4,860	637	1,242	2,598	2,623	1,296	1,250	209	40	1,499	240	40	.....	140	144	.....	4 at 52	.....	31/4/-	176	1,525/4/-	do																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	125	125	.....	.....	.....	.....	.....	.....	.....	.....	do																	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100	100	.....	.....	.....	.....	.....	.....	.....	.....	do																	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 at 78	.....	.....	.....	.....	.....	.....	.....	.....	.....	do																	
Woolomin .....	2,710	.....	.....	.....	.....	.....	.....	57	.....	.....	57	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18	do																	
Woolwich .....	19,250	595	21	60	113	52	14	186	23	2	211	50	.....	.....	.....	.....	.....	.....	.....	.....	40	.....	90	do																		
Woomargama .....	4,650	167	.....	.....	.....	.....	.....	32	10	.....	42	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	do																	
Woonona .....	29,430	446	464	318	645	674	285	239	23	35	297	120	20	.....	.....	.....	.....	39	.....	.....	2	48	189	do																		
Woore .....	2,160	.....	.....	.....	.....	.....	.....	13	.....	.....	13	14/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14/10/-	do																	
Woy Woy <sup>100</sup> .....	10,720	911	16	6	15	.....	.....	91	49	2	142	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	At Rail'y Stn.																	
Wrightville <sup>101</sup> .....	11,610	355	.....	.....	.....	.....	.....	92	20	8	120	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36	At Rail'y Stn.																	
Wuuluman <sup>102</sup> .....	170	.....	.....	.....	.....	.....	.....	1	.....	.....	1	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	At Public Sch.																	
Wyalong .....	44,130	3,784	803	313	390	475	227	411	239	47	697	190	30	65	78	.....	.....	.....	.....	.....	12/10/-	.....	354/10/-	Govt. building																		
Wybong .....	1,980	.....	.....	.....	.....	.....	.....	15	.....	.....	15	14/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14/10/-	Govt. building																	
Wye .....	7,410	183	.....	.....	.....	.....	.....	97	10	.....	107	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	At Rail'y Stn.																	
Wyndham .....	13,700	1,144	374	63	145	68	33	141	67	14	222	150	.....	.....	.....	.....	.....	.....	.....	.....	2/10/-	26	178/10/-	Rented																		
Wyong .....	44,000	1,140	554	573	1,015	90	89	277	66	32	375	140	20	.....	.....	.....	.....	52	.....	1/10/-	.....	.....	173/10/-	Govt. building																		
Wyong Railway Station.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.																
Wyong Creek .....	6,590	.....	.....	.....	.....	.....	.....	14	.....	.....	14	15/10/-	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	39/10/-	do																		
Wyrallah .....	8,830	547	218	34	80	.....	.....	93	30	16	129	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	do																	
Yalgogrin North <sup>103</sup> .....	5,400	457	138	18	40	33	.....	74	26	8	108	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	45	Rented																	
Yalpunga .....	1,060	.....	.....	.....	.....	.....	.....	10	.....	.....	10	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-	do																	
Yalwal .....	6,450	615	42	61	72	.....	.....	61	34	6	101	47/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47/10/-	do																	
Yamba .....	19,650	2,216	756	562	139	234	36	109	127	37	273	125	.....	.....	.....	.....	.....	39	.....	3/10/-	26	193/10/-	do																			
Yanko .....	13,950	527	.....	.....	.....	.....	.....	3	34	.....	37	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	At Rail'y Stn.																	
Yantabulla .....	12,150	.....	.....	.....	.....	.....	.....	124	.....	2	126	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	do																	
Yarra .....	8,470	.....	.....	.....	.....	.....	.....	33	.....	.....	33	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	do																	
Yarrabundi <sup>104</sup> .....	3,430	.....	.....	.....	.....	.....	.....	66	.....	.....	66	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	do																

Yarramalong.....	2,440	.....	.....	.....	.....	.....	.....	7	.....	.....	7	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-		
Yarraman .....	2,410	713	.....	.....	.....	.....	.....	51	41	.....	92	14/10/-	.....	.....	26	.....	.....	.....	.....	.....	.....	40/10/-		
Yarranbah <sup>105</sup> .....	.....	196	.....	.....	.....	.....	.....	8	12	.....	20	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	16		
Yarrangobilly Caves..	.....	239	.....	.....	.....	.....	.....	.....	.....	.....	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Yarrara .....	1,650	.....	.....	.....	.....	.....	.....	11	.....	.....	11	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	10		
Yarras .....	2,800	.....	.....	.....	.....	.....	.....	45	.....	.....	45	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	19		
Yarrowyck .....	1,020	.....	.....	.....	.....	.....	.....	18	.....	.....	18	10/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	10/10/-		
Yass .....	128,680	4,562	1,035	775	2,302	626	301	1,454	280	77	1,811	270	40	78	140	125	.....	52	140	.....	73/18/-	916/18/-	Govt. building	
Yass Junction.....	4,460	126	.....	.....	.....	.....	.....	.....	6	.....	6	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	At Rail'y Stn.	
Yattheyatah .....	6,140	.....	.....	.....	.....	.....	.....	30	.....	.....	30	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	30		
Yellow Rock .....	2,170	.....	.....	.....	.....	.....	.....	13	.....	.....	13	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	11		
Yeoval .....	4,720	.....	.....	.....	.....	.....	.....	43	.....	4	47	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	19		
Yerong Creek .....	24,420	705	283	19	91	70	44	275	38	17	330	150	.....	.....	.....	.....	.....	.....	.....	.....	8/10/-	158/10/-	Govt. building	
Yetholme.....	1,480	.....	.....	.....	.....	.....	.....	20	.....	.....	20	20/10/-	.....	.....	.....	.....	.....	.....	.....	.....	.....	20/10/-		
Yetman .....	9,460	1,093	70	12	21	.....	.....	112	58	6	176	190	30	.....	.....	.....	.....	39	.....	.....	64/10/-	50	313/10/-	Rented
Young .....	249,550	7,827	1,669	1,040	2,687	1,195	672	2,145	541	110	2,796	320	40	160	150	144	.....	2 at 26	140	.....	37/14/-	1,142/14/-	Govt. building	
Young Railway Station.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	At Rail'y Stn.
Young Wallsend...	1,400	.....	.....	.....	.....	.....	.....	16	.....	.....	16	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	
Yurrunga.....	3,810	.....	.....	.....	.....	.....	.....	36	.....	.....	36	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	
Zig Zag.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	do

EXPLANATORY NOTES TO APPENDIX A.

<sup>1</sup> Post Office established, 1st December. <sup>2</sup> Telephone Office opened, 23rd March. <sup>3</sup> Post Office established, 1st March. <sup>4</sup> Government Savings Bank established, 7th November. <sup>5</sup> Telephone Office, opened 10th January. <sup>6</sup> Post Office established, 1st September. <sup>7</sup> Money Order Office established, 1st November. <sup>8</sup> Post Office established, 15th February. <sup>9</sup> Post Office established, 16th April. <sup>10</sup> Post Office established, 1st October. <sup>11</sup> Telephone Office opened, 4th July. <sup>12</sup> Telephone Office opened, 19th November. <sup>13</sup> Post Office established, 16th May. <sup>14</sup> Telephone Office opened, 19th May. <sup>15</sup> Post and Telegraph Office, Money Order Office, and Government Savings Bank established, 13th August. <sup>16</sup> Post and Telephone Office established, 7th September. <sup>17</sup> Post Office established, 17th January. <sup>18</sup> Government Savings Bank established, 1st February. <sup>19</sup> Money Order Office established, 15th October. <sup>20</sup> Telephone Office opened, 16th August. <sup>21</sup> Telephone Office opened, 26th May. <sup>22</sup> Post Office established, 1st August. <sup>23</sup> Post Office established, 1st September. <sup>24</sup> Money Order Office and Government Savings Bank established, 1st January. <sup>25</sup> Telephone Office opened, 6th September. <sup>26</sup> Money Order Office and Government Savings Bank established, 10th October. <sup>27</sup> Post, Telephone, and Money Order Office established, 21st February. <sup>28</sup> Telephone Office opened, 22nd September. <sup>29</sup> Post Office established, 16th July. <sup>30</sup> Telephone Office opened, 23rd September. <sup>31</sup> Telephone Office opened, 15th November. <sup>32</sup> Post Office established, 12th December. <sup>33</sup> Money Order Office established, 12th December. <sup>34</sup> Telephone Office opened, 10th January. <sup>35</sup> Government Savings Bank established, 25th May. <sup>36</sup> Post Office established, 1st June. <sup>37</sup> Telephone Office opened, 16th September. <sup>38</sup> Money Order Office and Government Savings Bank established, 1st March. <sup>39</sup> Telephone Office opened, 21st November. <sup>40</sup> Telephone Office opened, 11th February. <sup>41</sup> Post Office established, 10th October. <sup>42</sup> Telephone Office opened, 16th March. <sup>43</sup> Money Order Office established, 22nd August. <sup>44</sup> Telephone Office opened, 20th September. <sup>45</sup> Post Office established, 1st May. <sup>46</sup> Telephone Office opened, 26th October. <sup>47</sup> Telephone Office opened, 16th July. <sup>48</sup> Post Office established, 1st July. <sup>49</sup> Post Office established, 1st February; Telephone Office opened, 14th March. <sup>50</sup> Post Office established, 1st July. <sup>51</sup> Post Office established, 16th November; Telephone Office opened, 1st December. <sup>52</sup> Post Office established, 16th July. <sup>53</sup> Post Office established, 20th September. <sup>54</sup> Post and Telephone Office established, 23rd November. <sup>55</sup> Telephone Office opened, 16th September. <sup>56</sup> Post and Telephone Office established, 1st December. <sup>57</sup> Telephone Office opened, 20th September. <sup>58</sup> Money Order Office established, and Telegraph Office opened, 7th November. <sup>59</sup> Telephone Office opened, 20th August. <sup>60</sup> Post Office established, 15th February. <sup>61</sup> Post Office established, 16th September. <sup>62</sup> Telephone Office opened, 27th July. <sup>63</sup> Post Office established, 1st February. <sup>64</sup> Post Office established, 20th September. <sup>65</sup> Post Office established, 10th October. <sup>66</sup> Post Office established, 1st June. <sup>67</sup> Post Office established, 16th November. <sup>68</sup> Money Order Office established, 17th January. <sup>69</sup> Telephone Office opened, 3rd June. <sup>70</sup> Post Office established, 16th September. <sup>71</sup> Telephone Office opened, 8th March. <sup>72</sup> Government Savings Bank established, 11th July. <sup>73</sup> Post Office established, 1st March. <sup>74</sup> Post Office established, 16th July. <sup>75</sup> Telephone Office opened, 30th November. <sup>76</sup> Telephone Office opened, 16th April. <sup>77</sup> Telephone Office opened, 28th November. <sup>78</sup> Post and Telephone Office established, 1st June. <sup>79</sup> Post Office established, 15th June; Telephone Office opened, 7th October. <sup>80</sup> Telephone Office opened, 17th March. <sup>81</sup> Post Office established, 11th July. <sup>82</sup> Post Office established, 16th August. <sup>83</sup> Money Order Office established, 16th May; Telephone Office opened, 25th April. <sup>84</sup> Post Office established, 16th August. <sup>85</sup> Money Order Office established, 1st March; Government Savings Bank established, 2nd August. <sup>86</sup> Post Office established, 1st October. <sup>87</sup> Post Office established, 1st September. <sup>88</sup> Post Office established, 12th December. <sup>89</sup> Post Office established, 16th February. <sup>90</sup> Telephone Office opened, 26th October. <sup>91</sup> Post Office established, 16th August. <sup>92</sup> Government Savings Bank established, 1st November. <sup>93</sup> Post Office established, 15th June. <sup>94</sup> Post Office established, 1st August. <sup>95</sup> Government Savings Bank established, 1st April. <sup>96</sup> Called "Pennant Hills" to 31st July. <sup>97</sup> Telegraph Office opened, 13th July. <sup>98</sup> Post Office established, 1st December. <sup>99</sup> Telephone Office opened, 1st June. <sup>100</sup> Money Order Office established, 27th September. <sup>101</sup> Telephone Office opened, 9th March. <sup>102</sup> Post Office established, 1st November. <sup>103</sup> Money Order Office established, 10th January; Telephone Office opened, 20th May; Government Savings Bank established, 1st November. <sup>104</sup> Post Office established, 1st June. <sup>105</sup> Post and Telephone Office established, 2nd August.



## APPENDIX B.

## LIST of Receiving Offices on 31st December, 1898.

Abattoirs	Carrabolla	Glengarry	Mandemar
Aberglasslyn	Carrawobity	Glen Hill	Maracket
Agnes Banks	Castle Doyle	Gleniffer	Margules
Alfred Town	Cattia Creek	Glynnwood	Markdale
Altcar	Cave Creek	Godfrey's Creek	Markwell
Amaroo	Cawdor	Good Hope	Marrar
Angledale	Central Lansdowne	Goondabluie	Marshall's Plains
Angourie	Central Raleigh	Goonellabah	Maybole
Anna Bay	Central Wattagan	Gordonville	Meadow's Hotel
Annangrove	Chanticleer	Gorton's Yard	Medowie
Apple-tree Flat	Cheetam's Flats	Gowrie	Meermaul
Argalong	Cherry-tree Hill	Grass Hut	Meerschauam Vale
Armatree	Chilcott's Grass	Grattai	Melrose
Armidale Gully	Chinderah	Green Point	Meragle
Ashley	Clairville	Greghamstown	Meringlo
Avenel	Clare	Gregra	Merool Creek
Avondale	Claremont	Greig's Flat	Meryla
Back Creek	Clareval	Grey Mares	Middle Adelong
Backwater	Cloverley	Gullen Flat	Milbrulong
Balladoran	Cochran Creek	Gumble	Milburn Creek
Ballengarra	Cocomingla	Gunnary Creek	Mimosa
Bamarang	Colinroobie	Gurley Siding	Minore
Barooga	Collingullie	Gurrundah	Miranda
Barrieton	Collingwood	Gwynne	Moeyan
Baryulgil	Colo Creek	Hadley	Mole Creek
Baw Baw	Combaning	Half-way Creek	Moona Plains
Bawden Bridge	Conley's	Hallsville	Moparrabah
Belgrave	Cooba	Halton	Morago
Bellawongarah	Coobang Creek	Harold's Cross	Mororo
Belle Vue	Coolalie	Hellman's Tank	Morton
Belooth	Coolatai	Hiawatha	Mosquito Island
Benandarah	Cooney Creek	Hillas Creek	Mount Allen
Bengelala	Coonong Siding	Hillermann's	Mount Aubrey
Beni Creek	Cooradigbee	Hopefield	Mount Kenwary
Bennett's Flat	Corona	Hughstonia	Mount Pleasant
Bereen	Countegany	Huon	Mount View
Bermagui South	Cowan's	Ilford Railway Station	Mount Werong
Berowra	Cowper	Ingebyra	Mowabla Tank
Bielsdown	Craig Lea	Ingleadow	Mulbring
Bijiji	Cronulla Beach	Inglewood	Mullenderree
Bilambil	Crystal Creek	Inveralochy	Mummulgum
Billy's Look Out	Cullerin	Inveray	Mundarlo
Bimbimbie	Cullubumbung	Jackson's Water-holes	Mungeribar
Bindogandra	Culparlin	Jaunter	Munmurra
Bingleburra	Cumbalum	Jiliby	Munyabla
Binneguy	Cundle Flat	John's River	Murraging
Black Swamp	Cundumbul	Junction Point	Murrah
Bobeyan	Curra Creek	Kamandra	Murrayville
Bobin	Dapper	Kangaroo Camp	Murruibale
Bo Bo	Darke's Forest	Kareela	Muskgrove
Bocoble	Darobalgie	Katoomba South	Myalla
Boconnoc	Deep Creek	Keerrong	Myall Creek
Bolaro	Deep Gully	Kelvin	Myall Plains
Bolton Vale	Dienunga	Kempton	Nanama
Boney's Rocks	Dilga	Killabakh Creek	Nanangroe
Bongongo	Dingo Creek	Kilrush	Naranghi
Boonoo Boonoo	Dinoga	Kingalbung	New Cryan
Boorobanilly	Dondingalong	Kingsdale	Newlands
Booroolong	Dorroughby	King's Plains	New Meragle
Booroodarra Tank	Doyle's Creek	Kingsvale	Nirrim
Borambl	Drillwarrina	Kinross	Noraville
Boree Creek	Duck Flat	Knockrow	North Araluen
Bossley Park	Duranbah	Kundibakh	North Bourke
Bournewood	Durren Durren	Lallarook	Norton
Bow	East Seaham	Lamb's Creek	Norway
Braemar	Edith	Lankey's Creek	Numulgi
Breelong	Eganton	Larbert	Oakey Creek
Brenda	Elcombe	Laurel Hill	Obley Vale
Brierfield	Enwylong	Lavadia	Ogunbil
Brockley	Eurimbla	Leconfield	Olera
Broken Dam	Everett	Ledgerton	Ournie
Bronti	Fairy Hill	Lilyvale	Owcn's Gap
Brook's Creek	Farringdon	Limbr	Paddy's Flat
Brookvale	Federal	Limestone Creek	Page's Creek
Broula	Ferndale	Linden	Parkesborough
Brucedale	Five Islands	Linton	Parkesbourne
Brunkerville	Fladbury	Little Bombay	Parragundy
Brush Creek	Flyer's Creek	Lobb's Hole	Paupong
Bucca Bucca	Forrester	Lochiel	Payne's Crossing
Bucca Wauka	French Park	Lockwood	Peakview
Budgong	Galore Park	Long Swamp	Pee Dee
Bukkulla Station	Garangula	Looby's	Pheasant Ground
Bullenbong	Garland	Lorne	Phillip's Corner
Bungarby	Giant's Creek	Lower Belford	Piambong
Bungulla	Gidginbung	Lower Botobolar	Pine Mount
Burra	Gil Gil	Lower Hickey's	Pine Vale
Burramundra	Gill	Lower Lewis Ponds	Piney Range
Burrapine	Gillenbine	Lower Mookerawa	Platina
Byangum	Gilmandyke	Lower Taylor's Arm	Pomeroy
Caloola Creek	Girvan	Maclaurin	Port Hacking
Camboon	Glendhu	Mahratta Station	Pretty Gully
Carba	Glenfield	Majura	Pretty Pine

List of Receiving Offices on 31st December, 1898—*continued.*

Puddledock	Stanwell Park	Trickett	White Swamp
Pudman Creek	Steve King's Plain	Tubbamurra	Widden
Quartzville	Store Creek	Tubbul	Willanthry
Quinburra	Stott's Creek	Tullamore	Willaroo
Quorrobolong	Summervale	Turee Vale	Williams' Crossing
Ralvona	Suntop	Twelve Mile	Willow Forest
Reddycliff's	Swan Creek	Tyagarah	Willy Wally
Redlands	Sweetbriar	Unkya Creek	Winchendon Vale
Reedy Creek	Talbingo	Upper Bago	Windorah
Reeves	Tallawudjah	Upper Bingara	Winduella
Rivertree	Tallewang	Upper Chichester	Wollun Platform
Rockmore	Talmalmo	Upper Dungowan	Wombeyan Caves
Rockton	Taloumbi	Upper Gilmore	Womboo (Rogers')
Rocky Plain	Taradale	Upper Horton	Womboota (Edwards')
Rosebrook	Tarban	Upper Lostock	Woodenbong
Rosemount	Tathra Road	Upper Myall	Woodford
Rosevale	Taylor's Flat	Upper North Creek	Woodford Dale
Roslyn	Telegherry	Upper Shark Creek	Woodhall
Rossi	Temagog	Upper Tooloom	Woodlawn
Roto	Tenterden	Verona	Woolabra
Rowe's	Teridgerie	Wagragobilly	Woola Woola
St. George's Basin	Teven Creek	Wakool Crossing	Wright's
St. Leonards	Thalaba	Wallandool	Wyndella
Salisbury	The Branch	Walmer	Yagobie
Sally's Flat	The Peak	Wang Wauk	Yalbraith
Sandon	The Tamarinds	Wanstead	Yallaroi
Sassafras	The Vineyard	Wantool	Yarragundry
Scott's Gully	Thornford	Wapengo	Yarralumla
Shannon Vale	Thornton	Wargeila	Yarrangobilly
Shark Creek	Thyra	Warner's Bay	Yarrowitch
Snowball	Tia	Warrell Creek	Yathella
Somersby	Tibberecnah	Wattamadara	Yellowin
South Corowa	Tilbuster	Waugoola	Yerra Yerra
South Gundurimba	Tingiringi	Webb's Creek	Yowaka
South Rivertree	Tomakin	Weetangerra	Yowrie
Spring Creek	Tomboy	West Blowering	Yuelba
Spring Vale	Tomki School	West Milby	
Stannore Railway Station	Towac	Westove	
	Triangle Flat	Whipstick	

## APPENDIX C.

ARTICLES OF AGREEMENT made and entered into this fifth day of June in the year of Our Lord one thousand eight hundred and ninety-nine between the Honorable Varney Parkes Postmaster-General for the Colony of New South Wales (hereinafter called "the Postmaster-General" in which expression his successors in office the Postmaster-General for the time being are respectively intended to be included) on behalf of the Government of New South Wales and not so as to incur or come under any personal liability in respect to these presents of the first part and Burns Philp and Company Limited of Sydney in the Colony of New South Wales (hereinafter called "Contractors" which expression shall be deemed to include the permitted assigns of the said company when the context so requires or admits) of the other part witnesseth that for and in consideration of the covenants and agreements hereinafter contained on the part of the Postmaster-General the Contractors for themselves and their permitted assigns do hereby covenant and agree with and to the Postmaster-General and his successors in manner and form and to the effect following that is to say:—

1. That the Contractors will provide establish and during the period of four years calculated as and from the twenty-third day of May one thousand eight hundred and ninety-nine maintain continue and carry on in the manner hereinafter set forth a regular steamship service between the city of Sydney in the Colony of New South Wales and the city of Vancouver in the province of British Columbia calling at Brisbane in the Colony of Queensland at Honolulu in the Sandwich Islands and at the outer wharf in the city of Victoria in the said province on both outward and homeward voyages from Sydney to Vancouver and from Vancouver to Sydney and similarly at Fiji at the option of the company and such service shall as far as practicable make connection at Sydney with all local lines of steamships running between Sydney and other ports in Australia and New Zealand. 1. To maintain monthly steamship service

2. Three steamships to be approved by the Postmaster-General shall be regularly and continuously employed in the said service warranted to be each of a gross tonnage not less than three thousand three hundred tons Each of the said steamships is further warranted to have the most approved triple expansion machinery refrigerators for the ship's use duplicate electric light engines special ventilation for tropical voyages ample saloon and cabin accommodation for at least one hundred and thirty passengers and to be provided with every comfort and convenience that is to be found in the best Atlantic liners of its size. Each of the said steamships is further warranted to be of the highest class at Lloyds and to have a present passenger certificate of the New South Wales Marine Board and each of the said steamships shall during the continuance of this Contract be at all times tight sound staunch and strong and well and sufficiently manned victualled and equipped and in every respect seaworthy and shall further at all times during the continuance of this Contract retain the qualification and class which it is hereinbefore warranted to possess. 2. Steamships to be provided.

3. The round trip for each of the said steamships shall begin and end at Sydney in the colony of New South Wales calling at Brisbane going and returning as aforesaid and similarly at Fiji at the option of the company and the first voyage in performance of this contract shall commence and be made from Sydney aforesaid on the twenty-third day of May in the year of Our Lord one thousand eight hundred and ninety-nine The period of each voyage from Sydney to Vancouver and from Vancouver to Sydney shall not exceed twenty-one days (calculated as to the voyage from Sydney to Vancouver from the date of leaving the port of Sydney aforesaid up to the time of the acceptance of a pilot at British Columbia and as to the voyage from Vancouver to Sydney from the date of the discharge of the pilot at British Columbia to the date of the arrival at the port of Sydney) including one day's detention at Honolulu on each voyage both outward and homeward but it is expressly agreed and understood that in the event of the said steamers calling at Brisbane or Fiji as hereinbefore provided for a further period of thirty-six hours is to be allowed for the time spent in calling at each port on both inward and outward voyages The said service shall be four weekly and the said steamers shall leave the said ports of Sydney Brisbane and Vancouver on the days and at the times to be from time to time appointed for that purpose by the Postmaster-General after consultation with the Canadian Postmaster alternately arriving at Vancouver and at Sydney at intervals of not more than four weeks after the date of the arrival of the steamship leaving Sydney on the twenty-third day of May as hereinbefore 3. Duration of voyage.

hereinbefore provided at Vancouver on its said first voyage in the performance of this Contract Each voyage shall be deemed to commence so soon after the completion of the embarkation of the mails intended to be thereby conveyed as having regard to practical considerations the anchor of such vessel can be weighed or the vessel can be loosed from its moorings And each such voyage shall be deemed to be completed when the vessel has arrived and been anchored or moored at some position in the port of destination from which the mails can be conveniently disembarked And the times of the commencement and completion of every voyage shall be ascertained and recorded by the Officers of the Postmaster-General in pursuance of arrangements to be from time to time made by him for such purpose and the decision of the Postmaster-General as to all questions relating to any such times or periods shall be final and conclusive.

4. Not to call at United States. 4. The said steamships shall not during the continuance of this Contract call at any port in the United States of America.
5. Carriage of freight and passengers. 5. The said steamships shall each according to its capacity carry both outward and homeward all the freights and passengers which may be reasonably offered and obtained and at tariff rates both as to passengers and freights which shall be approved by the Governor of New South Wales with the advice of the Executive Council of the said Colony and after consultation with and approval of the Canadian executive body.
6. Preference to New South Wales and Queensland. 6. No discrimination shall be made as regards tariff rates for either freights or passengers in any manner directly or indirectly against any New South Wales or Queensland ports or against the New South Wales or Queensland Government Railways or against any New South Wales or Queensland merchants or shippers but New South Wales and Queensland merchants or shippers shall at all times have preference for the carriage of their goods over other merchants and shippers as far as regards the Australian connection But in the event of a subsidy from any other Colony being received space shall be provided *pro rata* to the respective subsidies.
7. Carriage of mails. 7. During the continuance of this contract the said steamships shall at the cost and expense of the said Contractors receive and carry on each and every voyage all such mails as shall or may be tendered for conveyance to the said steamships or to the Masters or any Officers on board of the same at the port of Sydney aforesaid by or on behalf or under the direction of the Postmaster-General for the time being his officers agents or servants and shall deliver such mails at their proper ports of destination upon the sailing route of the said steamships as herein indicated And in order to the due and proper performance of this covenant the said steamships shall each be provided with sufficient and convenient accommodation and protection for all such mails to the satisfaction of the Postmaster-General for the time being And the said Contractors shall further take all reasonable and necessary precautions for the protection of such mails while upon the said steamships from loss damage or injury in any way and they shall be responsible for any loss or damage thereto caused by the negligence or want of proper care or accommodation on the part of the said Contractors or their agents or servants or on the part of the officers or employees or crew on board the said steamships. And in this connection it is specially covenanted and agreed by the Contractors that this Contract shall be subject to the steamships to be employed in carrying the mails thereunder not having on board in the pay of the Contractors any coloured labour.
8. Accommodation on board. 8. The Contractors shall provide to the satisfaction of the Postmaster-General all necessary and suitable accommodation including lights for the purpose of sorting and making up the mails on board the several vessels employed under this contract and on being required to do so by the Postmaster-General shall at their own cost erect or set apart in each of the said vessels on the spar deck a separate and convenient room for such purposes and all the furniture lamps fittings and other conveniences in and about such rooms shall be from time to time cleansed and kept in repair and the oil for the lamps supplied by the servants and at the cost of the Contractors The Master or Commander of each of the said vessels shall also if required provide assistance for conveying the mails between the mail-room and the sorting-room and also render such other assistance as may from time to time be needed without charge.
9. Master to take charge if required. 9. If the Postmaster-General shall think fit to entrust the charge and custody of the mails to the Master or Commander of any vessel to be employed under this contract and in all cases where the officer or other person appointed to have charge of the mail shall be absent to the knowledge of the Master or Commander of such vessel such Master or Commander shall without any charge take due care of and the Contractors shall be responsible for the receipt safe custody and delivery of the said mails at the several appointed places on shore in the respective ports as part of the services hereby contracted to be rendered. The Master or Commander shall also make the usual Post Office Declaration and furnish such journal returns and other information and perform such other services as the Postmaster-General or his Officers shall from time to time reasonably require.
10. To obey directions. 10. The Contractors and all commanding and other officers in charge of the vessels employed under this contract shall at all times punctually attend to the orders and directions of the Postmaster-General or his officers or agents as to the mode time and place of landing transhipping delivering and receiving the mails subject to the special provisions herein contained and so far as such orders and directions are reasonable and consistent with the safety of the vessels.
11. Passenger accommodation for officers of Post Office. 11. The Contractors shall provide suitable first-class accommodation including a cabin and state-room for the exclusive use of a mail officer or agent of the Postmaster-General and for one assistant on board each of the vessels employed under this contract who shall be at liberty to use such accommodation as may be required for the performance of their duties and such officers or agents and assistants shall be victualled by the Contractors as chief cabin passengers without charge either for their passage or victualling and whilst the vessel stays at any port excepting the ports of Sydney and Vancouver to and from which the mails are conveyed such officers agents and assistants shall be allowed to remain on board and shall be victualled as aforesaid.
12. Mail Officer to have full authority. 12. Every such mail officer or agent and assistant shall be recognised and treated by the Contractors their officers and agents as the agents of the Postmaster-General and as having full authority in all cases to require a due and strict performance of this Contract Provided that no such agent officer or assistant shall have power to control or interfere with any Master Commander or Officer in the performance of his duty and every such agent officer and assistant shall be subject to all general orders issued by the Master or Commander for the good order health and comfort of the passengers and crew and the safety of the said vessels.
13. Conveyance of mails at ports. 13. The expense of conveying mails to and from the said steamships or vessels from or to the Post Offices at the terminal ports of the several voyages or at the ports at which the said vessels call *en route* shall be borne by the Contractors.
14. Power to Postmaster-General to delay sailing. 14. The Postmaster-General shall in case of need and for the purpose of duly forwarding such mails as may be required have the right to delay the sailing of any of the said steamships for the space of twenty-four hours.
15. Definition of mails. 15. The expression "mails" for the purpose of this Contract shall be deemed to mean and include all boxes bags or packets of letters post cards newspapers parcels books or printed paper and all other articles which under the Post Office Act or Acts and Postal Regulations for the time being in force are transmissible by post in New South Wales without regard to place either of origin or destination and also all empty bags empty boxes and other receptacles stores and articles used or to be used in carrying on the Post Office service or which shall ordinarily be sent by or to or from the Post Office.
16. Not to carry other letters. 16. The said Contractors shall not nor shall the master or officers of any or either of the said steamships receive or permit to be received on board of any or either of such steamships at any New South Wales port any letters for conveyance other than those contained in Her Majesty's mails or which are or may be privileged by the law nor the mails of any other country except such as may be specified by the Postmaster-General for the time being And the said Contractors shall in all respects be subject to all the Postal laws of New South Wales and all the Regulations lawfully made thereunder.
17. Nitro-glycerine &c. not to be carried. 17. The Contractors shall not convey in any steamship employed by them under this Contract any nitro-glycerine or any other article which shall have been proclaimed as an explosive or explosive substance or shall have been legally declared specially dangerous or shall be so declared by the Postmaster-General by notice in writing.
18. Not to assign. 18. This Contract shall not nor shall any right or interest therein be assigned under-let or otherwise disposed of without the consent in writing of the Postmaster-General to such assignment having been first obtained Provided however that if such proposed assignment is to be to a Joint Stock Company of which the Contractors shall be shareholders or stockholders such consent as aforesaid shall not be required.
19. To furnish copies of manifests. 19. The said Contractors shall from time to time furnish to the Postmaster-General full and complete copies of the manifests of the cargoes and lists of the passengers carried by each of the said steamships on its outward and its homeward voyages certified by the proper Customs Officials and also such other documents information and evidence as may be reasonably

reasonably required by the Postmaster-General to show the volume extent and value of the trade carried on by the said steamships and such other Customs certificates documents and evidence as may be necessary or as may be reasonably required by the Postmaster-General to prove the performance of the service herein contracted for and to enable the Postmaster-General to judge as to whether this contract is being properly and faithfully carried out and performed. And the furnishing of such documents certificates information and other evidence as hereinbefore specified shall be a condition precedent to the due payment of the subsidy hereinafter provided or any portion thereof.

20. And the said Postmaster-General for himself and his successors covenants to and with the said Contractors that they well and faithfully performing all and every covenants agreements and stipulations hereinbefore on their part set forth and contained he the Postmaster-General will well and truly pay or cause to be paid to them during the continuance of this contract a subsidy of seven hundred and sixty-nine pounds four shillings and seven pence sterling for each and every round trip performed by each of the said steamships in accordance with the intention of these presents payable in New South Wales the first subsidy for the first round trip to be payable and paid within ten days after the arrival of the first of the said steamships from Vancouver in the performance of this Contract and the remaining subsidies to be payable and paid respectively within ten days after the succeeding arrivals of the said steamships at Sydney in the performance of this Contract the subsidy in respect of the last round voyage to be performed in pursuance of this Contract not to become payable however until such round voyage shall have been satisfactorily completed. Provided however that no amount or instalments of subsidy shall be payable at any time unless it appears to the satisfaction of the Postmaster-General that up to the time of such payment there has been no breach on the part of the said Contractors of any of the covenants provisions or stipulations of this Contract.

20. Covenant for payment of subsidy.

21. If at any time or times the mails required to be conveyed by the Contractors under this agreement between Sydney and Vancouver shall not be conveyed from Sydney to Vancouver or from Vancouver to Sydney within the respective periods of transit hereinbefore prescribed in that behalf then and so often as the same shall happen there shall be deducted from the subsidy which but for this provision would be payable to the Contractors a sum of thirty pounds for every complete period of twenty-four hours by which the time actually occupied in the conveyance of such mails from Sydney to Vancouver or from Vancouver to Sydney as the case may be shall have exceeded the period of transit hereinbefore prescribed in that behalf. Provided always that no deductions shall be made from the said subsidy by reason of any such default or failure as in this clause mentioned which may be proved to the satisfaction of the Postmaster-General to have arisen wholly or in part from any cause or causes altogether beyond the control of the Contractors.

21. Deduction not to be for delay.

22. Each of the deductions hereinbefore mentioned and hereby agreed to be made shall be made and the subsidy be reduced accordingly although no damage or loss shall have been sustained by reason of or in connection with such default and (except in such cases as in the last preceding clause hereof expressly provided) from whatever cause or causes any such failure or default shall have arisen and no such deduction shall in any case be deemed to be a penalty or in the nature of a penalty and the payment by the Postmaster-General of what shall from time to time remain due in respect of the said subsidy after making any such deductions as aforesaid shall in no case prejudice the right of the Postmaster-General to treat the failure of the Contractors to provide an appropriate vessel at any appointed place or time or to perform any service at or within the appointed period as a breach of this Contract.

22. Deductions not to be penalty.

23. This Contract shall remain in force until fifty-two round voyages have been performed according to the true intention of these presents provided that the Postmaster-General shall have the right at any time by giving notice in writing under his hand to determine this Contract and every matter and thing herein contained if it shall appear to him that there has been any material breach on the part of the said Contractors of any of the covenants stipulations agreements or provisions herein contained and entered into on the part of the said Contractors. And it is hereby declared and agreed that the Postmaster-General shall at all times be the sole and final judge as to whether there has been any such breach and his determination shall be final and conclusive.

23. Duration of Contract.

24. Provided however and it is the true intent and meaning of these presents that if the said steamships any or either of them or any steamship replacing either of such steamships under this proviso shall be by the perils of the sea or other unavoidable casualty lost destroyed or temporarily disabled from performing their voyages according to the true intent and meaning of the agreements stipulations and provisions herein contained such loss or disability shall not be deemed to be a breach of these presents or any matter or thing herein contained but the said Contractors shall in such case as soon as reasonably may be having regard to the circumstances replace the said steamships or steamship so lost or destroyed by others or another of equal class speed equipment character and capacity to the satisfaction and approval of the Postmaster-General or to the like satisfaction and approval repair the damage done in case the said steamship has been only temporarily disabled and continue the said service herein contracted for with such substituted or repaired steamship with as little loss of time as possible under all the circumstances. Provided always that there shall be no payment of any subsidy in respect of any voyage not actually and fully performed. Provided further that the Postmaster-General shall be the sole judge and have the final right of determination as to whether any suspension or temporary discontinuance of or delay in the said regular four weekly service has been actually caused by the perils of the sea or other unavoidable casualties within the meaning of this proviso and his finding and determination thereon shall be conclusive.

24. Proviso for replacing steamers disabled.

25. All notices or directions which the Postmaster-General his officers agents or others are hereby authorised to give to the Contractors their officers servants or agents other than any notice of the termination of this Contract may at the option of the Postmaster-General his officers agents or others either be delivered or sent by post to the master of any of the said vessels or any other officer or agent of the Contractors in the charge or management of any vessel employed in the performance of this Contract or left for the Contractors at or sent by post to the Contractors' agents office or house of business in Sydney or any other place and any notices or directions so given left or sent by post shall be binding on the Contractors. Provided always that any notice of termination of this Contract shall be left for the Contractors at the office or last-known office of their agents in Sydney or sent by post to such office.

25. Notices.

26. And it is hereby further agreed that the execution of this Contract by the Postmaster-General shall be on the condition that he executes the Contract subject to its being ratified by the Parliament of New South Wales but until such ratification is refused the said Postmaster-General shall continue to perform this Contract on his part including payments for any voyage commenced at the time of such refusal by the said Parliament.

26. Proviso for ratification by Parliament.

In witness whereof the Honorable VARNEY PARKES Postmaster-General for the Colony of New South Wales has hereunto set and affixed his hand and seal as such Postmaster-General and the Common Seal of Burns Philp & Company limited of Sydney aforesaid hath been hereunto affixed the day and year first hereinbefore written.

Signed sealed and delivered by the HONORABLE VARNEY PARKES in the presence of—  
S. H. LAMBTON,  
Deputy Postmaster-General. } VARNEY PARKES. [Seal.]

The Common Seal of BURNS PHILP & COMPANY LIMITED was hereto affixed by us the undersigned—  
AND we certify that we are the proper Officers of the said Company by whom or in whose presence the said Common Seal is to be affixed to all deeds executed by the said Company—  
S. J. NOSWORTHY,  
Secretary. } JAMES BURNS,  
Managing Director. [Seal.]

APPENDIX D.

COMPARATIVE Return showing the Number and Amount of Money Order Transactions in New South Wales with various countries for the year 1898, compared with the year 1897.

Year.	UNITED KINGDOM (AND COUNTRIES OTHER THAN THOSE HEREINAFTER NAMED).				NEW ZEALAND.				QUEENSLAND.				SOUTH AUSTRALIA.				TASMANIA.				VICTORIA.				
	Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	
1898 .....	24,354	£ 66,485	12,598	£ 38,567	4,703	£ 14,349	13,383	£ 35,839	7,606	£ 29,403	18,784	£ 69,572	11,476	£ 35,287	4,771	£ 16,154	12,537	£ 18,865	5,141	£ 9,984	13,482	£ 29,447	£ 90,309	£ 15,958	£ 54,199
1897 .....	23,306	£ 66,339	12,390	£ 39,468	3,939	£ 12,024	11,173	£ 30,138	7,080	£ 27,518	16,993	£ 60,337	11,686	£ 36,720	5,067	£ 16,717	14,861	£ 20,242	3,894	£ 9,984	13,482	£ 29,250	£ 93,079	£ 15,234	£ 50,901
Increase..	1,048	146	208	.....	764	2,325	2,210	5,701	526	1,835	1,791	9,234	.....	.....	.....	.....	.....	.....	1,247	3,498	.....	197	.....	724	3,298
Decrease..	.....	.....	.....	901	.....	.....	.....	.....	.....	.....	.....	.....	210	1,433	296	563	2,324	1,377	.....	.....	.....	.....	2,770	.....	.....

Year.	WESTERN AUSTRALIA.				HONG KONG.				INDIA.				UNITED STATES.				CANADA.				CAPE OF GOOD HOPE.				GERMANY.				
	Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	
1898 .....	3,581	£ 20,292	23,320	£ 119,883	834	£ 3,911	83	£ 249	1,604	£ 15,459	203	£ 709	1,877	£ 5,750	991	£ 3,684	200	£ 996	247	£ 1,171	151	£ 774	2,242	£ 13,142	838	£ 3,145	268	£ 1,557	
1897 .....	3,030	£ 17,101	39,500	£ 177,744	831	£ 4,024	98	£ 242	1,393	£ 11,839	206	£ 683	1,857	£ 5,290	857	£ 3,355	153	£ 758	214	£ 916	137	£ 778	2,557	£ 16,543	863	£ 3,799	326	£ 2,092	
Increase..	551	3,191	.....	.....	3	.....	.....	7	211	3,620	.....	21	20	469	134	329	47	238	33	255	14	.....	.....	.....	.....	.....	.....	.....	
Decrease..	.....	.....	11,180	57,761	.....	112	15	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	315	.....	.....	25	654	58	535

Year.	ITALY.				CEYLON.				STRAITS SETTLEMENTS.				MAURITIUS.				FIJI.				TOTAL FOREIGN MONEY ORDER TRANSACTIONS.				N.S.W. INLAND ISSUES.		GRAND TOTAL OF N.S.W. ISSUES.	
	Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W.		Drawn on N.S.W.		Issued in N.S.W. on other countries.		Issued in other countries on N.S.W.		No.	Amount.	No.	Amount.
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
1898 .....	513	£ 3,619	27	£ 113	116	£ 350	57	£ 184	30	£ 247	73	£ 226	28	£ 67	25	£ 134	23	£ 60	254	£ 592	99,918	£ 309,377	103,425	£ 369,557	307,243	£ 1,062,350	407,161	£ 1,371,727
1897 .....	419	£ 2,774	22	£ 117	105	£ 386	56	£ 112	18	£ 79	49	£ 155	33	£ 70	22	£ 138	.....	.....	.....	.....	98,931	£ 302,820	108,658	£ 409,647	294,338	£ 1,009,030	393,299	£ 1,311,850
Increase..	94	845	5	.....	11	.....	1	72	12	168	24	71	.....	3	.....	23	60	254	592	957	6,557	.....	.....	12,905	53,320	13,862	59,877	
Decrease..	.....	.....	.....	4	.....	36	.....	.....	.....	.....	.....	.....	5	3	.....	4	.....	.....	.....	.....	.....	5,233	40,090	.....	.....	.....	.....	

The following is a Statement of the total Number and Amount of Money Orders issued and paid during the year 1898 :—

	Issued.		Paid.	
	No.	Amount.	No.	Amount.
Inland .....	307,243	£ 1,062,350	307,347	£ 1,062,816
Intercolonial .....	69,350	208,505	86,357	309,229
International .....	30,568	100,872	17,068	60,328
Totals .....	407,161	1,371,727	410,772	1,432,373

## APPENDIX E.

## CONVENTION BETWEEN THE COLONIES OF FIJI AND NEW SOUTH WALES CONCERNING THE EXCHANGE OF MONEY ORDERS.

The Post Office Department of Fiji and the Post Office Department of the Colony of New South Wales, being desirous of establishing a system of exchange of money orders between the two countries, the undersigned, duly authorised for the purpose, have agreed upon the following articles:—

## Article 1.

There shall be a regular exchange of money orders between the two countries.

The maximum amount for which a money order may be drawn in either country upon the other shall be £10 sterling. No money order shall contain a fractional part of a penny. The amount of each order, whether issued in the Colony of Fiji or the Colony of New South Wales, must be expressed in sterling.

## Article 2.

The amounts deposited by the remitters and paid to the payees of money orders shall be in gold coin, or any other legal money of the same current value.

## Article 3.

Each money order shall be delivered to the remitter thereof, to be forwarded by him, at his own expense, to the payee.

## Article 4.

The Fiji Post Office Department shall have power to fix the rates of commission on all money orders issued within its jurisdiction, and the Post Office Department of New South Wales shall have the same power in regard to all money orders issued in the Colony of New South Wales.

Each office shall communicate to the other its tariff of charges or rates of commission which shall be established under the Convention, and these rates shall, in all cases, be payable in advance by the remitter, and shall not be repayable. It is understood, moreover, that each office is authorised to suspend, temporarily, the exchange of money orders, in case the course of exchange, or any other circumstance, should give rise to abuses or cause detriment to the postal revenue.

## Article 5.

Each country shall keep the commission charged on all money orders issued within its jurisdiction, but shall pay to the other country one-half of 1 per cent. on the amount of such orders.

## Article 6.

Orders shall be drawn only on the authorised Money Order Offices of the respective countries, and each Postal Administration shall furnish to the other a list of such offices, and shall from time to time notify any addition to or change in such list.

## Article 7.

Every money order and advice must contain the name of the office at which it is intended that payment shall be made, and no order shall be issued unless the applicant furnishes the forename and surname of the person to whom the amount is to be paid, and his own forename, surname, and address, or the name of the firm or company who are the remitters or payees.

## Article 8.

The service of the Money Order system between the two countries shall be performed by the agency of offices of exchange.

On the part of the Colony of New South Wales the office of exchange shall be Sydney, and on the part of the Colony of Fiji the office shall be Suva. Lists of Money Orders issued shall be despatched from each office of exchange, accompanied by the advice, each bearing an impression of the dated stamp of the office from which the list is despatched. The lists shall be numbered consecutively throughout the year, commencing with No. 1 at the beginning of the month of January in each year, and ending with the last number included in the transactions of the year.

Lists shall be despatched only when there are advices to be forwarded.

## Article 9.

Money Orders issued either in New South Wales or Fiji in the month of December, the relative advices of which have failed to reach the respective office of exchange until the month of January, shall be entered in supplementary lists of the year in which the orders were issued.

## Article 10.

The advices on their arrival at the exchange office in the country of payment shall be compared with the entries in the list, and afterwards stamped and despatched to the office of payment.

## Article 11.

Each office of exchange shall promptly communicate to the other the correction of any simple error which it may discover in the verification of the lists.

When the lists shall show irregularities which the respective office shall not be able to rectify, that office shall apply for an explanation to the despatching office, and such explanation shall be afforded without delay.

## Article 12.

The Orders drawn by each country on the other shall be subject, as regards payment, to the regulations which govern the payment of inland orders of the country on which they were drawn.

The paid orders shall remain in the possession of the country of payment.

## Article 13.

At the close of each quarter, or as soon after as practicable, an account shall be prepared at the Post Office at Sydney showing in detail the totals of the lists containing the particulars of orders issued in either country during the quarter, and the totals of repaid and void orders. The balance due by either country shall be settled by a Bill of Exchange payable at sight. If, pending the settlement of an account, one of the two Postal Administrations shall ascertain that it owes the other a balance exceeding one hundred pounds (£100) sterling, the indebted administration shall promptly remit the approximate amount of such balance.

## Article 14.

Duplicate Orders shall be issued, and transfer of place of payment made only by the Postal Administration of the country on which the original orders were drawn, and in conformity with the Regulations established, or to be established, in that country.

## Article 15.

Repayment of Orders to remitter shall not be made until an authorisation of such repayment shall first have been obtained by the country of issue, from the country where such orders are payable; and the amounts of the repaid orders shall be duly credited to the former country in the quarterly account. (Article 13).

It is the province of such Postal Administration to determine the manner in which repayment to the remitter is to be made.

## Article 16.



## Article 16.

Orders which shall not have been paid within twelve months from the month of issue shall become void; and the sums received shall accrue to, and be at the disposal of, the country of origin. The New South Wales Office shall, therefore, enter to the credit of Fiji, in the quarterly account, all Money Orders entered in the lists received from Fiji which remain unpaid at the end of the period specified. (Article 13.)

On the other hand, the Post Office Department of Fiji shall, at the close of each month, transmit to the New South Wales Office, for entry in the quarterly account, a detailed statement of all Orders included in the lists despatched from the latter Office which under this article becomes void.

## Article 17.

The two Postal Administrations may, by mutual agreement, make modifications, if found expedient in matters of detail connected with the execution of this Convention, in order to provide for greater security against fraud, or for the better working of the system.

## Article 18.

This Convention shall take effect on the first day of July, 1898, and shall continue in force until twelve months after either of the contracting parties shall have notified to the other its intention to terminate it.

Done in duplicate, and signed in Sydney, on the 14th day of April, in the year of our Lord 1898; and in Suva, on the 30th day of May, in the year of our Lord 1898.

JOSEPH COOK,  
Postmaster-General, New South Wales.

G. T. M. O'BRIEN,  
Colonial Secretary, Fiji.

## APPENDIX F.

## GOVERNMENT SAVINGS BANK.

## STATEMENT of Accounts for the year 1898.

Account of all Deposits received and paid from 1st January to 31st December, 1898, together with a Statement of the total amount due to all Depositors at the close of 1898.

	£	s.	d.		£	s.	d.
To Balance brought forward from 1897.....	4,691,833	13	4	By Amount of Repayments to Depositors during 1898 .....	2,059,853	10	0
Cash received from Depositors during 1898 .....	2,261,872	17	9	Balance.....	5,026,069	7	9
Interest added to Depositors' Accounts	132,216	6	8				
£	7,085,922	17	9	£	7,085,922	17	9

## LIABILITIES AND ASSETS.

	£	s.	d.		£	s.	d.
To Balance due to all Depositors at the close of 1898 .....	5,026,069	7	9	By New South Wales Government Debentures .....	169,200	0	0
				New South Wales Funded Stock, 56 Vic. No. 1 .....	1,000,000	0	0
				New South Wales Funded Stock, 36 Vic. No. 21 .....	316,466	13	11
				New South Wales Treasury Bills, 59 Vic. No. 22 .....	1,024,700	0	0
				New South Wales Treasury Bills, 53 Vic. No. 9 .....	527,600	0	0
				New South Wales 1924 Stock, 58 Vic. No. 14 .....	20,000	0	0
				New South Wales 1925 Stock, 59 Vic. No. 6.....	150,000	0	0
				New South Wales Funded Stock, 59 Vic. No. 6 .....	880,000	0	0
				Interest due and accrued on Investments .....	72,418	13	10
				Uninvested funds at credit of Trust Account .....	853,161	2	4
Balance (excess of assets) .....	18,668	8	6	Cash in hands of the Controller .....	31,191	6	2
£	5,044,737	16	3	£	5,044,737	16	3

## PROFIT AND LOSS.

	£	s.	d.		£	s.	d.
To Departmental Expenses for 1898 .....	8,500	0	0	By Balance from preceding Account .....	16,667	14	10
Premium on investments .....	8,081	0	0	Interest received on investments .....	86,260	0	1
Amount transferred to Consolidated Revenue .....	8,000	0	0	„ refunded on irregular Accounts .....	119	6	5
Interest added to Depositors' Accounts	132,216	6	8	„ accrued and due on uninvested Funds in the Treasury .....	72,418	13	10
Balance .....	18,668	8	6				
£	175,465	15	2	£	175,465	15	2

Total amount transferred to Consolidated Revenue to 31st December, 1898.....£32,759 1s. 4d.

A. J. DOAK, Controller.  
Sydney, 20th February, 1899.

VARNEY PARKES,  
Postmaster-General.

I certify that the foregoing statement of all deposits received and paid from the 1st January to 31st December, 1898, has been examined and found to correspond with the Books and Accounts of the Government Savings Bank.

E. A. RENNIE,  
Auditor-General.

14th March, 1899.

1899.

(THIRD SESSION.)

## LEGISLATIVE ASSEMBLY.

## NEW SOUTH WALES.

## POSTAL.

(RETURN SHOWING THE DISTRICTS IN NEW SOUTH WALES WHICH ARE UNDER THE PENNY POSTAGE SYSTEM.)

*Printed under No. 1 Report from Printing Committee, 3 August, 1899.**[Laid on the Table in accordance with Reply to Question No. 5, clause 10, July, 1899.]*

RETURN showing the districts in New South Wales which are under the Penny Postage system:—

The City or Suburban Rate of Postage—viz., 1d. the  $\frac{1}{2}$  oz.—is levied upon all correspondence posted in the City of Sydney for delivery at the Post Offices mentioned below, and also upon correspondence posted in any of such Post Offices for the said City, or for any of such Post Offices. Where shown in *italics* there is no Office, and the postage is intended to apply to the suburb.

*Abattoirs	*Croydon	Homebush	*Mortdale	*St. John's Park
*Alexandria	*Darlington	*Hornsby	*Mortlake	*St. Leonard's
*Annandale	*Doll's Point	*Hornsby Junction	Mosman	*St. Peter's
*Arncliffe	*Druitt Town	*Hoxton Park	Narrabeen	*Sandringham
Ashfield	*Drummoyne	*Hunter's Hill	*Neutral Bay	*Sans Souci
*Auburn	*Dulwich Hill	Hurstville	*Newtown	*Smithfield
Balgowlah	*Dundas	Ingleburn	*North Botany	*Stanmore Railway Station
*Balmain	*East Balmain	Kensington	*North Parramatta	*Strathfield
*Bankstown	*East Hills	*Kingsgrove	*North Ryde	*Summerhill
*Beaconsfield	*Eastwood	*Kogarah	*North Sydney	Sutherland
*Beecroft	Edgecliff	Lady Robinson's Beach	Paddington	*Sydney and its City Branch Offices
*Belmore	*Enfield	La Perouse	*Parramatta	Sylvania
*Bexley	*Enmore	*Leichhardt	*Peakhurst	*Tempe
*Biloela	*Epping	*Lilyfield	*Pennant Hills	*Tempe Park
*Blakehurst	*Ermington	*Lindfield	*Pennant Hills Rwy.	*Thornleigh
Bondi	*Erskineville	Little Coogee	*Petersham	*Turramurra
*Bonnyrigg	*Fairfield	*Liverpool	*Preston's	
Botany	*Five Dock	*Longueville	*Prospect	*Upper Bankstown
Brookvale	*Gladesville	Macdonald Town	*Prospect Reservoir	
*Burwood	*Glebe	Manly	*Pymble	
*Cabramatta	*Glenfield	*Marrickville	Randwick	*Wahroonga
*Camperdown	Gordon	*Marsfield	*Redfern	*Wanstead
Canley Vale	*Granville	*May's Hill	*Riverview	*Waterloo
*Canterbury	*Greenwich	*Meadow Bank	*Rockdale	Watson's Bay
*Carlingford	*Guildford	*Merrylands	*Rookwood	Waverley
*Carlton	*Guildford Rwy. Stn.	*Middleton-street	*Rozelle	*Wentworthville
*Chatswood	Harnleigh	*Milson's Point	*Rydalmere	*West Pennant Hills
*Como	*Holdsworth	Miranda	*Ryde	Wetherill Park
*Concord	Holroyd	*Moorebank	*St. Ives	Willoughby
Coogee				Woolahra
*Crow's Nest				*Woolwich

Places marked \* are also included in the Parramatta Penny Postage District.

The Town Rate of Postage, viz., 1d. the  $\frac{1}{2}$  oz., is levied upon letters posted within the under-mentioned districts for delivery within the same district:—

Within a 12-mile radius of—

NEWCASTLE—Including Adamstown, Ash Island, Belmont, Cardiff, Carrington, Charlestown, Cockle Creek, Dudley, Hamilton, Islington, Hexham, Lambton, Merewether, Minmi, Mosquito Island, Newcastle, Newcastle West, New Lambton, Stockton, Tarro, Teralba, The Junction, Tighe's Hill, Tomago, Toronto, Wallsend-Plattsburg, Waratah, West Wallsend, Wickham, William Town, and Young Wallsend.

Within a 13-mile radius of—

ALBURY—Including Albury, Black Range, Bowna, Bungowanah, Jindera, Moorwatha, Tabletop, Thurgoona.

ARMIDALE—Including Arding, Armidale, Armidale Gully, Black Mountain, Castle Doyle, Dumaresq, Hillgrove, Invergowrie, Kelly's Plains, Metz, Puddledock, Rocky River, Uralla.

BALLINA—Including Alstonville, Ballina, Bangalow, Broadwater, Buckendoon, Cowlong, Cumbalum, East Wardell, German Creek, Kilgin, Knockrow, Newrybar, North Pimlico, Pearce's Creek, Riley's Hill, Rous, Rous Mill, South Woodburn, Spring Vale, Swan Bay, Teven Creek, Tintenbar, Upper North Creek, Wardell, Wollongbar, Woodburn.

BATHURST.

- BATHURST**—Including Bathurst, Bolton Vale, Brewongle, Clear Creek, Cow Flat, Dunkeld, Duramana, Eglinton, Esrom, Evans Plains, Fitzgerald's Valley, George's Plains, Glanmire, Kelso, Locksley, O'Connell, Orton Park, Peel, Perth, Raglan, Tarana, The Lagoon, Vittoria, White Rock, Wimbleton, Yetholme.
- BOURKE**—Including Bourke, North Bourke, Pera Bore.
- BRAIDWOOD**—Including Araluen, Back Creek, Ballalaba, Bell's Creek, Braidwood, Farrington, Jembaicumbene, Larbert, Little Bombay, Major's Creek, Manar, Marlow, Mongarlowe, North Araluen, Reidsdale.
- CAMDEN**—Including Appin, Bringelly, Brownlow Hill, Camden, Campbelltown, Cobbitty, Douglas, East Minto, Eckersley, Glenfield, Greendale, Holdsworthy, Hoxton Park, Ingleburn, Luddenham, Menangle, Minto, Mount Hunter, Mulgoa, Narellan, North Menangle, Picton, Preston's, Rossmore, The Oaks, Thirlmerc, Wallace, Werombi, Wilton.
- CARCOAR**—Including Barry, Blayney, Brown's Creek, Burnt Yards, Cadia, Carcoar, Eganton, Forest Reefs, Galley Swamp, Garland, Greghamstown, Hobby's Yards, King's Plains, Lyndhurst, Mandurama, Millthorpe, Moorilda, Neville, Newbridge, Norton, Shaw, Spring Hill.
- COBAR**—Including Cobar, The Peak, Wrightville.
- COOTAMUNDRA**—Including Bethungra, Brawlin, Cootamundra, Cullinga, Dudauman, Ironbong, Jindalee, Kilrush, Moatefield, Muttama, Nubba, Pinkerton, Stockinbingal, Wallendbeen.
- DENILIQUIN**—Including Deniliquin, Pretty Pine, Southdown.
- DUBBO**—Including Belarbigill, Brocklehurst, Dubbo, Minore, Murrumbidgee, Terra Bella.
- FORBES**—Including Carrawobity, Forbes, Tichborne.
- GLEN INNES**—Including Beaufort, Dundee, Dundee Railway Station, Glencoe, Glen Innes, Graham's Valley, Matheson, Reddestone, Red Range, Stonehenge, Wellingrove.
- GOULBURN**—Including Breadalbane, Bungonia, Carrick, Goulburn, Kenmore, Merrilla, Mummel, Parkesbourne, Tarlo, Thornford, Towrang, Yarra.
- GRAFTON**—Including Bawden Bridge, Brushgrove, Coldstream, Copmanhurst, Coutt's Crossing, Cowper, Eatonsville, Gerrymberryn, Grafton, Kangaroo Creek, Lower Southgate, Ramornie, Seelands, Southgate, South Grafton, Stockyard Creek, Ulmarra, Upper Coldstream, Upper Copmanhurst, Whiteman Creek.
- HAY**—Including Belcoeth, Hay.
- IVERELL**—Brodie's Plains, Elsmore, Gilgai, Goomoorah, Gum Flat, Inverell, Nullamanna, Oakwood, Rob Roy, Stannifer, Tingha.
- KATOomba**—Including Bell, Blackheath, Bowenfels, Clarence Tunnel, Hartley, Hartley Vale, Hazlebrook, Katoomba, Katoomba South, Lawson, Leura, Linden, Lithgow, Little Hartley, Lowther, Medlow, Megalong, Mount Victoria, South Bowenfels, Vale of Clwydd, Wentworth Falls, Woodford.
- KEMPSEY**—Including Belgrave, Clybucca, East Kempsey, Frederickton, Gladstone, Greenhill, Kempsey, Kinchela Creek, Sherwood, Skillion Flat, Smithtown, Summer Island, Warneton, West Kempsey, Woodhall.
- KIAMA**—Including Albion Park, Berry, Bombo, Broughton Vale, Broughton Village, Coolangatta, Croome, Dapto, Dunmore, Foxground, Gerringong, Jamberoo, Jerrara, Kiama, Marshall Mount, Pheasant Ground, Rose Valley, Shellharbour, Tanner's Creek, Tongarra, Tullimbar, Wattamolla, Woodhill, Yellow Rock.
- LISMORE**—Including Alstonville, Bexhill, Buckenoon, Bungawalbin, Casino, Clunes, Codrington, Cooper's Creek, Coraki, Cowlong, Dorroughby Grass, Dunoon, Eltham, Eureka, Goolmangar, Goonellabah, Greenridge, Gundurimba, Irvington, Jiggi, Kilgin, Lismore, Numulgi, Pearce's Creek, Riley's Hill, Rosebank, Rous Rous Mill, South Codrington, South Woodburn, Spring Vale, Steve King's Plains, Swan Bay, Tatham, Teven Creek, Tomki School, Tuckurimba, Wollongbar, Woodburn, Woodlawn, Wyrallah.
- LITHGOW**—Including Bell, Blackheath, Bowenfels, Clarence Tunnel, Hartley, Hartley Vale, Katoomba, Katoomba South, Leura, Lidsdale, Lithgow, Little Hartley, Marrangaroo, Medlow, Megalong, Mount Victoria, Piper's Flat, Portland, Rydal, South Bowenfels, Vale of Clwydd, Wallerawang.
- MACLEAN**—Including Brushgrove, Chatsworth Island, Coldstream, Cowper, Harwood Island, Iluka, Lawrence, Lower Southgate, Maclean, Palmer's Island, Shark Creek, Southgate, Taloumbi, Tyndale, Upper Shark Creek, Woodford Leigh, Yamba.
- MOLONG**—Including Amaroo, Belgravia, Boomey, Borenore, Canoblas, Cheeseman's Creek, Cumnock, Eurimbla, Garra, Manildra, Meranburn, Molong.
- MOSS VALE**—Including Avoca, Barrengarry, Berrima, Bowral, Braemar, Bundanoon, Burradoo, Burrawang, Colo Vale, Cross Roads, East Kangaloon, Exeter, Glenquarry, Joadja Creek, Kangaloon, Kareela, Meryla, Mittagong, Moss Vale, Myra Vale, North Yurrunga, Robertson, Sutton Forest, and Yurrunga.
- MUDGEE**—Including Avisford, Broombe, Budgee Budgee, Canadian Lead, Collingwood, Cooyal, Cullenbone, Eurunderee, Home Rule, Limburn, Lower Botobolar, Mudgee, Stony Creek, Upper Meroo, Windeyer.
- MUSWELLBROOK**—Including Aberdeen, Dunbar's Creek, Kayuga, Liddell, Muscle Creek, Muswellbrook, Spring Creek, Wybong.
- NARRANDERA**—Including Grong Grong, Narrandera, Yanko.
- NOWRA**—Including Barrengarry, Bellowongarah, Bendeela, Berrellan, Berry, Bolong, Bomaderry, Burrier, Cambewarra, Comerong, Coolangatta, Falls Creek, Greenwell Point, Huskisson, Jasper's Brush, Kangaroo Valley, Meroo Meadow, Moeyan, Nowra, Numba, Pyree, Terara, Tomerong, Wattamolla, West Cambewarra, Woodhill, Yalwal.
- ORANGE**—Including Amaroo, Belgravia, Borenore, Byng, Cadia, Canoblas, Cave Creek, Cheeseman's Creek, Forest Reefs, German's Hill, Guyong, Lewis Ponds, Lucknow, March, Millthorpe, Mullion Creek, Ophir, Orange, Spring Hill, Springside.
- PARKES**—Including Bindogandra, Kamandra, Parkes, Tichborne.
- PARRAMATTA**—Including Abattoirs, Alexandria, Annangrove, Annandale, Arcadia, Arncliffe, Ashfield, Auburn, Balmain, Bankstown, Baulkham Hills, Beaconsfield, Beecroft, Belmore, Bexley, Biloela, Blacktown, Blakehurst, Bonnyrigg, Bossley Park, Burwood, Cabramatta, Camperdown, Canley Vale, Canterbury, Carlingford, Carlton, Castle Hill, Chatswood, Colyton, Como, Concord, Crow's Nest, Croydon, Darlington, Doll's Point, Druiit Town, Drummoyne, Dulwich Hill, Dundas, Dural, East Balmain, Eastern Creek, East Hills, Eastwood, Enfield, Enmore, Epping, Ermington, Erskineville, Fairfield, Five Dock, Galston, Gladsville, Glebe, Glenfield, Glenhaven, Glenorie, Gordon, Granville, Greenwich, Guildford, Guildford Railway Station, Harnleigh, Homebush, Hornsby, Hornsby Junction, Holdsworthy, Holroyd, Hoxton Park, Hunter's Hill, Hurstville, Ingleburn, Kellyville, Kenthurst, Kingsgrove, Kogarah, Lady Robinson's Beach, Leichhardt, Lilyfield, Lindfield, Liverpool, Longueville, Macdonaldtown, Marrickville, Marsden Park, Marsfield, May's Hill, Meadow Bank, Merrylands, Middleton-street, Military-road, North Sydney, Milson's Point, Moorebank, Mortdale, Mortlake, Mount Druitt, Neutral Bay, Newtown, North Botany, North Parramatta, North Ryde, North Sydney, Peakhurst, Pennant Hills, Pennant Hills Railway, Petersham, Plumpton, Preston's, Prospect, Prospect Reservoir, Pymble, Redfern, Riverstone, Riverview, Rockdale, Rookwood, Rooty Hill, Rouse Hill, Rozelle, Rydalmere, Ryde, Sandringham, Sans Souci, Seven Hills, Smithfield, St. Ives, St. John's Park, St. Leonard's, St. Mary's, St. Peter's, Stanmore Railway Station, Strathfield, Summer Hill, Sydney and its City Branch Offices, Tempe, Tempe Park, Thornleigh, Toongabbie, Turramurra, Upper Bankstown, Wahroonga, Wanstead, Waterloo, Wentworthville, West Pennant Hills, Wetherill Park, Willoughby, Woolwich.
- PENRITH**—Including Agnes Banks, Badgery's Creek, Blacktown, Castlereagh, Cranebrook, Colyton, Eastern Creek, Emu, Emu Plains, Faulconbridge, Freeman's Reach, Glenbrook, Greendale, Grose Vale, Hazlebrook, Jamison Town, Kingswood, Kurrajong, Linden, Llandilo, Luddenham, Marsden Park, Mount Druitt, Mulgoa, Mulgrave, North Richmond, North Springwood, Penrith, Plumpton, Prospect, Richmond, Riverstone, Rooty Hill, Rouse Hill, St. Mary's, Seven Hills, Springwood, The Valley, Toongabbie, Wallace, Windsor, Woodford.

- QUEANBEYAN**—Including Bulga Creek, Bungendore, Burra, Canberra, Majura, Ginninderra, Hall, Hoskins Town, Molonglo, Queanbeyan, Sutton, Tallagandra, Tharwa, Tuggranong, Williamsdale.
- QUIRINDI**—Castle Mountain, Fairview, Quipolly, Quipolly Creek, Quirindi, Wallabadah, Warrah Ridge, Werris Creek, Willow Tree.
- ROBERTSON**—Including Albion Park, Barrengarry, Bendeela, Bowral, Brownsville, Burradoo, Burrawang, Colo Vale, East Kangaloon, Glenquarry, Kangaloon, Kangaroo Valley, Marshall Mount, Mittagong, Moss Vale, North Yurrunga, Pheasant Ground, Robertson, Rose Valley, Tongarra, Tullimbar, Wattamolla, Wild's Meadow, Woodhill, Yurrunga.
- SCONE**—Including Aberdeen, Brushy Hill, Gundy, Kayuga, Owen's Gap, Parkville, Rouchell Brook, Scone, Wingen.
- SINGLETON**—Including Belford, Boggy Flat, Branxton, Bridgeman, Broke, Bulga, Camberwell, Elderslie, Glendon Brook, Glennie's Creek, Gouldsville, Jerry's Plains, Liddell, Lower Belford, Mitchell's Flat, Ravensworth, Rix's Creek, Scott's Flat, Sedgfield, Singleton, Vere, Warkworth, Westbrook, Whittingham.
- TAMWORTH**—Including Attunga, Attunga Springs, Bective, Duri, Moonbi, Moonbi Railway Station, Moor Creek, Nemingha, Tamworth, Tintin Hull, West Tamworth.
- TAREE**—Including Cattai Creek, Cedar Party Creek, Coopernook, Cundletown, Dingo Creek, Ghinni Ghinni, Glenthorne, Harrington, Jones' Island, Killawarra, Kimbriki, Krumbach, Kundibakh, Lansdowne, Marlee, Mitchell's Island, Oxley Island, Pampoolah, Taree, Tinonee, Upper Lansdowne, Wingham.
- WAGGA WAGGA**—Including Alfred Town, Bomen, Brucedale, Collingullie, Downside, Harefield, Lake Albert, Malebo, Uranquinty, Wagga Wagga, Yathella, Yarragundry.
- WELLINGTON**—Including Baker's Swamp, Bodangora, Comobella, Curra Creek, Dripstone, Geurie, Lincoln, Maryvale, Montefiores, Neurea, Ponto, Suntop, Walmer, Wellington, Wuuluman.
- WEST MAITLAND**—Including Aberglasslyn, Allandale, Bellevue, Bishop's Bridge, Branxton, Buchanan, Cessnock, Dalwood, East Maitland, Eskdale, Farley, Glenoak, Gosforth, Greta, Hexham, Hinton, Lamb's Creek, Largs, Lochinvar, Miller's Forest, Morpeth, Mount Vincent, Nelson's Plains, Paterson, Pokolbin, Raymond Terrace, Rosebrook, Rothbury, Sawyer's Gully, Seaham, Tarro Railway Station, Vacy, West Maitland, Woodville.
- WINDSOR**—Including Agnes Banks, Blacktown, Castlereagh, Central Colo, Colyton, Comleroy Road, Cranebrook, Ebenezer, Emu, Emu Plains, Freeman's Reach, Grose Vale, Kellyville, Kingswood, Kurrajong, Kurrajong Heights, Leet's Vale, Llandilo, Lower Portland, Marsden Park, Mount Druitt, Mulgrave, North Richmond, Penrith, Pitt Town, Plumpton, Richmond, Riverstone, Rooty Hill, Rouse Hill, Sackville Reach, St. Mary's, Seven Hills, Toongabbie, Upper Colo, Wilberforce, Windsor.
- WOLLONGONG**—Including Albion Park, Austinmer, Balgownie, Bellambi, Brownsville, Bulli, Bulli Railway Station, Clifton, Corrimal, Croome, Dapto, Darke's Forest, Fairy Meadow, Fig Tree, Keiraville, Marshall Mount, Mount Keira, Mount Kembla, Shellharbour, Sherbrooke, Thirroul, Unanderra, Wollongong, Woonona.
- YASS**—Including Bowning, Coolalie, Glenbower, Good Hope, Greenfield Farm, Jeir, Jerrawa, Kirkdale, Limestone Creek, Murrumbateman, Nanama, Wargeila, Yass, Yass Junction.
- YOUNG**—Including Kingsvale, Marengo, Monteagle, Wombat, Young.

Also between—

- Broken Hill, South Broken Hill, and Broken Hill Railway Station.  
 Harden and Murrumburrah.  
 Narrabri and Narrabri West.  
 Wyalong, Wyalong West, and Sixteen-mile Tank.  
 And upon letters posted at any City or Town in the Colony for delivery within the same City or Town.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MEN EMPLOYED ON TELEPHONE TUNNEL WORKS.

(RETURN RESPECTING.)

*Printed under No. 2 Report from Printing Committee, 10 August, 1899.*

RETURN to an *Order* of the Honorable the Legislative Assembly of New South Wales, dated the 18th April, 1899, That there be laid upon the Table of this House,—

“All papers relating to the employment, discharge, and rate of wage of men employed on telephone tunnel works since 10th February, 1899.”

(Mr. Hughes.)

No. 1.

The Clerk of Works to The Deputy Postmaster-General.

Sir,

Martin-place, Sydney, 7 March, 1899.

On Friday last Mr. Gregory conveyed your instructions to me—“Not to pay the shilling a day increase of wages, as per the pay-sheet, to W. Tolly, the foreman on No. 9 section of the tunnels.” I consider it my duty to remind you of the fact that when Mr. J. Cook, the late Postmaster-General, did me the honor of placing the construction of the tunnels by day labour in my hands, I accepted the responsibility only on condition that I should have full control of the employment and dismissal of the men required on the work, and that I should rate each man according to the value of his labour. To these conditions Mr. Cook assented, in the presence of the Engineer-in-Chief, stipulating only that I must be guided as to the *minimum by the Minister for Works' Schedule of Minimum Wages payable on public works.*

I have carried on the whole of the works under these conditions, and my actions have not been interfered with in any way until last week.

I have obeyed your instructions, and did not pay the additional shilling per day, and have refunded the money to the Treasurer. I must say, however, that Mr. W. Tolly is worth more than the 13s. per day while there are so many men to control and so much work to do; and if I, as manager of the work, cannot estimate the value of a man's labour who is working under me on work with which I have had many years' experience, who on earth can or is supposed to do so?

I am, &amp;c.,

GEORGE DONALD.

I have to sign the pay-cheque, and certainly knew nothing of such large powers having been given to Mr. Donald. Mr. Walker might report.—S.H.L., 8/3/99.

Mr. Donald was appointed Clerk of Works for the tunnels by the late Postmaster-General, and in that capacity I understood that he was responsible to the engineers in charge of the work, Messrs. McCredie, whose certificate I always insisted on before submitting any vouchers for payment. So far as my recollection goes, Mr. Cook did, verbally, give Mr. Donald complete control of the men and the regulation of their pay.—P.B.W., 9/3/99.

This is the first I have heard of any such arrangement. It seems unreasonable that the Clerk of Works should have the absolute power of fixing the men's wages. If he could increase them, as in the case in question, by 6s. a week, he could apparently raise them, if he thought fit, by £1 a week. I always understood that a standard rate of pay was allowed, on the scale adopted by the Works Department. The question now is whether Tolly is to have the extra 1s. a day.—S.H.L., 9/3/99.

No.—V.P., 9.

119—A

Mr.



Mr. Donald points out that Mr. Cook stipulated that he was to be guided by the Minister for Works' schedule of *minimum* wages payable on public works. I do not think he is overpaid at the rate proposed, as he is a first-class man.—P.B.W., 9/3/99.

Yes; but the amount now in question is above the minimum. Submitted.—S.H.L., 9/3/99. Twelve shillings a day is ample pay for Mr. Tolly.—V.P., 9.

Read, noted, and returned, March 10th.—T. BAVISTER. For Mr. Tolly's information. To be returned. Noted.—W.H.M., 13/3/9.

## No. 2.

### Minute by The Postmaster-General.

*Subject* :—Rate of wages to be paid to men working in the tunnels.

MR. BAVISTER must clearly understand that the following are the maximum wages to be paid to men working in the tunnels, and these rates must on no account be exceeded:—Bricklayers, 9s. a day; plasterers, 9s. a day; labourers, 7s. a day.

Any men now in receipt of wages in excess of these sums should be at once informed that, on and after to-morrow, they will only be paid at the above rates.

Tolly, employed I understand as Foreman, must be informed that his wages, on and from to-morrow, will be at the rate of 12s. a day only.

VARNEY PARKES,  
10th March, 1899.

Mr. Bavister and Accountant to note.—P.B.W., 10/3/99. Noted.—T. BAVISTER, 10/3/99.

## No. 3.

### The Clerk of Works to The Postmaster-General.

*Subject* :—Rate of wages to be paid to men working on tunnels.

Sir,

Martin-place, 11 March, 1899.

Having read minute above referred to, and feeling convinced that the Hon. Postmaster-General cannot be aware of following facts, I desire respectfully to state them for his information.

Nineteen bricklayers are employed, as shown by wage-sheet—Sixteen are paid 10s. per day; one at 11s. per day; one, an improver, is paid 7s. 6d. per day, and one (Harding) has not yet received any pay, starting on the 10th instant.

Upwards of thirty men classed labourers have been paid 7s. 6d. or more per day, having special qualifications and duties.

Is it intended that where men are doing special work, and are held responsible in some instances for proper discharge of duty by others, shall receive only the same pay as those of less ability and who take no responsibility, and is it further intended to reduce the whole of the bricklayers 1s. per day each?

Trusting this matter may be brought under the notice of the Hon. Postmaster-General with the least possible delay,—

I am, &c.,

THOMAS BAVISTER,  
Clerk of Works.

Submitted.—S.H.L., 11/3/99. Ask Mr. Bavister to state his definite cases.—V.P., 11. T. BAVISTER, 13/3/99. *i.e.*—What men are doing special work and are held responsible, &c., and what their wages should be in Mr. Bavister's opinion; also, why should not all bricklayers have uniform pay?—S.H.L.

## No. 4.

### The Clerk of Works to The Chief Electrician and Engineer-in-Chief of Telegraphs.

#### RATES OF WAGES TO BE PAID.

*Questions* :—What men are doing special work or are held responsible? What their wages should be? Why should not all bricklayers have uniform pay? Workmen, classed labourers on pay-sheet, receiving more than 7s. per day, showing what kind of work they do entitling them to different pay than that of the ordinary pick-and-shovel hand?

#### Section 9.

A. Walker, J. Dickson, each 8s. 6d.—first-class miner and timber-men of proved ability and carefulness; the safety of the workmen and the work often depends on their skill and care; leading men.

J. Butler, A. McGregor—both first-class miners and timber-men; get 8s. per day.

A. Lewis, drainer—good and capable man; paid 8s. per day.

A. Power, J. Stockton—leading packers and first-class rock-men; 8s. per day.

W. Andrews, M. Bourke, M. Brennan, M. Byrnes, A. Casburn, D. Cooney, W. Davis, T. Fitzsimmons, W. Gategood, T. Lanegan, C. Montgomery, F. Mitchell, W. Rogers, R. Thompson, D. Bres, J. McGuire, W. King—each of these men are good men as miners, rock-men, timberers, and packers; at 7s. 6d.

J. H. Riley is a carpenter and timber-man, suitable for this kind of work; paid 7s. 6d. This man is classed carpenter on wage-sheet.

A. Bryer is in charge of Woolloomooloo Yard, and receives and checks all material, and superintends such work as is done there—sand crushing and washing, and stone-breaking, the latter being piece-work at per ton.

G. Digby is concrete-man—a good man, leaving clean, well-graded work. These two men each get 7s. 6d. per day.

W. Clark, H. Martin, J. Neilson, and J. Riley (the latter now on No. 10) are first-class bricklayers' labourers; experienced at this work; who know the requirements of, save much time to the bricklayers, direct and lead the other labourers, making their work more effective; they are paid 7s. 6d. per day, and are fully worth it.

Martin Power, acting blacksmith, is not a success in that position, and I recommend he be put on the rock-cutting, at which he is a good man, and that another smith be employed.

No.

## No. 10 Section.

G. Bancroft is leading rock-man, a first-class man, at 8s. per day.

A. Henson is fire-master and powder-man, at 8s.

T. Oliphant, pipe-layer and drainer, getting 7s. 6d., worth 8s.

S. Grocock is concrete-man on this section.

All the other men classed labourers on the pay-sheet, except P. Woods, are good workmen in rock-work as hammer and drill men or gutterers. This section being nearly all rock, other men were of no use.

They are all paid 7s. 6d., and, except the one named, are worth that rate.

J. Riley and A. Vernon, bricklayers' labourers, are each well worth the 7s. 6d. per day they are paid.

In reply to query as to uniform pay to bricklayers,—

W. Urquhart, who has all through been foreman, is well worth the 11s. per day paid to him. He is a capable and experienced man.

A. Locke, who, with consent of Postmaster-General, has been put in charge of brickwork of No. 10, is worth fully 11s. per day while he retains that position. He is as good a workman as any in the employ, and though he has a smaller number of men to control than Urquhart, he compensates for that by laying bricks himself when not actually engaged setting lines and profiles. He is getting a much better result from the bricklayers on this section (who were all strange to this work) than was obtained when there was no particular person responsible.

There are three bricklayers, two on No. 10 and one on No. 9, who are not nearly equal in efficiency to the others, and whom I consider it desirable to remove, as if they are paid a lower rate according to the worth of their labour they only act as a drag on the other men, to the detriment of the work.

THOMAS BAVISTER,  
Clerk of Works, Telephone Tunnels, 14/3/99.

Submitted.—S.H.L., 15/3/99. Mr. Bavister must adhere to the standard of wages set out in Minute 10, but his foremen may be paid 11s.—V.P. Mr. Bavister to note.—P.B.W., 15/3. Noted, 16/3/99. Further reasons submitted; reconsideration asked.—THOMAS BAVISTER. W.H.M., 17/3/99.

## No. 5.

## The Clerk of Works to The Deputy Postmaster-General.

Sir,

1, Martin-place, 16 March, 1899.

I desire to point out that the Public Works Department are paying bricklayers 10s., labourers 7s. 6d. per day, on the extension and additions now being carried out at the G.P.O., and also on the other works being carried out by that Department as day labour.

Leading contractors are paying same or higher rates on general building construction.

Contractors carrying out sewer work (of which class this tunnel work is, being underground, executed in cement, with saturated bricks, frequently difficult of access, from timber, pipes, and other causes of obstruction) pay higher rates of wages, by in some cases 50 per cent., than those in force on the telephone tunnels.

The rates paid on this work were fixed at the commencement of section 9 (Railway to Glebe Road) some months ago, and have been continuously confirmed and endorsed during all that period by the weekly pay-sheets being accepted and passed by the Department without any objection being made.

For all these reasons, and the fact that the men specified are each well worth the pay he is receiving,—

I respectfully resubmit the matter for further consideration.

THOMAS BAVISTER.

Urgent.—P.B.W. Submitted.—S.H.L., 16/3/99. I think Mr. Bavister is right. Let him fix a standard of wages and submit.—V.P., 17. Mr. Bavister.—P.B.W., 17. THOMAS BAVISTER, 17/3/99. It is necessary for you to submit a scale for the P.M. General's approval.—P.B.W., 18/3/99.

## No. 6.

## The Clerk of Works to The Deputy Postmaster-General.

21 March, 1899.

In response to request to submit a rate of wages, I submit the following list:—

Bricklayers, 10s.; foremen, 11s.

Plasterers, 10s.; first-class brick labourers, 7s. 6d.

Unskilled labourers, 6s. 6d. and 7s.—excavation work.

First-class experienced men in all details of the work as miners, timberers, packers, drilling, blasting, &c., competent to take charge and lead set of men, 8s. 6d. per day.

Good miners, timberers, packers, and rock-man, 8s.

Good men as miners and timberers or packers or rock-man, but not combining all these qualifications, 7s. 6d. per day.

Ordinary pick-and-shovel men, 7s.

First-class concrete-man, able to gauge, lay, and grade, 8s. per day.

Good concrete-men, gauge, &c., 7s. 6d.

Drainers accepted by W. and S. Board, 8s.

Yours, &c.,

THOMAS BAVISTER,  
Clerk of Works  
(per E. F.)

THOMAS BAVISTER, 21/3/99. Submitted.—S.H.L., 22/3/99. Let this be the unalterable scale of wages to be paid.—V.P., 22. Noted.—W.H.M., 22/3/99. Mr. Bavister and Accountant to note.—P.B.W., 23/3/99. T. BAVISTER, 23/3/99. Noted.—C.S.G., 24/3/99. P.A., J.T.

## No. 7.

## Minute by The Deputy Postmaster-General.

General Post Office, Sydney, 13 March, 1899.

I PRESUME the routine to be adopted in regard to employees on the tunnels is understood by every one, namely:—Mr. Bavister notes the paper conveying the authority for the employment; the name is then scored off the list, and the paper afterwards sent to the Accountant to note.—S.H.L.

Yes. Mr. Bavister might note this.—P.B.W., 13. Noted.—T. BAVISTER, 13/3/99.  
Accountant might also note.—S.H.L., 14. Noted.—W.H.M., 15/3/99. Noted.—F.C., 15/3/99. J.O.

## No. 8.

## Minute by The Deputy Postmaster-General.

THE Postmaster-General desires that no information whatever be given to persons outside the Department as to whether there are vacancies on the tunnel works, or whether more men are wanted. Information of this kind only leads to additional applications being made, and there are now over 200 names on the list awaiting employment.—S.H.L.  
10th March, 1899.

Mr. Walker, Messrs. McCredie, Mr. Bavister to note.—S.H.L. Noted.—P.B.W., 10/3/99.  
Noted.—T. BAVISTER, 10/3/99. Returned to me attached to minute-paper *re* wages.—T. BAVISTER, 13/3/99. Noted and returned.—A.L. and G. McC., 16/3/99.

## No. 9.

## Minute by The Postmaster-General.

(B. 2-1,468.)

ALL the men, excepting foremen and special men stated to Mr. Lambton by Mr. Bavister, whom Mr. Donald, the former Clerk of Works, placed upon the tunnel works without official authority to the number of 115, provided they have had two months' work and over, will not be employed after Thursday, the 30th, nor at whatever day their work ends; but those specially put on by the Departmental authority, and so stated in Mr. Donald's list, are to remain. In the place of those men who will be removed, the men whose names are ticked by me in the official list of recommended men will be employed indefinitely. VARNEY PARKES.

Mr. Bavister to note.—P.B.W., 22/6/99. Number of names on list of tunnel-men taken on by Mr. Donald contains 140 names; evidently only one column of section 10 was counted.—T. BAVISTER, 30/3/99.

## No. 1.

LIST of tunnel-men taken on by Mr. Donald, and who have had two months' work and more, so as to make room for the next shift.—V.P.

## Section 10.

Anderson, G.	Dango, W.	Haynes, —	Russel, J.
Anderson, A.	Donohue, M.	Johnson, A.	Ryan, M.
Anderson, A. E.	Grocock, S.	Kane, B.	Raymond, R.
Bancroft, G.	(29th)	Keens, J.	Sheehan, J.
Buchanan, J.	Grocock, W.	Lewis, S.	Shepherd, J.
Bennett, F.	Gowen, C.	McCurley, J.	Triglown, H.
Byron, J.	Hannan, F.	Milne, E.	Vernon, A.
Bradshaw, T.	Henson, A.	Melville, H.	*Walters, J. T.
Crawford, J.	Hennebury, J.	Nash, G.	Winkle, T.
Collins, D.	Hill, P.	Nixon, S.	Wynands, W.
Connors, J.	Hall, S.	O'Brien, W.	Wyllo, P.
Clarke, S.	Hartley, J.	Palmer, W.	Walker, T.
Carr, T.	Hoffman, —	Poole, W.	

\* Should not this name be Waters?—T.B.

I infer that the duplicate of this on copying-paper is to be retained by me for reference and guidance.—THOMAS BAVISTER, 22/3/99.

Mr. Bavister.—P.B.W., 30.

LIST of tunnel-men taken on by Mr. George Donald, who have been working two months and over, to make room for the new shift.

## Section 9.

*Aspinall, J.	Evers, J.	Lewis, A.	Pratt, J.
*Aspinall, A.	*Eyles, R.	*Lewis, M.	*Reilly, J.
Andrews, W.	*Fahey, T.	Locke, A.	*Rogers, T.
*Bryer, A.	Flannery, D.	*Martin, J.	Ryan, W.
*Bryer, W.	*Gaitgood, W.	*Martin, H.	Stowel, H.
Brown, J.	Gowen, J.	*Montgomery, C.	Stockton, J.
Butler, J.	*Henderson, F.	Murphy, M.	Spanswick, W.
*Brown, E.	*Higgins, J.	*Mitchell, F.	Tolly, W.
*Blackwin, C.	Hill, W.	Maloney, J.	*Thomborough, E.
*Casburne, F.	*Hennebury, W.	Morton, S.	Thompson, R.
*Crick, P.	Holt, G.	Martin, S.	Urquhart, W.
Cousins, W.	Haynes, T.	*Nash, G.	Whitfield, T.
*Cranston, W.	Hurley, M.	Nolan, F.	Whitfield, P.
Carney, J.	*Jeffs, E.	*Nielsen, J.	*Walker, A.
Clark, W.	Jones, D.	Newman, —	Wallace, P.
Cochran, J.	Jones, G.	McGregor, M. C.	*Walker, R.
†Dacom, J.	James, G.	*McCotter, T.	*Williams, D.
*Donald, W.	*Kershaw, T.	McCrath, P.	*Worboys, J.
Dickson, J.	*King, W.	McClink, —	Wadsworth, H.
*Dickson, A.	*Lahiff, J.	Olipphant, T.	Wood, A.
Digby, G.	*Le Bres, C.	O'Brien, P.	*Walsh, M.
*Dunn, T.	*Lee, T.	Power, M.	
Duff, C.	Lymer, W.	Powell, C.	

\* Those marked \* discharged, 29/3/99.—THOS. BAVISTER.

† Should this name be on this list. See initials.—P.M.G.

No. 2.

## No. 2.

- LETTER from Mr. Lambton, 28/3/99, forwarding names of J. Evers, Canterbury, W. Nelson, Liverpool, to be put into first vacancies; initialed, S.H.L., V.P., 28/3/99. Therefore they will be put on as under:—
- J. Evers, Kaiser-street, Canterbury.  
W. Nelson, Scott-street, Liverpool.
5. Michael Lee, Church-street, Camperdown.
  12. A. Stratford, 7, Belford-street, off George-street West.
  13. Thomas Barratt, Massey street, North Sydney.
  15. — Christieson, c/o A. Lester, George-street, Canterbury.
  16. John Gallagher.
  17. Michael Conroy, 156, Elizabeth-street, Sydney.
  19. Edward Cook.
  21. C. Buckley.
  26. William Butterworth, View House, Burwood.
  30. George Hopkins.
  32. E. Coleman, Canterbury.
  33. J. Finn, Woniara-road, Hurstville.
  35. John Gordon, Enfield Post Office.
  42. D. Sharkey, Canterbury.
  43. P. Stack, 51, Burton-street.
  55. W. Fagan, c/o R. Lee, Esq., William-street.
  61. D. Ward, 29, Caledonia-street, Paddington.
  65. J. Barry, Railway-street, Marrickville.
  66. J. Chapman, 28, Greek-street, Glebe.
  68. J. Lotty, Milford-street, Canterbury.
  69. J. Brady, Post Office, Canterbury.
  70. C. Donohue, 69, Grafton-street, Woollahra.
  72. A. J. Harkins, 9, Reid-street, Waverley.
  80. E. Whiting, Frederick-street, St. Peters.
  90. W. Nelson, Scott-street, Liverpool.
  91. C. Bird, Young-street, Annandale.
  92. H. Egan, 343, Bourke-street, Darlinghurst.
  104. M. Carey, 3, Wattle-street, Ultimo.
  106. H. Wood, Woodburn-street, Redfern.
  108. J. Kelly, Western Chanders street, North Sydney.
  110. — Crosse, Ross-street, Fern Hill, Canterbury.
  111. W. Riley, Union-street, Lavender Bay Wharf.
  115. Robt. Maloney, Post Office, Haymarket.
  116. H. Williams, Post Office, Haymarket.
  119. G. Gorman, 22, Anderson-street, Alexandria.
  121. G. Orton, c/o J. Deasey, George-street, St. Peters.
  122. E. Gardiner, 431, Cleveland-street, Redfern.
  123. G. Harrison, 600, Crown-street, Surry Hills.
  129. J. Cody, 32, Margaret-street, Newtown.
  133. J. Jones, 4, George-street, Erskineville.
  136. A. Beahan, 625, George-street, Sydney.
  138. M. Conroy, 156, Elizabeth-street, Sydney.
  139. Duncan Harris, 292, Elizabeth-street, Sydney.
  140. George Lingard, 226, Union-street, Erskineville.
  143. A. J. Daley, 3, Shepherd-street, Darlington.
  145. A. Vermeesch, Woodburn-road, Rookwood.
  149. D. O'Leary, Rainbow-street, North Botany.
  153. Edward White, 16, Smith-street, off Campbell-street, Surry Hills.
  155. J. O'Connor, Post Office, Alexandria.
  157. H. Horner, Tupper-street, Marrickville.
  159. James Jones, Post Office, Tempe.
  160. Harry Dixon, c/o James Patterson, Simpson-street, North Bondi.
  161. J. Walsh, 66, Bourke-street, Redfern.
  162. B. Canavan, Creer-street, Randwick.
  166. F. Fisher, 143, George-street, Redfern.
  168. W. Shirley, 8, Pine-street, City.
  171. Wm. Harkins, 9, Ridge-street, Waverley.
  172. W. Slattery, 80, Sheppard-street, near Parramatta-road, City.
  173. E. Emerson, 157, Woolloomooloo-street.
  174. G. F. Hannam, May-street, St. Peters.
  175. F. W. Barton, 215, Parramatta-road, Leichhardt.
  179. James Puckeridge, Baxter-road, North Botany.
  180. J. Markman.
  182. Joseph Bingle, Bryant-street, Rockdale.
  183. P. Coyne, Bullanaming-street, Redfern.
  185. Patrick Barrett, Church-street, St. Peters.
  190. W. Smith, 120, Catherine-street, Leichhardt.
  191. John Kelly, 20, Randle-street, Surry Hills.
  194. James Murray.
  193. M. O'Shea, 138, Constitution-road, Petersham.
  195. F. Tunbridge, 325, Abercrombie-street, Redfern.
  196. Wm. Nolan, 71, Stanley-street, Hyde Park.
  197. Fred. Jones, 68½, Brougham-street, Woolloomooloo.
  198. Geo. Stevenson, Carrington-road, Waverley.
  201. Donald Dingwall, Denison-street, Waverley.
  202. Richard Gross, Falcon-street and North Willoughby road.
  203. C. Walker, 2, Bullanaming-street, Redfern.
  204. A. Spithall, 51, Thomas-street, Camperdown.
  210. Joseph Lynch, 66, Washington-street, off Sussex-st.
  212. William Duncan.
  214. Joseph Stephens, 280, Castlereagh-street, Sydney.
  221. J. Acott, 155, Abercrombie-street.
  239. Patrick Nolan, Garnet-street, Canterbury.
  241. — Strike.
  246. D. McSweeney, 136, Forbes-street, Waterloo.
  249. Henry Ellison, Wentworth-street, Parramatta.
  252. R. Leadbetter.
  256. James Beverstock.
  261. Steven Smith, 37, New John street, Balmain.
  262. T. B. Jackson, Post Office, Pyrmont.
  267. Thos. Lansdown, 31, Francis-street, Leichhardt.
  - 270-320 H. Hicks, The Pines, c/o Mr. D. Milne, Wilson-street, Newtown.
  271. T. A. Narraniore, East Hills, South Bankstown.
  273. Wm. Fagan, 20, Ann-street, Surry Hills.
  274. Wm. Richardson, 27, Margaret-street, Petersham.
  282. Thomas Kenney, 18, Prospect-street, Surry Hills.
  283. C. H. Law.
  285. William Read.
  288. Thos. Hawley.
  292. Thomas Murray, 22, Foster-street, Surry Hills.
  294. Walter Phelps, 667, Illawarra-road, Marrickville.
  295. Frederick Black, 667, Illawarra-road, Marrickville.
  296. T. J. O'Brien, 66, Young-street, Redfern.
  298. Wm. McBroome, 45, Sheppard-street, Darlington.
  300. Alfred Stannard, 2, Peacker-street, Woollahra.
  302. John French, Harbour-street, Darling Harbour.
  303. Gilbert Weaver, 157, Morehead-street, Redfern.
  304. James A. Murphy, 212, Cornwallis street, Redfern.
  305. Wm. Gillham, 7, Botany-street, Waterloo.
  306. D. A. Lillibridge, Kaiser-street, Canterbury.
  307. F. Doran, Fern Hill, Canterbury.
  308. C. Lambert, Railway Cottage, Rockdale.
  321. Wm. Conroy, 156, Elizabeth-street, City.
  325. W. Baxter, 8, Steam-mill-street, off Bathurst-st., City.

## No. 10.

The Clerk of Works to The Deputy Postmaster-General.

Sir,

Martin-place, 22 March, 1899.

I desire to call attention to the fact that, by directions dated 21/3/99, the workmen's week now ends at 5 p.m. on Wednesdays, and would suggest that effect be given to this minute either on the 29th instant or the 5th prox., otherwise trouble and possible confusion may be caused the Accountant, unless the men so discharged on Thursday have to wait one week and make a special journey for the one day's pay due. The number of names on lists total 140, not 115. I have requested Mr. Fisher to furnish necessary particulars to enable me to comply with P.M.G.'s direction, under which, as stated, all the foremen—Tolly, Urquhart, Lock, and Buchanan—as well as the drainers, concrete-layers, most expert and experienced miners, and bricklayers will be discharged, which is contrary to the intentions expressed by the Hon. P.M.G. to me at an interview this day.

I have, &c.,

THOMAS BAVISTER.

Say the 29th.—V.P., 22. Mr. Bavister.—P.B.W., 22. See P.M.G.'s amendment in pencil of previous minute.—S.H.L., 23. THOS. BAVISTER, 23/3/99. List of names of men to be employed gives no guide as to what occupation such men usually follow.—THOMAS BAVISTER, 23/3/99. Perhaps the best way would be for Mr. Bavister to send for each in *numerical* order as required and question them.—S.H.L., 24. T. BAVISTER, 25/3/99. Urgent.—P.B.W. I have retained list on tissue paper to obtain particulars.—T. BAVISTER.

## No. 11.

The Clerk of Works to The Deputy Postmaster-General.

Sir,

27 March, 1899.

I herewith submit lists of names of employees to be discharged and of others necessary to be retained, in accordance with P.G.M.'s directions (see B. 2-1,468), which I shall be glad to have confirmed or otherwise dealt with as early as possible.

May

May I also be informed as to what interruption of work will be caused by Easter holidays, to enable me to arrange for the starting of such fresh men from list supplied to me for that purpose.

Yours, &c.,

THOMAS BAVISTER.

Submitted. I suppose work should cease on Good Friday and Easter Monday only.—S.H.L., 28. Yes. Mr. Bavister ought to know what is usually done.—V.P., 29.

No. 1.

LIST of men stated to have been irregularly employed who Postmaster-General directs should be discharged on completing two months' employment, to operate on March 29th:—  
(Pay drawn to and include March 22.—From Thursday, 30th, at 9 a.m.)

	weeks	days		weeks	days
*Bryers, A., yardman, Circular Quay.....	13	0	*Mitchell, F., miner .....	10	6
*Brown, E., navy .....	10	3	*Nash, G., windlass hand .....	12	4
*Casbourne, F., miner .....	13	2	*Neilson, J., brick labourer .....	8	2
*Dunn, T., navy .....	8	1	*McCotter, T., miner .....	8	5
*Fahey, T., navy .....	12	5	*Walker, A., miner .....	14	0
*Gaitgood, W., navy .....	11	1	*Walker, R., labourer .....	9	3
*Hennebury, W. ....	10	1	*Williams, D., labourer .....	14	4
*Le Bris, C., miner .....	10	4	*Worboys, J., bricklayer .....	10	4
*Lee, T., mason .....	11	3	*Walsh, M., labourer .....	8	5
*Martin, J., labourer .....	13	6			

Mr. Bavister must make room for the full number ticked off upon the list.—V.P., 29.

No. 2.

LIST of men who Mr. Bavister recommends to be retained in employment, and specially states for that purpose as directed by Postmaster-General (*see* B. 2-1,468):—

*Aspinall, J., lampman, section 9.	†James, G., leading mason and flag-layer.
*Aspinall, A., boy carrying tools to and from smith, son of lampman.	*King, W., leading rock-man, driving and blasting.
†Andrews, W., packer.	*Kershaw, T., flag-layers' assistant and kerb-setter.
*Bryers, W., boy assistant to bricklayers; more useful than many men.	†Lewis, A., first-class drainer.
†Butler, J., miner.	*Lewis, M., boy, son of and assistant to above.
†Cousins, W., mason and kerb-setter.	†Lymer, bricklayer.
†Dickson, J., miner; most suitable man for foreman if one should be required.	*Lahiff, J., mason.
*Dickson, A., boy, son of above, 5s. per day.	*Martin, H., bricklayers' labourer.
†Digby, G., our best concrete-layer.	*Montgomery, C., packer.
†Flannery, D., day-carter; intelligent and reliable, knows all sources of Departmental supply.	†Murphy, M., yardman, George-street West.
†Hill, W., bricklayers' labourer.	†Nolan, F., bricklayer.
Holt, Geo., bricklayer, not yet due.	†Oliphant, Thos., drainer.
*Jeffs, E., lad, cart-checker; experienced, smart youth, 3s. 6d. per day.	*Stowell, H., smiths' assistant, George-street.
	*Rogers, W., rock-man.
	†Stockton, J., packer.
	†Whitfield, T., timberer and carpenter.
	†Wadsworth, H., youth, with bricklayers; good working, useful boy, 3s. 6d. per day.

THOS. BAVISTER,

28/3/99.

No; these men must go and give others an opportunity. It is only in the case of gangers or foremen who cannot well be dispensed with. I presume all these have been more than two months employed.—V.P.

All those marked (\*) discharged; all those marked (†) kept on.—T.B., 29/3/99. Further particulars and request attached.—T.B.

No. 12.

The Clerk of Works to The Deputy Postmaster-General.

Sir,

Martin-place.

I have to report all men in list No. 1, dated 27th March, 1899, have been discharged this evening (except first on the list, A. Bryer), in consequence of my not reaching Woolloomooloo yard in time; he will cease work at 9 a.m. Thursday, 30th.

Eylis and Grocock also discharged from No. 10 section.

Of the men on List 2—Andrews and Stockton (packers), Butler and Dickson (miners), I have not discharged, as these men are absolutely necessary to be retained, for safety of passing people, workmen employed, and property immediately adjacent to the work; Cousins, W. (mason and kerb-setter), and James Griffiths (foreman mason and pavior); Lewis, A., and Oliphant, T. (drainers under Water and Sewerage Board, sections 9 and 10); Lymer, W., Nolan, F. (bricklayers—two best and most experienced men at this work); Hill, W. (bricklayers' labourer—careful, capable, and experienced, necessary in places of difficulty and danger); Flannery, D. (day-carter—who knows the Departmental of supply, is a thoroughly trustworthy man, with first-class dray and horse); Whitfield, T. (first-class timberer and carpenter); Wadsworth, H., junior (bricklayer, at 3s. 6d. per day—worth more, a most useful boy); Murphy, M. (yardman at George-street West)—smart man for such work, thoroughly checking incoming and outgoing material, and thoroughly trustworthy; a great consideration, as a large amount of property not owned by the Government is in this yard.

For these reasons I have not discharged these men, and again respectfully request that they may be retained. Forty-three men discharged.

Yours, &c.,

THOMAS BAVISTER,

29/3/99.

Submitted.—S.H.L., 30. Yes; but other men who can be put off must be put off to make room for the second batch of 115.—V.P., 30. Mr. Bavister.—P.B.W., 30/3/99. THOMAS BAVISTER, 30/3/99. Read.—S.H.L., 4.

No. 13.

No. 13.

The Chief Electrician and Engineer-in-Chief of Telegraphs to The Clerk of Works.

Mr. Bavister,

17 April, 1899.

Are the men who were noted on the first list employed now?  
 What are the rates of wages? Have they been lowered?  
 How many are there upon the lists unemployed?

P.B.W.

Or the list of men to be discharged—On section 9, 14 have not yet reached time limit stated (two months); on section 10, 23 have not yet reached time limit stated (two months); leaving 37 still to be discharged. Of list marked in red ink (No. 2) to fill vacancies, all have been written to except 12, for whom no address was obtained—92 of these have been employed, 5 are in other employment, 12 either have not responded to letters or are of occupations not required. Of first portion of Postmaster-General's special list to work on section 12, comprising 27 names, 23 have been employed, 2 have not responded, 2 are of occupations not required. Second portion, comprising 32 names—7 were without address, 21 have been employed, 2 did not respond, 1 is probably on his way from Mount Victoria to start work, and 1 (McQuinn) has been submitted for Postmaster-General's decision. Wages are in accordance with schedule approved by Postmaster-General, and have not been lowered. One man was lowered last week, having only worked half a day before previous rating.—THOMAS BAVISTER, 18/4/99.

No. 14.

The Clerk of Works to The Chief Electrician and Engineer-in-Chief of Telegraphs.

Sir,

27 February, 1899.

Enclosed is a list of men working on the telephone tunnels, with the names of those who recommended them. Those marked P.M.G. were names sent from your office without any other recommendation, except the Postmaster-General, so far as I know.

The names with the green tick (thus \*) in front are men who were previously employed on the work, and whom I could depend upon.

Those with the blue dot (thus †), most of whom have been on the previous work, had been in Lithgow some years ago.

Those with the red mark (thus ‡) are the only two who came from Lithgow recently, both qualified miners and good workers.

Where the other men live or come from I do not know, as I never inquire, except the address is left when they bring a letter of recommendation.

Those names without a mark were engaged on the work as they applied, about nine of whom were personally recommended by several Members of Parliament, and I did not make a note of the names.

Singularly, only three mechanics were recommended to me, and I had to depend on applicants on the job for bricklayers, carpenters, and blacksmiths. I have plenty now, and don't want any more.

I notice that the best men, either navvies, labourers, or mechanics, do not trouble Members or anyone else for letters of recommendation, with a very few exceptions.

The system of employing men on letters of recommendation is demoralising to the best—some who bring them cannot be demoralised any more.

There are also in addition to the list 26 carters on No. 9 section and 18 on No. 10. These are employed at per load, and are intermittent, as the work requires.

GEORGE DONALD.

(10.)

NAMES of workmen employed on No. 10 section, and whom recommended by.

Names of Men.	Recommended by—	Names of Men.	Recommended by—
Alpine, T.....	Mr. Hogue.	Lewis, S. ....	.....
*Andersen, G. ....	.....	McCurley, J. ....	.....
*Andersen, A. ....	.....	*Milne, E. ....	.....
*Andersen, A. E. ....	.....	McCann, R. ....	Mr. Garland.
*Bancroft, G. ....	.....	*Melville, H. ....	.....
*Buchanan, J. ....	.....	*Nixon, S. ....	.....
Bennett, F. ....	.....	O'Brien, W. ....	.....
*Byron, J. ....	.....	Polygase, S. ....	Mr. Sleath.
*Bradshaw, T. ....	.....	Palmer, W. ....	.....
Crawford, J. ....	.....	†Poole, W. ....	.....
Carter, A. ....	Mr. Lorking.	*Russel, J. ....	.....
Collins, D. ....	.....	Ryan, M. ....	.....
Collier, A. ....	Mr. Nelson.	Reid, H. ....	Mr. Jessep.
*Conners, J. ....	.....	*Raymond, R. ....	.....
Clarke, S. ....	.....	Rooney, H. ....	Mr. McGowen.
*Carr, T. ....	.....	Sheehan, J. ....	.....
Dango, W. ....	.....	*Shepherd, J. ....	.....
Dwyer, J. ....	Mr. Nelson.	Shepherd, T. ....	Mr. Marsden.
*Donohue, M. ....	.....	Sheridan, J. ....	P.M.G.
Devine, W. ....	Mr. O'Sullivan.	Seymour, C. ....	Mr. Lewis, for Mr. Carruthers.
Gillies, W. ....	Mr. Sleath.	†Triglown, H. ....	.....
*Grocock, S. ....	.....	*Vernon, A. ....	.....
Grocock, W. ....	.....	*Waters, J. T. ....	.....
Gowen, C. ....	.....	Winkle, T. ....	.....
*Henson, A. ....	.....	*Wynands, W. ....	.....
Hennebury, J. ....	.....	Wylo, P. ....	.....
Hill, P. ....	.....	Walker, T. ....	.....
*Hall, S. ....	.....	Whiting, A. ....	Mr. Storey.
Hartley, J. ....	.....	*†Nash, G. ....	.....
Hoffman, — .....	.....	Hannan, F. ....	.....
Haynes, — .....	.....	Woods, P. ....	P.M.G.
*Johnson, A. ....	.....	Phillips, W. ....	Mr. Watson.
*Kane, B. ....	.....	Brennan, M. ....	Mr. Nelson.
*Kimmister, D. ....	Mr. Sleath.	Atkinson, M. ....	Mr. Carruthers.
Keens, J. ....	.....		

(9.)

Names of workmen employed on No. 9 section Telephone Tunnels, and whom recommended by.

Names of Men.	Recommended by—	Names of Men—	Recommended by—
Adness, J. ....	Mr. Dacey.	*King, J. ....	P.M.G.
*Aspinall, J. ....	.....	Lanigan, T. ....	Mr. Nelson and Mr. Dacey.
*Aspinall, A. ....	.....	*Lahiff, J. ....	.....
*Andrews, W. ....	.....	*Lee, T. ....	.....
Adams, M. ....	J. S. Hawthorne.	†*Lymer, W. ....	.....
Bills, W. ....	Mr. Lorking; P.M.G.	*Lewis, A. ....	.....
*Bryer, A. ....	.....	Lewis, M. ....	.....
*Bryer, W. ....	.....	*Locke, A. ....	.....
*Brown, J. ....	.....	Marsh, J. ....	Mr. Dacey; P.M.G.
*Butler, J. ....	.....	*Martin, J. ....	.....
Butler, M. ....	Mr. Dacey.	Martin, H. ....	.....
Bourke, M. ....	Mr. Holman.	Moss, P. ....	P.M.G.
Barnett, F. ....	Mr. Lorking; P.M.G.	*Montgomery, C. ....	.....
Bowman, W. ....	P.M.G.-S.	Murphy, M. ....	.....
Brown, E. ....	.....	Monk, J. ....	P.M.G.
Byrnes, M. ....	Mayor (City).	*Mitchell, F. ....	.....
*Blackwin, C. ....	.....	Martin, W. ....	P.M.G.
Brennan, W. ....	Mr. Nelson.	Mills, H. ....	"
Bavister, T. ....	Several.	Merriman, W. ....	"
Baldwin, J. ....	Mr. Maloney.	Maloney, J. ....	.....
*Casburn, F. ....	.....	Millar, W. ....	Mr. Lorking.
Cooney, D. ....	Mr. Schey.	Moss, J. ....	Mr. Lorking; P.M.G.
*Crick, P. ....	.....	Morton, S. ....	.....
Costello, M. ....	P.M.G.	Martin, S. ....	.....
*Cousins, W. ....	.....	†*Nash, G. ....	.....
Cassidy, T. ....	P.M.G.	*Nolan, F. ....	.....
*Cranston, W. ....	.....	*Neilsen, J. ....	.....
Carney, J. ....	.....	Newman, .....	.....
Clark, W. ....	.....	†*Oliphant, T. ....	.....
*Cochran, J. ....	.....	O'Brien, P. ....	.....
Cahill, W. ....	Mr. Dick.	Pettit, G. ....	P.M.G.
Costello, J. ....	Mr. Chapman.	Pendlebury, J. ....	W. Stone; P.M.G.
Dacom, J. ....	P.M.G.	Power, M. ....	.....
Donald, W. ....	.....	*Powell, C. ....	.....
†*Dickson, J. ....	.....	Pratt, J. ....	.....
†*Dickson, A. ....	.....	*Reilly, J. ....	.....
*Digby, G. ....	.....	*Riley, J. H. ....	Mr. Dacey; P.M.G.
Dunn, T. ....	.....	Rogers, T. ....	.....
†Davies, W. ....	Mr. Cook.	Rose, T. ....	Mr. Cotton.
Duff, C. ....	.....	Ryan, J. ....	P.M.G.
Delofski, F. ....	Mr. Hawthorne and Mr. Cook.	Ryan, W. ....	.....
Day, H. ....	Mr. Molesworth.	*Stowel, H. ....	.....
*Evers, J. ....	.....	*Stoction, J. ....	.....
England, R. ....	P.M.G.	Stork, R. ....	Mr. Walker.
English, J. ....	Mr. McLean.	Spanswick, W. ....	.....
Ryles, R. ....	.....	Stratton, J. ....	P.M.G.
Eggleton, W. ....	Mr. Copeland.	*Tolly, W. ....	.....
Carley, R. ....	"	Saunders, E. ....	P.M.G.
*Fahey, T. ....	.....	†*Thomborough, E. ....	.....
*Flannery, D. ....	.....	*Thompson, R. ....	.....
Fitzgerald, J. ....	Mayor (City); P.M.G.	*Urquhart, W. ....	.....
Fitzsimmons, J. ....	W. W. Davis.	*Whitfield, T. ....	.....
Gaitgood, W. ....	.....	*Whitfield, P. ....	.....
Gleeson, H. ....	Mr. Holman.	*Walker, A. ....	.....
Gleeson, T. ....	Mr. Dacey.	Wallace, P. ....	.....
Griffiths, T. ....	Premier.	Walker, R. ....	.....
Gower, J. ....	.....	†*Williams, D. ....	.....
Gallagher, M. ....	Mayor (City).	Walsh, M. ....	Mr. McFarlane; T. F. Murray.
*Henderson, F. ....	.....	*Worboys, J. ....	.....
Higgins, J. ....	.....	Wadsworth, H. ....	.....
*Hill, W. ....	.....	Woodward, J. ....	Mr. Lorking; P.M.G.
Hogan, P. ....	Dr. Graham.	Wood, A. ....	.....
*Hennebury, W. ....	.....	Walsh, M. ....	.....
Hall, W. ....	Mr. Edden.	*Le Bros, C. ....	.....
*Holt, G. ....	.....	McGrane, J. ....	P.M.G.
Hobbs, T. ....	P.M.G.	McBean, A. ....	"
Huie, R. ....	Mr. Holman.	McGuire, J. ....	"
Haynes, T. ....	.....	McGregor, M. C. ....	.....
Hogan, L. ....	Mr. Copeland.	McCotter, T. ....	.....
Hoolahan, P. ....	Mr. Cook.	McGrath, P. ....	.....
Hurley, M. ....	.....	McGuire, P. ....	P.M.G.
Heasman, J. ....	P.M.G.	McQuinn, J. ....	Mr. McGowen.
Jeffs, E. ....	.....	McDonough, J. ....	Mr. W. H. Slee; P.M.G.
Jephson, J. ....	Mr. McGowen.	McClink, —	.....
*Jones, D. ....	.....	McGuire, G., horse	P.M.G.
*Jones, G. ....	.....	and cart.	.....
*James, G. ....	.....	Hogan, Ths. ....	Mr. Nelson, M.P.
Kitt, J. ....	Mr. Lorking.	Atkinson, —	Mr. McGowen, also Mr. Car-
*Kershaw, T. ....	.....		ruthers.
*King, W. ....	.....		



For the Postmaster-General's information. This list should not be recorded or made official, as it would then have to go to the Public Service Board, and these become appointments under the Board, out of our control. At present they are temporary, and unrecorded. The Clerk of Works must have a free hand to deal with the men, otherwise he has no control, and they will become unmanageable.—P.B.W., 27/2/99.

## No. 15.

The Clerk of Works to The Deputy Postmaster-General.

Sir,

Martin-place, 30 March, 1899.

I am arranging to-day to communicate with first fifty men on list to be employed, asking them to attend at this office, Tuesday, at 7.30 to 8 a.m., with a view to those whose occupation corresponds with that of the men discharged filling such vacancies.

And I further propose to notify as many as can be started on section 12, as directed.

Yours, &amp;c.,

THOMAS BAVISTER.

Why only 50 when instructions were given for 115?

Because 79 had worked less than two months, which the Hon. P.M.G. made one condition.—T. BAVISTER, 4/4/99.

Those men whose names were specially taken for the new section must go on first. The 115 whom I marked to take the places of men put off must be kept on the old sections until completion.—V.P. Mr. Bavister. P.B.W., 4/4/99.

These fifty, as note states, were to fill places vacated on Wednesday last on sections 9 and 10. Next paragraph states, "And I further propose to notify as many as can be started on section 12, as directed." The only special list of men to be employed which has yet reached me is a list of typed names with No. 2 written in red ink on head of first sheet, commencing:—5. Michael Lee, Church-street, Camperdown, and closing, on fourth sheet, with 325, W. Baxter, Steam-mill-street, City.—THOMAS BAVISTER, 11.50 a.m., 4/4/99.

Very few of the 115 or 140 can be found room for on either sections 9 or 10, as these sections have now been opened up to within a few yards of their termination.—T.B., 4/4/99. Then none of the old hands now working on completing sections are to go on the new one, No. 12.—V.P. THOMAS BAVISTER, 7/4/99.

## No. 16.

J. C. Watson, Esq., M.P., to The Deputy Postmaster-General.

Dear Sir,

Parliament House, 29 March, 1899.

The bearer is Mr. J. M. Toomey, about whom Mr. Watkins and myself spoke to you last night.

Yours &amp;c.

J. CHRIS. WATSON.

Postmaster-General says put him on as foreman on No. 12 section, at 10s. a day.—S.H.L., 30. Mr. Bavister.—P.B.W., 30. THOMAS BAVISTER, 30/3/99. W.J.S., 14/4/99. Returned with statement for Postmaster-General's notice.—T.B.

## No. 17.

The Clerk of Works to The Deputy Postmaster-General.

Sir,

Tunnel Office, Martin-place, 30 March, 1899.

In connection with the appointment of J. M. Toomey, as foreman on section 12, I desire to submit the following for the Hon. Postmaster-General's consideration:—Section 12 is in one of the busiest positions of the city, and from the narrowness of the street and pathway, and the fall that many of the buildings (close to and below the foundations of which this work passes) are very old and insecure, and that some of the most difficult ground to work in will almost certainly be met with. For these reasons the foreman on that section, 12, should of had experience on such work as well as ability.

Therefore, I respectfully suggest that W. Tolly—whose ability, care, and judgment have been proved on this work—be put on section 12 for the reasons stated.

Section 9 is through the most difficult and dangerous part; the position yet to be done being in good ground, in fairly wide streets, with very little building near line of work.

There are a few good men on this section who know their work, and, in my opinion, it would be better, both for the Department and also for Mr. Toomey, that he took Mr. Tolly's place on section 9.

Yours, &amp;c.,

THOMAS BAVISTER.

Urgent.—P.B.W. Submitted.—S.H.L., 4/4/99.

It is only necessary for a good foreman to be over the men, and new men can work as well on such work as others. I approve of Mr. Tolly taking charge, but entirely new men, as repeatedly directed by me, must be put on this section.—V.P., 6/5/99. THOMAS BAVISTER, 7/4/99.

## No. 18.

J. C. Watson, Esq., M.P., to The Postmaster-General.

Dear Sir,

Parliament House, 5 April, 1899.

The bearer, George Orton, was recommended by me for employment some weeks ago, and yesterday morning he was informed that he could start this morning. However, on turning up he was told that there was no room, and no prospect of it. The poor chap was so jubilant yesterday at the prospect of starting work that to-day I felt quite sorry for him in his disappointment.

Therefore, if there is still a chance of employment for a modern Hercules, I should be glad if Orton can get a chance.

Yours, &amp;c.,

J. CHRIS. WATSON.

Orton

Orton is one of the men employed at 7.30 a.m., Tuesday, 4/4/99, but whom P.M.G. directed must stand aside for the special list made out at 12.30 p.m. same day, 4/4/99.—THOMAS BAVISTER, 7/4/99. G. Orton to go on; also find room for McSweeney and Toohey, whom I placed upon the list of 115, and who have not yet found work.—V.P., 7. Mr. Bavister for initials and date of commencement of these men, 9/4/99.—W.W. Orton started 10/4/99. Ward will be written to to-day, 10/4/99. Toohey no address.—T. BAVISTER, 10/4/99. Third name not on list. No address for him.—T.B.

## No. 19.

## The Clerk of Works to The Deputy Postmaster-General.

Sir,

Martin-place, 5 April, 1899.

Smith's help.

The smith's helper at Circular Quay yard, H. Stowell, has been kept on after expiry of two months' work in consequence of the smith being exceptionally busy with tool-making and renewals on section 9, and for starting section 12, and no smith's help or striker being among the men sanctioned for employment, discharging Stowell would have practically stopped the blacksmith. James Murphy, one of the men whom the Hon. Postmaster-General names specially to be employed on section 12, says he is able to act as smith's help. Would it be well, and will Postmaster-General sanction this man being sent from No. 12 to the blacksmith's shop for smith's report, Stowell being retained till such report be submitted?—[Yes.—V.P., 6.]

Carpenter.

No carpenter (rough carpenter and timberer) having appeared among those written to, and being compelled to have such a man for fencing in at Liverpool-street, on section 12, I had to take Waters from section 10.

Such a man will be necessary for section 12. May this man be retained for that position?—[Yes.—V.P., 6.]

Yours, &amp;c.,

THOMAS BAVISTER.

Owing to loss of time for weather and holidays, no men of the 115 have completed the two months' period stated by P.M.G.—T.B., 5/4/99.

THOMAS BAVISTER, 7/4/99.

## No. 20.

## Memo.

JOHN WARD, 36, Wells-street (West), Redfern.—P.M.G. says this man is to be put on in place of (H. Wood, 106 on list) ticked on list by Mr. Parkes. Wood has since obtained work elsewhere (on Railways), 6/4/99. (Delivered at Clerk of Works Office after 4 p.m., 7/4/99.—T.B.)

Put Ward on in place of Wood.—V.P. Will Accountant recognise this as sufficient authority on which to pay wages? Are foot-note and mark by the Hon. P.M.G.?—THOMAS BAVISTER, 7/4/99. Yes.—P.B.W., 10/4/99. THOMAS BAVISTER, 10/4/99. Acct.—W.J.S., 14/4/99.

## No. 21.

## J. S. T. McGowen, Esq., M.P., to The Deputy Postmaster-General.

Dear Sir,

7 April, 1899.

The bearer is the person I spoke to the Postmaster-General about yesterday, and he promised (the Postmaster-General) to put this man on, with his tip-cart and horse, at the telephone tunnels, telling me to send the man to you.

R. Bedford is the owner of cart, but his brother, I see, is the driver.

Yours, &amp;c.,

JAS. S. MCGOWEN, Redfern.

Bedford, with tip-dray, to go on this new 12 section.—J. S. T. MCGOWEN. Put him on.—V.P. 7/4/99. THOMAS BAVISTER, 7/4/99. W.J.S., 14/4/99. W.W.

## No. 22.

## Memorandum by Clerk of Works.

Name.	Recommended by—	Taken on.
Eggleton, R. ....	.....	20th February, 1899.
McGuire, — .....	.....	4th January, "
Gallagher, J. ....	Hon. J. H. Carruthers, M.P. ....	10th February, "
McQuinn, — .....	.....	10th " "
Haynes, — .....	.....	14th " "
Stratton, — .....	.....	23rd " "
King, J. ....	.....	6th " "
Marsh, J. ....	.....	20th December, 1898.
Walsh, J. ....	J. S. T. McGowen, M.P. ....	13th January, 1899.

I can find no indication that either of these were recommended by Hon. J. H. Carruthers, M.P., or J. S. T. McGowen, M.P.—THOMAS BAVISTER, 8/4/99.

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## TELEPHONE EXCHANGE.

(STATEMENT RESPECTING, AND ARRANGEMENTS IN CONNECTION THEREWITH.)

*Printed under No. 13 Report from Printing Committee, 12 December, 1899.*

As some considerable misapprehension appears to exist in the public mind in regard to the Telephone Exchange and the working of the telephone system, as well as the arrangements in connection therewith, I think it desirable that some statement should be made in regard to the difficulties we have had to contend with in connection with procuring an additional switchboard to provide sufficient accommodation to meet public requirements.

It will be seen that on the 15th June, 1897, I minuted as follows:—

The present very large increase in the suburban telephone business is causing me some anxiety, because of the absolute necessity for altering the method of working, which is usually done by connecting the outward trunk lines direct with the ordinary sections of the multiple switchboard at the Central Exchange, instead of through the Branch Exchange boards.

Recently I altered the old system and adopted the one indicated above, which has greatly assisted the means of communication between subscribers in the city and suburbs, but in doing this it has been necessary to utilise 100 of the general jacks on each section of the multiple board, so that at present we are left with only 215 spare numbers on the board available for general purposes; and these, at the rate we are now going, will only last till about the end of October next—*i.e.*, if new subscribers keep coming on at the present rate.

I therefore think that the best way to meet this is to provide 1,800 more multiple spring jacks at the same price as the last (1s. 10 $\frac{1}{2}$ d.), if they can be obtained from Mr. Kingsbury, and these should be ordered without delay. If this be done it will then leave us in a position to provide for 100 additional subscribers, by setting free the jacks now used for the trunk lines, and will enable us to work the present switchboard up to its full capacity of 400 numbers, which I consider will keep us going for about eight (8) months.

It will be necessary, however, to take steps to provide for an entirely new switchboard of the latest pattern, fitted with metallic circuits.

I attach a photograph of one of the latest boards which has been erected at the Rue Gutenberg, Paris, in 1896. This is the class of board we require.

I therefore think that Mr. Kingsbury should be asked to give us the price for this particular board, so that we may consider what steps to take in regard to providing for the metallic circuits.

I think myself, from inquiries made, that the board would cost somewhere about £16,000 or £17,000, but before it can be erected it will be necessary to have a proper building fitted for the purpose, and the Government Architect should be asked to push matters on in reference to my recommendation as regards the mansard roof over the present Telephone Exchange, otherwise we shall be run into considerable difficulty in the course of the next eight or nine months.

Of course, I am looking ahead, and it is a matter of anxious thought to me in dealing with a large business such as this is, to have everything in readiness to provide for the growth thereof.

I therefore urge that these matters be given immediate consideration, so as not to delay operations; and I recommend that steps be at once taken to obtain the jacks, the particulars of the Western Electric board from Mr. Kingsbury as well as that the Government Architect be pressed to push on matters in regard to the arrangement for the proper space.

This minute was approved of only so far as the jacks were concerned, and the Works Department was written to in reference to the suggestions for the mansard roof; but no other action was taken in reference to the switchboard until a further minute from me on the 28th July was written, calling attention to a letter from Messrs. Kingsbury & Co. offering to supply a switchboard of 4,000 subscribers, with a capacity for 6,000, and including toll and branch line boards for 200 lines, together with testing boards, distributing boards, &c., complete, and stating that they were prepared to import two experts from the factory to superintend the erection of the board, for the sum of £14,950 inclusive.

At the same time I called attention to the fact the Messrs. L. M. Ericsson & Co., of Stockholm, and the Antwerp Company of Antwerp, Belgium, were also large manufacturers who could produce switchboards; and I thought it would be prudent to ask the agents of these companies to give prices for the work before deciding what should be done.

On 31st July, 1897, it was approved that tenders be invited, and on the 4th August, 1897, the *Gazette* notice was prepared, tenders to open on the 16th August, 1897. In the specification the following paragraph was inserted:—“The tenderer is to include in his tender the amount of all patent rights and royalties which may be claimed by any patentee or patentees for the manufacture and use of any portion of the articles, and must undertake to liquidate the same when required to do so.”

I then minuted:

It is absolutely necessary that we should have the board with all possible despatch, and to postpone it for one month would plunge us into difficulty, as every week is of moment.

This minute was made on the application of Messrs. Webendorfer Bros. for an extension of time for tenders.

Four tenders were received, as per schedule, and opened by the Tender Board, and these were forwarded to me for report on the 16th August.

On the 20th August, 1897, I reported upon the tenders as follows :—

The tenders in connection with the supply and erection of a metallic circuit branching system multiple telephone switchboard, to accommodate 4,000 subscribers, with a capacity for 6,000, are in the following order :—

	£	s.	d.
Messrs. L. M. Ericsson & Co. (Stockholm), 4,200 numbers .....	10,920	0	0
G. Gulliver & Co. (Melbourne) .....	14,513	10	0
H. H. Kingsbury & Co. .....	15,450	0	0

The last named firm have also put in a number of alternative tenders, varying from £12,480 to £14,950, but as these are below the numbers required in some cases, and for a much longer period than we could wait, I do not think they are desirable tenders to entertain. I also consider it undesirable to consider Messrs. Gulliver & Co.'s tender under any circumstances, as the sureties in this case are Messrs. Draper & Co., who had a recent action with Mr. Kingsbury in connection with their patent rights, and cost the Department a considerable amount of inconvenience and trouble through the manner in which they carried out their contract for this work.

The matter seems, therefore, to rest between the first and third tenders, and as Messrs. Ericsson and Co. are the lowest, being a first-class firm, if they can satisfy the Department that there are no patent rights relating to this metallic switchboard likely to be affected, then their tender is worthy of consideration. On the other hand, if Messrs. Kingsbury & Co. have the patent rights, and they can prove that their single wire jack and plug are identical with the metallic jack and plug, and accomplish one and the same object, then their tender should be considered.

The minute further suggests that it is a matter of law, and concludes by pointing out that it should be referred to the Crown Solicitor, and if he thinks the Department could safely accept the tender of a solid firm, such as Messrs. Ericsson & Co., it appeared to be a most desirable one, as it was £4,500 less than Kingsbury & Co.'s.

This minute was referred to the Crown Solicitor on the same date (20th August, 1897), but no decision was arrived at by the Attorney-General until the 8th November, when the Hon. J. H. Want wrote as follows :—

This is hardly a case for a legal opinion, but as my honorable colleague has referred the matter to me, and a certain action might involve litigation, I have considered the question.

Though there may be some doubt whether Kingsbury's patent rights would be legally infringed (a matter which could only be definitely decided by the Court), morally there is clearly an infringement of the patent, and I do not think the Crown ought to place itself in the position of having such a charge levelled against it.

On 27th September, 1897, an application was made by Mr. C. A. Falstedt to know whether any other tenders than Messrs. Ericsson had been received for the supply of the switchboard, or whether the matter had been postponed; upon which the Minister minuted: "I was under the impression we had declined the whole of the tenders. This had better be done until we have decided the matter of patent rights."

This was accordingly done on the 28th September, 1897.

Considerable correspondence then took place upon different subjects relating to the board and the building to accommodate it, and the matter was hung up until 2nd December, 1897, when the Minister asked the question if the board could not be installed until the building additions were made—a period of probably eighteen months; upon which I replied (on 3rd December, 1897) that the board certainly could not be put up until the alterations were completed, and that I understood from Mr. Vernon and Mr. Cook—of the Architect's Department—the time would be over twelve months.

The Minister asked (on the 7th December, 1897) why tenders were called, to which the following reply was made :—

The alterations to the building were under consideration by the Architect's Department in March, and it was understood at that time that they would be completed in about nine months. It was, therefore, necessary that forethought should be exercised to have the board here in time for the new building, and accordingly the calling for tenders was approved.

On the 9th December, 1897, a further letter was written to the Crown Solicitor in regard to Kingsbury & Co.'s patent rights.

On the 4th January, 1898, Messrs. Kingsbury & Co. reopened the question by submitting a further offer for consideration, and this offer was accepted in a modified form, Messrs. Kingsbury & Co. agreeing to accept £12,500 for the board complete, by further tender, dated 25th January, 1898.

The whole of the contract arrangements were not completed by Messrs. Kingsbury & Co. until the 30th April, 1898; so that the delay of nearly ten months from the time of the recommendation of the tenders to the acceptance of the contract was caused thereby; consequently the Department lost all this valuable time in arranging the contract, which should have been settled some six months previously, owing to the difficulty arising about the patent rights.

Messrs. Kingsbury & Co.'s contract was accepted, and they agreed to supply the board within nine months from the date of the acceptance of the contract. Their contract for the first portion of the board terminated on the 28th February, 1899, and for the second portion on the 30th April, 1899; but prior to the completion of the contract Messrs. Kingsbury & Co. became involved in difficulties, and as they were not proceeding with the contract in a satisfactory manner, the late Postmaster-General considered it advisable to enter into a fresh contract with the Western Electric Company, represented by Mr. Williamson. The contract was accordingly transferred to the Western Electric Company, a deposit of £1,250 being made to the Department.

This contract is now being carried out; but in consequence of the delays in the original contract, and the difficulties in regard to the building, the whole department of the Telephone Exchange has been thrown into confusion, and considerable difficulty has had to be contended with.

This, to a certain extent, explains what has caused the difficulty in working the Telephone Exchange.

Of course, the Department has to put up with delays owing to the difficulty in regard to the switchboard, because the present board, being full, is not able to accommodate any fresh trunk lines; and until trunk lines are provided, and proper accommodation on the new board is available, the public will be considerably inconvenienced, and delays must arise which are unavoidable.

In regard to the annoyance complained of by Mr. Hughes in the House, I might remark that we have no record of any complaint from Mr. Hughes; and if he was kept waiting for twenty-six minutes he should have followed the directions laid down in the Telephone Book and communicated with the Manager, when he would have had an explanation at once.

Of

Of course, his idea that when he requested the operator to put him in communication with the Manager, the "telephone engaged" difficulty vanished immediately, is one that might have existed; but there is no record of any complaint of the kind, and it is impossible for us to trace it. At the same time, I would point out that it is just possible that the line became free at the particular moment when he put this question to the operator.

At the present time the Telephone Exchange in the Head Office is doing 100,000 calls per day, and I think that this is a sufficient answer to any question as regards delays; because it is evident that when a huge business of this kind is being carried on we must have some persons grumbling about want of attention. Most of the telephone people seem to think that they should have trunk lines for their own special benefit, and that whenever they ring up everybody else using the telephone should immediately give way to them; and the operators are so fully occupied that there is no possibility of their explaining, nor are they allowed to offer any explanation. When a subscriber calls, they are only allowed to give the word "engaged," which represents that the trunk line which the subscriber requires is engaged, or else the subscriber that is required is "engaged" on another circuit, over which, of course, the Department has no control.

In conclusion, I might add that the Honorable J. H. Want, unsolicited, yesterday forwarded the following testimony in connection with the Telephone Exchange, namely:—

I see they are making complaints about your telephone service. I have just seen the service as carried out in the United Kingdom and Europe, and have no hesitation in saying we are enormously ahead of any and all of them, and the difficulties experienced there are absent here.

P. B. WALKER,  
Chief Electrician and Engineer-in-Chief.

24th November, 1899.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## ELEVENTH REPORT

OF THE

METROPOLITAN BOARD OF WATER SUPPLY  
AND SEWERAGE,

From 1 July, 1898, to 30 June, 1899.

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*Printed under No. 15 Report from Printing Committee, 21 December, 1899.*

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1899.  
(THIRD SESSION.)

NEW SOUTH WALES.

## METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE.

(ELEVENTH REPORT, FROM 1 JULY, 1898, TO 30 JUNE, 1899.)

6 September, 1899.

To the Honorable the Secretary for Public Works,—

Sir,

The Board of Water Supply and Sewerage have the honor to submit to you their Eleventh Report, embracing the period from 1 July, 1898, to 30 June, 1899.

### WATER SUPPLY.

2. The average daily consumption of water per head of estimated population supplied, was 41·72 gallons, as against 42 gallons during the year 1897–8. The average daily supply was 18,794,920 gallons, and the estimated population supplied 450,483.

3. During the year 2,856 houses were connected to the water supply, making a total at present supplied of 92,370 houses. The total number of properties, including vacant land, liable for water rates is 115,556.

4. The total length of trunk and reticulation mains laid was 36 miles, 655 yards; and 17 miles, 744 yards were cleaned. Of the mains laid, a distance of 4,869 yards was of 36 inches diameter, and 780 yards of 30 inches diameter. Thirty-five screw-down and 519 ball hydrants were fixed. The total length of water-mains, exclusive of trunk mains, now under the Board's control, is 1,098·96 miles, with 1,893 screw-down and 19,259 ball hydrants.

5. During the month of September, a careful inspection was made by the Medical Officer and the Secretary of all the holdings situated on the northern and eastern portions of the catchment area, which has since resulted in considerable improvements in the sanitary condition of the settler's homesteads.

These holdings consist chiefly of lands alienated by the Crown many years ago, prior to the proclamation of the catchment area of the Sydney water supply. At the request of the Board, both the Lands and Mines Departments have agreed to refuse all applications for further alienations or mining leases, or at least to refer them first to the Board for an expression of opinion before dealing with the same.

To resume or acquire for the purpose of laying waste and removing all settlement therefrom, the alienated portions of the area, which is no doubt the most desirable course, would prove too costly an undertaking to warrant its consideration at the present time; but no doubt this desideratum will be kept in view. In the meantime, the next best course is being followed, viz., a rigid and continual inspection by reliable rangers, of all settlements and stock situated on the watershed.

As a further means of safeguarding the purity of the supply, arrangements have been made, by the erection of fencing, for excluding all stock from the watershed of the storage reservoir at Prospect. Although this action will result in a substantial pecuniary loss in the shape of agistment fees, it is considered far preferable to endeavour to preserve this area absolutely free from any possible pollution.

6. The canal, tunnels, aqueducts, &c., above Prospect have been maintained in a satisfactory condition, no important work beyond ordinary maintenance having been carried out, with the exception of the extension of the work of strengthening and lining the canal at No. 10 section, which is in pursuance of the policy already determined upon of carrying out a portion of this work every year, until the whole of the doubtful places have been dealt with.

7. The duplicate telephone line along the whole length of the canal, referred to in last report as in progress, has been completed, and is working well; most of the maintenance men's cottages are connected.

8. Owing to the abnormally dry period recently passed through, the level of the water in the storage reservoir at Prospect fell to 182.75 feet, or 12.25 feet below the old top water level, which was lower than the water had ever been since the reservoir was first filled. Although the whole of the water flowing down the three rivers was being taken, the quantity did not aggregate for some time more than 339,000 gallons per day, whilst the discharge from the reservoir was 23,000,000 gallons per day.

9. The experience of last year forces upon the Board the question of providing, in the not very distant future, further facilities for the storage of additional water, and the rangers have been instructed to report as to any suitable sites for constructing weirs for impounding water in the upper reaches of the rivers forming the source of supply.

In the meantime, the action taken by the Board in raising the puddle-core and by-wash at Prospect Reservoir, will result in considerably increasing the quantity stored therein.

10. As a result of the depletion of the reservoir, a settlement took place on the inner slope of the embankment at transverse section 44, which was immediately attended to by removing the top weight and loading the toe with blue-metal ballast from the quarry close by.

11. Other works at Prospect are in good order, additional trees have been planted, and fences erected to keep cattle off the water-shed.

12. The canal between the Prospect Reservoir and the Pipe Head Basin has been cleaned out, and repairs effected where required. Steps will be taken to clean out the existing 72-inch main as soon as the duplicate main now nearing completion is handed over to the Board.

13. The Reservoir and Screening Chamber at Pott's Hill have been maintained in an efficient condition.

14. Improvements in existing water supplies in the following districts have been completed:—Darlinghurst Heights and Princes (City), Auburn, Beecroft, Canterbury, Mosman, North Sydney, and Randwick.

Similar works are in progress, and will be completed before the coming summer sets in, at the Glebe, Balmain, Petersham and Ashfield.

15. The number of water meters fixed during the year was 1,523, 569 were removed, the net increase being 954. The total number now fixed is 8,498.

One thousand four hundred and thirty-nine meters of various sizes were issued on the hire system, the total number now in operation under this system being 4,138.

16. 72,102 water fittings of various kinds were tested at the Board's shops at Crown-street, Reservoir, of which 69,160 were passed and stamped, 2,860 returned as defective, and only 82 were rejected. This shows that the manufacturers and importers are fully alive to the necessity for submitting only first-class articles for test.

17. The pumping plants at the different stations have received the usual attention and are working efficiently. The cost of pumping 1,000 gallons 100 feet high, as compared with former years, was as follows:—

	1890.	1891.	1892.	1893.	1894.	1895-6.	1896-7.	1897-8.	1898-9.
	d.	d.	d.	d.	d.	d.	d.	d.	d.
Crown-street ... ..	·75	·70	·48	·32	·35	·347	·345	·387	·339
Ryde ... ..	...	...	...	...	...	·324	·312	·422	·373
Chatswood ... ..	...	...	...	...	...	...	1·025	·805	·615
Carlton ... ..	...	...	...	...	...	...	·984	1·149	·844
Richmond ... ..	...	...	...	...	...	...	1·452	1·788	1·308

18. The quantity of water pumped within the Metropolitan area was 3,766,417,776 gallons, being an increase of 518,116,787 gallons, and representing 54·9 per cent. of the total discharge from Prospect.

19. The new high-level reservoir in the Centennial Park has been completed, and handed over to the control of the Board, and is now in use.

20. The necessary Enabling Bill having been passed by the Legislature for the supply of water to the town of Camden, the works were at once put in hand, and consist of a concrete tank alongside the canal near Kenny Hill, and an 8-inch steel riveted main thence to Camden, with a branch *en route* to supply the requirements of the village of Narellan. Most of this work has been completed, and it is hoped that everything, including the reticulation mains, will be in readiness before the approaching hot weather arrives.

21. The works in connection with the water supply to the following country towns are giving every satisfaction:—Liverpool, Campbelltown, Smithfield, and Richmond.

22. During the year active measures were taken for the disposal by lease of a number of blocks of surplus land. Some have already been dealt with at satisfactory figures, and others, including the now disused Paddington Reservoir, are about to be submitted to public competition.

When all are disposed of it is expected that a substantial addition to the revenue will annually accrue.

23. Two additional blocks of land forming portion of the old Water reserve at Botany have been leased for woolscouring and fellmongering purposes, and the period of lease of two of the original lessees of other portions has been extended five years.

24. The system adopted by the Board of having a monthly analysis of the water made has been continued and indeed extended, so as to include samples from country towns, and notwithstanding the low level of the water in the storage reservoir during a portion of the year, the results proved eminently satisfactory.

A tabulated return of the results as reported by Mr. William M. Hamlet, Government Analyst, is appended hereto, and the Board desire to place on record their thanks and indebtedness to Dr. Ashburton Thompson, Chief Medical Officer, and President of the Board of Health, for the facilities afforded.

#### SEWERAGE.

25. During the year 8·80 miles of sewers were transferred from the Government to the control of the Board, and 59·96 miles of reticulation-sewers were constructed by the Board. The total length of sewers under the jurisdiction of the Board is 389·01 miles.

In addition to the foregoing, 1·637 miles of stormwater ducts were vested in the Board, making the total length of these channels now maintained by the Board 22·308 miles.

26. The number of houses connected to the sewers during the year was—in the city, 400; and suburbs, 6,895. The total number now connected is 58,720, representing a population of 281,856.

This record exceeds that of any previous year since the inception of the Board. The greatest activity was displayed in the Western Suburbs, North Sydney, and Balmain.

27. The whole of the main outfalls and reticulation-sewers have been maintained in an efficient condition.

28. The total quantity of silt removed from the sewers was 4,208 tons, 2,900 tons being taken from the sewers of the old system, 785 tons from Bondi, 463 tons from Botany, and 60 tons from the Macdonaldtown branch sewer.

The quantity of sand lifted from the various stormwater channels was 3,885 tons.

29. The quantity of sewage lifted into the Botany outfall sewer by the Shone's ejector plant at Alexandria was 133,630,000 gallons, or a daily average of 367,115 gallons. This plant is working well, and giving every satisfaction.



30. The pumping-plant in connection with the Double Bay low-level system of sewerage has now been handed over to the Board. This plant, although also on the Shone system, is somewhat different to that at Alexandria, being actuated by electrical power obtained from the Tramway Power House at Rushcutters' Bay. Although there has been some delay in transferring this plant to the Board, the residents have not been debarred from obtaining the benefits of proper drainage, as the sewers were made available for house connections some months ago, and it is hoped that within two or three months there will be very few houses in this district unprovided with modern systems of drainage.

31. A considerable expenditure has been incurred in laying down reticulation sewers for the drainage of premises on the eastern slopes of Waverley and Bondi; but owing to an accident on the main works, which the Sewerage Construction Branch of the Public Works Department have in hand, the Board are as yet unable to charge a sewerage rate on the premises concerned, although the residents are being permitted to connect, and are daily availing themselves of the privilege, so as to obtain the benefits of the same during the coming summer.

32. The average daily flow of sewage on to the farm was, at Botany, 2,376,000 gallons, as against 2,675,000 during the previous year, and the average daily flow on to the Rockdale end was 1,750,000 gallons.

33. Additional filter-beds have been prepared, and drained, for the reception of sewage at the Botany end of the farm, and the cultivation-beds are giving good results. Stock-rearing has also proved a profitable venture.

The revenue received from sale of produce, stock, &c., was £197 8s. 6d., as compared with £199 2s. 3d. during the previous year.

34. A good deal of work has also been done at the Rockdale end of the farm in preparing filter-beds, and steps are now being taken to under-drain the same.

Tree-planting on both portions of the farm has been pushed on energetically, and the young plants are doing well.

35. The Board contemplate constructing a biological filter on the farm, for the treatment of sewage by what is known as the Dibden System, and propose, in the first place, to expend the sum of £500 to experiment with the sewage from the Main Southern Outfall, and it is hoped that the application that is now with the Minister, for the necessary authority, will receive favourable consideration.

36. Samples of effluent water from the farm have been regularly analysed by Mr. W. M. Hamlet, and his reports show the results of the filtering to be all that can be desired.

37. The total number of premises connected to the sewers by the Board was 392. Of these, 106 were dealt with under the compulsory clauses of the Act, and 286 under the Deferred Payment System.

38. The number of official certificates issued on completion of plumbing and drainage works, was 3,011.

39. 546 ventilating shafts of various sizes have been erected, the quantity of piping used being 22,410 lineal feet.

40. The total length of sewers now ventilated is 330 miles, and the metal shafts erected, 146,611 lineal feet.

FINANCIAL.

## FINANCIAL.

## WATER SUPPLY.

41. The following table shows the working of the Water Branch :—

Year.	Revenue.	Working Expenses.	Capital Cost.	Capital Cost, excluding item City Council's Water Fund.	Percentage of Working Expenses to Revenue.	Percentage of Working Expenses to Capital Cost.	Percentage of Revenue on Capital Cost.	Interest on Capital Cost after Paying Expenses.
	£	£	£	£				
1888	125,486	19,205*	3,004,557	2,623,837	20·40	0·97	4·78	3·81
1889	138,923	36,568	3,088,068	2,707,500	26·32	1·35	5·13	3·78
1890	145,990	34,788	3,189,080	2,808,412	23·82	1·23	5·19	3·96
1891	165,831	38,291	3,306,649	2,925,987	23·09	1·30	5·66	4·36
1892	155,886	45,078	3,394,581	3,013,919	28·91	1·49	5·17	3·68
1893	157,426	37,141	3,409,731	3,029,059	23·59	1·22	5·19	3·97
1894	161,167	39,274	3,440,614	3,059,957	24·36	1·21	5·26	4·05
1895 for six months.	85,364	19,693	4,078,979	3,698,323	23·06	1·06	4·60	3·54
1895-6	174,357	37,495	4,154,261	3,776,879	21·50	0·99	4·61	3·62
1896-7	175,984	40,821	4,244,550	3,867,168	23·19	1·05	4·55	3·50
1897-8	178,881	45,220	4,327,543	3,950,161	25·27	1·14	4·52	3·38
1898-9	194,332	47,147	4,398,945	4,021,563	24·26	1·17	4·83	3·66

\* For nine months only.

42. The total revenue for the year shows an increase of £15,451 over that of the previous year ; but, notwithstanding the additional mileage of reticulation mains laid, the increase in assessed rates is only £25, proving that the valuations of properties are still on the down grade, but to a much less extent than previously.

43. The additional revenue from meters is responsible for £7,739 of the total increase, while the saving on account of the abolition of the Discount System amounted to £3,275.

44. The working expenses have been increased by the sum of £1,927 ; this is chiefly due to increased pumping, and extension of the meter hire system, the expenses of management being only £141 more than the previous year.

45. The capital cost has increased £71,402, being the value of new works constructed.

46. The revenue was £194,332, and the working expenses £47,147, or 24·26 per cent. of the gross revenue, leaving a net revenue of £147,185, or a return of 3·66 per cent. upon the capital cost.

47. The following tables in connection with the towns of Campbelltown and Liverpool speak for themselves, and call for no particular comment:—

CAMPBELLTOWN WATER SUPPLY.

Year.	—	Annual Instalment required to pay off Cost of Reticulation and Interest thereon in 100 years.	Maintenance (including proportion of Head Office expenses).	Charge for Water supplied from Canal, 32 gallons per head per day at 3d. per 1,000 gals.	Total Charges.	Revenue.
1889	Reticulation, £2,175..... } Population supplied with water, 144..... }	£ s. d. 78 13 0	£ s. d. 129 8 0	£ s. d. 21 0 6	£ s. d. 229 1 6	£ s. d. 128 18 0
1890	Reticulation, £4,353..... } Population supplied with water, 561..... }	157 8 1	222 17 0	81 18 1	462 3 2	345 16 0
1891	Reticulation, £4,433..... } Population supplied with water, 686..... }	160 5 11	234 17 0	100 3 1	495 6 0	408 15 0
1892	Reticulation, £4,433..... } Population supplied with water, 748..... }	160 5 11	222 0 6	109 10 1	491 16 6	357 1 1
1893	Reticulation, £4,454..... } Population supplied with water, 820..... }	161 1 1	168 2 9	119 14 4	448 18 2	401 14 7
1894	Reticulation, £4,457..... } Population supplied with water, 844..... }	161 3 3	171 10 4	123 4 5	455 18 0	398 8 4
1895 (six months.)	Reticulation, £4,457..... } Population supplied with water, 853..... }	80 11 7	79 1 8	62 5 5	221 18 8	191 7 2
1895-6	Reticulation, £4,502..... } Population supplied with water, 877..... }	162 14 4	150 2 3	128 7 10	441 4 5	383 15 0
1896-7	Reticulation, £4,741..... } Population supplied with water, 901..... }	171 8 8	175 4 6	131 10 11	478 4 1	386 17 11
1897-8	Reticulation, £4,741..... } Population supplied with water, 926..... }	171 8 8	176 2 4	135 3 11	482 14 11	400 8 7
1898-9	Reticulation, £4,741..... } Population supplied with water, 926..... }	171 8 8	145 17 11	135 3 11	452 10 6	396 2 6

LIVERPOOL WATER SUPPLY.

Year.	—	Annual Instalment required to pay off Cost of Reticulation and Interest thereon in 100 years.	Maintenance (including proportion of Head Office Expenses).	Charges for Water supplied from Canal, 32 gallons per head per day at 3d. per 1,000 gals.	Total Charges.	Revenue.
1891	Cost of Reticulation, £11,885..... } Population supplied with water, 1,244..... }	£ s. d. 429 15 2	£ s. d. 134 9 8	£ s. d. 181 12 5	£ s. d. 745 17 3	£ s. d. 236 18 3
1892	Reticulation, £12,773..... } Population supplied with water, 1,527..... }	461 17 5	853 6 5	223 11 0	1,538 14 10	1,004 4 4
1893	Reticulation, £12,997..... } Population supplied with water, 1,661..... }	469 19 5	312 15 0	242 10 1	1,025 4 6	956 15 3
1894	Reticulation, £13,120..... } Population supplied with water, 1,857..... }	474 8 4	332 14 3	271 2 5	1,078 5 0	947 8 0
1895 (six months.)	Reticulation, £13,274..... } Population supplied with water, 1,923..... }	240 0 1	157 16 1	140 7 7	538 3 9	473 14 3
1895-6	Reticulation, £13,258..... } Population supplied with water, 2,035..... }	479 2 1	365 11 5	297 18 4	1,142 11 10	983 10 10
1896-7	Reticulation, £13,264..... } Population supplied with water, 2,111..... }	479 12 6	369 16 2	308 4 1	1,157 10 9	906 2 7
1897-8	Reticulation, £13,543..... } Population supplied with water, 2,137..... }	489 14 3	364 1 8	312 0 0	1,165 15 11	924 8 9
1898-9	Reticulation, £13,620..... } Population supplied with water, 2,137..... }	492 10 0	213 16 9	312 0 0	1,018 6 9	840 2 5

48. The financial result of the Richmond Water Supply Works, which are quite distinct from the main scheme, and are simply being managed by the Board on behalf of the Minister, still continues unsatisfactory, for the reasons stated in previous reports, and will remain so until an Amending Bill be passed, properly vesting the scheme in the Board.

The following table gives the necessary particulars :—

**RICHMOND WATER SUPPLY.**  
(Date of Transfer to Board, 26 May, 1893.)

Year.	Capital Cost.	Annual Instalment required to pay off Cost of Works and Interest in 100 years.	Maintenance (including proportion of Head Office Expenses).	Total Charges.	Revenue.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1893 .....	12,340 0 0	446 4 3	314 16 1	761 0 4	399 15 3
1894 .....	12,340 0 0	446 4 3	638 7 10	1,084 12 1	438 18 6
1895 .....	12,352 2 6	223 6 6	178 6 2	401 12 8	337 3 2
(for six months)					
1895-6 .....	12,480 7 0	451 5 9	529 10 1	980 15 10	547 11 11
1896-7 .....	12,637 7 4	456 19 3	383 9 0	840 8 3	658 5 7
1897-8 .....	12,658 11 2	457 14 7	417 13 5	875 8 0	676 19 7
1898-9 .....	12,725 7 2	460 2 8	454 3 0	914 5 8	744 11 10

**SEWERAGE.**

49. The following table shows the working of the Sewerage Branch :—

Year.	Revenue.	Working Expenses.	Capital Cost.	Capital Cost, exclusive of Items on which Interest is not charged.	Percentage of Working Expenses to Revenue.	Percentage of Working Expenses to Capital Cost.	Percentage of Revenue on Capital Cost.	Interest on Capital Cost after paying Expenses.
	£	£	£	£				
1890 .....	81,800	22,249	1,281,045	1,177,614	27.19	1.88	6.94	5.06
1891 .....	81,302	25,411	1,447,287	1,343,856	31.25	1.89	6.05	4.16
1892 .....	87,927	27,305	1,605,948	1,503,517	31.05	1.81	5.84	4.03
1893 .....	93,661	27,092	1,691,462	1,588,031	28.92	1.70	5.89	4.19
1894 .....	93,134	23,053	1,745,120	1,641,689	30.12	1.70	5.67	3.97
1895 .....	43,110	14,250	1,831,611	1,728,180	33.05	1.64	4.98	3.34
(six months)								
1895-6 .....	85,486	30,304	1,892,256	1,788,825	35.44	1.69	4.78	3.09
1896-7 .....	87,652	29,680	2,018,120	1,914,689	33.86	1.55	4.57	3.02
1897-8 .....	89,688	30,564	2,116,306	2,012,875	34.07	1.51	4.45	2.93
1898-9 .....	103,955	32,433	2,699,426	2,426,495	31.19	1.33	4.28	2.94

50. There is an increase of £14,267 in the revenue of this Branch, due to the extension of reticulation sewers to new districts, principally the Western Suburbs and North Sydney.

51. It is satisfactory to note that although the Capital Debt has increased to the extent of £413,620, the working expenses are only £1,869 more.

52. The revenue was £103,955, and the working expenses £32,433, or 31.19 per cent. of the gross revenue, leaving a net revenue of £71,522, or a return of 2.94 per cent. upon the Capital Cost.

WATER

## WATER AND SEWERAGE.

53. The following table shows the working of the two Branches taken together :—

Year.	Revenue.	Working Expenses.	Capital Cost.	Capital Cost, exclusive of Items on which Interest is not charged.	Percentage of Working Expenses to Revenue.	Percentage of Working Expenses to Capital Cost.	Percentage of Revenue on Capital Cost.	Interest on Capital Cost after paying Expenses.
	£	£	£					
1890	227,790	57,037	4,470,125	3,986,026	25·03	1·43	5·71	4·28
1891	247,133	63,702	4,783,936	4,269,843	25·77	1·49	5·78	4·29
1892	243,813	72,388	5,001,529	4,517,436	29·68	1·60	5·39	3·79
1893	251,087	64,233	5,101,183	4,617,090	25·58	1·39	5·43	4·04
1894	254,301	67,327	5,185,734	4,701,646	26·47	1·43	5·40	3·97
1895 (6 months).	128,474	33,943	5,910,590	5,426,503	26·42	1·24	4·72	3·48
1895-6	259,843	67,799	6,046,517	5,565,704	26·09	1·21	4·67	3·46
1896-7	263,637	70,502	6,262,670	5,781,857	26·74	1·21	4·56	3·34
1897-8	268,569	75,784	6,443,849	5,963,036	28·21	1·27	4·50	3·23
1898-9	298,287	79,580	7,098,371	6,448,058	26·67	1·23	4·62	3·39

54. The total revenue was £298,287, and the working expenses £79,580, or 26·67 per cent. of the gross revenue, leaving a net revenue of £218,707, or a return of 3·39 per cent. upon the Capital Cost.

55. In previous years it was customary for the Board to debit itself with interest on the Loan Expenditure at the rate of 3·789 per cent., but this year the calculation has been made at the rate of 3·5 per cent., this being the rate of interest provided for in the financial clauses of the Amending Bill, now in draft. The amount, therefore, required to pay interest, calculated at rates varying from 6 per cent. to 4 per cent. on the Municipal Debentures taken over by the Board, and 3·5 per cent. on moneys provided out of Government Loans, is £222,484 3s. 8d., to which must be added £4,633 1s. 8d. for depreciation in the value of machinery, working plant, buildings, &c., and £79,580 4s. 5d. working expenses, making the total expenses of the Board £306,697 9s. 9d., whilst the revenue actually receivable was £298,287 11s. 6d., leaving a net deficiency on the year's transactions of £8,409 18s. 3d.

56. Although the sum of £298,287 11s. 6d. is the amount actually receivable, it does not represent the total earnings for the year, as the Board still continue to supply free of charge large quantities of both pumped and gravitation water to Public Hospitals and Charitable Institutions, to Municipal Councils for street watering and washing, and for other purposes; and as a considerable expenditure is involved in the performance of this service, it is only equitable, as pointed out in previous reports, that some credit should be taken for the same. If this were done, the deficiency alluded to in the previous paragraph would disappear, and give place to a substantial credit balance.

57. It is feared, however, that this happy state of things will not long continue, as certain very necessary works are either now in progress, or contemplated, which will be the means of considerably increasing the Capital Indebtedness, without augmenting the revenue in any way. The works referred to are the Centennial Park Reservoir, duplicate 72-inch main from Pipe Head Basin to Pott's Hill Reservoir, raising walls of Canal between Prospect Reservoir and Pipe Head Basin, 36-inch trunk main to Western Suburbs, additional work at Embankment, Prospect, lining and strengthening walls of Canal above Prospect, and improvement of Water Supplies generally.

In view of this it therefore became necessary for the Board to consider how the additional revenue to meet requirements could be most equitably obtained, and among other conclusions arrived at was one to recommend that provision be made in the proposed Amending Bill to increase the minimum Water and Sewerage Rates from 10s. to 15s. per annum each.

As this decision has excited unfavourable comment in some quarters, it is deemed advisable to take this opportunity of placing the matter in its true light, and showing that no injustice whatever will be perpetrated by the intended action.

A water-rate cannot, or should not, be looked upon in any sense as a tax; it is simply payment for actual value received, and should be treated in the same way as any tradesman's account. When this is done, it must be admitted at once that, while the better class of properties are fairly charged, those paying only the present minimum rate of 10s. per annum do not contribute a sum at all commensurate with the value they receive.

The present minimum rate of 10s. per annum is equal to a charge of  $\cdot 329$  of a penny per day per house; and, as the average number of inmates per house is five, the charge per inmate per day is  $\cdot 066$  of a penny for an unlimited supply of water brought into the premises. The rate proposed will mean that the charge per house per day will be increased to  $\cdot 49$  of a penny, and the charge per inmate to  $\cdot 098$  of a penny. This surely cannot be looked upon as exorbitant, and certainly would not meet the cost of buckets and ropes if the water had to be obtained from wells on the premises.

Exception has been taken to the step proposed on the grounds that it deals with one class of properties only, and it has been remarked that any increase in rates should be general over the whole; but a general increase of (say) a half-penny, or one penny, in the pound would raise the charges on premises which, it is considered, are paying sufficiently high already, while it would touch but very few of the smaller class now charged the minimum rate; and it is because the latter class are deemed, as already explained, to have been treated too liberally in the past, that the course proposed has been agreed to.

With a view to ascertaining definitely the quantity of water actually consumed on premises paying the present minimum rate, test meters were fixed during last year on the service pipes of eight houses in the city and suburbs, each having five inmates. The result of the tests showed that in a house in Bruce-street, Carlton, the value of water consumed was 18s. 9d. per annum, while the assessed rates paid were 10s. per annum, or an excess of 8s. 9d. At Brown-street, Camperdown, the consumption was £1 6s. 10d., or an excess of 16s. 10d., and at a terrace of six houses in Mew-street, Denison Ward, City, the consumption was £1 5s. 8d. at each house, or an excess of 15s. 8d. each. These

These figures clearly prove the Board's contention, and also show that even if the assessed rate were increased to 15s. per annum, there would still be a loss on such assessments.

The foregoing remarks apply with equal force to a sewerage rate. Where dry earth pans exist at present, no distinction whatever is made by the local municipal councils in the charges for attending to same, properties of a high and low assessment being charged alike, and in few cases is the charge less than 26s. per annum, for a bi-weekly service, while in some boroughs it is considerably more; yet, under the Board, the minimum charge for a complete and modern sanitary system of water carriage sewerage is only 10s. per annum, which charge it is proposed to raise to 15s.

Before the inauguration of the Board the charge made for water by the City Corporation was 5s. per room per annum; but immediately before the works were transferred the rate was reduced to 3s. 6d. per room per annum, and it was customary to charge as a room any portion of a building furnished with a door, while the charge for sewerage was 6d. in the £ on the municipal assessment. Taking, as an example, a house of four rooms, kitchen, and wash-house, let at 10s. per week, the charge under the City Corporation was 21s. per annum, for very often, during the dry summer time, an intermittent supply; while under the Board the charge for a permanent supply is—Assessment, £23, at 7d. in the £ = 13s. 5d. per annum. If the proposal of the Board be adopted, the rates on this house will be raised to 15s., or less than was formerly paid to the City Council.

An impression appears to prevail that the rates on all premises of £25 annual value, and under, will, if the Board's suggestion be carried out, be immediately increased by the sum of 5s. each for water and sewerage; but this is not so. For instance, the increase on a £25 house will only be 6d.; a £24 house, 1s.—£23 = 1s. 8d., £22 = 2s. 2d., £21 = 2s. 10d., £20 = 3s. 4d., £19 = 4s., £18 = 4s. 6d., while it is only on properties of £17 and under that the increase will be 5s.

One great objection raised to the proposal is that the increase being on the smaller properties, the burden will fall principally on the working man; but this view cannot be sustained, as in the city and the districts immediately around the city, very few of the smaller tenements are owned by occupants, but are in the hands of Banks, Societies, Companies, Syndicates, and other large property-holders; but in the more distant or outlying suburbs, where land could be obtained at a lower figure, small allotments have been purchased and dwellings erected thereon by persons of the artizan class. These would come under the minimum rate; but in the great majority of cases it may safely be said that the poor man will not suffer; but even if he did, he is only, as before pointed out, asked to pay a fair and reasonable price, not for a luxury, but for an absolutely indispensable commodity.

The additional revenue which it is estimated would be received is as follows:—

	Water.			Sewer ge.			Total.			
	£	s.	d.	£	s.	d.	£	s.	d.	
City of Sydney ... ..	955	19	0	929	6	2	1,885	5	2	
Suburbs and Country ... ..	5,947	16	6	2,015	5	1	7,963	1	7	
	£	6,903	15	6	2,944	11	3	9,848	6	9

Attached to the report will be found a list of properties in each municipality that will be affected, and to what extent, both as regards Water and Sewerage.



58. During the past dry season the conviction has been forced upon the Board that the revenue received by special fees for the use of water for garden purposes was not commensurate with the value of the water consumed. It was therefore decided that from 1 July, 1899, the supply to gardens having a superficial area exceeding 1,000 square feet, should be by meter; in other words the maximum special fee was fixed at 10s. per annum.

59. A further extension of the meter system has been made in the direction of Dining-rooms, Restaurants, large Boarding Houses, and other business establishments.

The action in both cases is expected to result in a large accession of revenue.

60. The amount of revenue outstanding to 30 June, 1899, was £41,778 9s. 6d., the principal items being:—Meters, representing consumption to 30 June, accounts for which have only just been issued, £20,375; Churches and charities, £9,635; vacant lands, £5,918; and house properties, £3,996.

61. The receipts paid into the Consolidated Revenue, exclusive of Richmond, amounted to £293,580 0s. 6d., as against £272,762 15s. 8d. during the previous year, or an increase of £20,817 4s. 10d.

62. The gross receipts paid into the Treasury since the inception of Board are as follows:—

	£	s.	d.
Water ... ..	1,833,747	6	2
Sewerage ... ..	840,861	7	0
	<hr/>		
	£2,674,608	13	2

63. Legal proceedings were taken for the recovery of £5,787.

64. The total amount actually expended by the Board, exclusive of Richmond, was £270,354 13s. 1d., made up as follows:—

	Water.			Sewerage.		
Chargeable to Loans ...	£71,542	4	1	£124,743	19	8
Chargeable to Revenue	42,600	9	2	31,116	3	10

65. The number of premises which became liable for water rates was 2,124; sewerage rates, 9,662; and drainage rates, 590, making the total number, including vacant land, now rated—water, 115,556, sewerage, 68,882, and drainage, 10,895.

66. Rate notices to the number of 309,541 were delivered.

67. The value of goods received by the Comptroller of Stores was £22,219 10s. 8d., and issued, £24,701 8s. 7d. The value of stock on hand was £13,843 3s. 10d.

The usual reports by the Medical Officer on the health of the Board's employees, and on the health of the Metropolitan District generally are appended. These reports bear eloquent testimony as to the sanitary value of the operations of the Department.

69. The inherent defects in the existing Acts, which the Board are appointed to administer, are daily becoming more apparent, rendering it at times very difficult for the Board to satisfactorily discharge the important trusts committed to their charge; and they cannot too strongly urge upon the Minister again, as they have frequently done, in former reports, the absolute necessity for passing into law the Amending Water and Sewerage Bill now in his hands.

70. The Board regret having to record the loss by death, which occurred on 14 January, of the late President, Colonel Thomas Rowe, F.R.I.B.A., who had held the office for so many years. The value of Colonel Rowe's services in the cause of sanitation is too well known by all to need any further testimony at the hands of the Board.

71. To fill the vacancy caused by Colonel Rowe's demise, the Government on 24 January appointed the Hon. Jacob Garrard to the position of President.

No other change has taken place in the personnel of the Board.

72. In addition to the usual weekly meetings at the Board's Offices, at which the attendance of members is recorded below, the Board paid frequent visits of inspection to works completed and in progress, as well as consultations on the sites of the proposed works.

MEETINGS OF BOARD FROM 1 JULY, 1898, TO 30 JUNE, 1899.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apl.	May.	June.		
Meetings held ...	5	6	5	4	5	5	4	4	5	4	6	4	57 meetings.	
													Present.	Absent.
*T. Rowe, President...	5	6	1	3	5	2	...	...	...	...	...	...	22	9
†Hon. J. Garrard ...	...	...	...	...	...	...	1	4	5	3	6	4	23	1
J. Taylor, Vice-President	4	6	5	4	5	4	4	4	5	4	6	4	55	2
G. A. Mansfield ...	4	6	5	4	4	5	4	4	4	4	6	4	54	3
J. Macpherson ...	4	6	4	4	5	4	4	4	5	4	6	4	54	3
H. Chapman ...	5	6	4	4	5	5	4	3	5	4	5	4	54	3
D. Davis ...	3	6	4	4	5	4	4	4	5	4	6	4	53	4
J. Ahearn ...	5	4	4	4	4	5	4	4	5	4	6	4	53	4

\* Deceased, 14 January, 1899. † Appointed 24 January, 1899.

73. The balance-sheets prepared by the Accountant, and reports by the Board's Chief Engineer (Mr. J. M. Smail, M.Inst.C.E.) and other officers, are attached hereto.

J. GARRARD,  
President.

WILLIAM HOLMES,  
Secretary.

Description

## Description of Sydney Water-works at end of June, 1899.

THE Nepean, Cordeaux, and Cataract Rivers are the sources from which the Sydney Water-works are supplied. The combined catchment areas of the three rivers enjoy a copious and regular rainfall, and extend over an area of 354 square miles. By the aid of a dam, 10 feet high, built of concrete, across the Nepean River, a portion of the flow is diverted into the tunnel,  $4\frac{1}{2}$  miles in length, which conducts it into the Cataract River.

Across this river a similar dam to that on the Nepean is built, just below the outlet of the Nepean tunnel, and the water is thence conveyed by another tunnel about  $1\frac{3}{4}$  miles, and, afterwards, through a series of open canal and tunnels, making in all about  $40\frac{1}{2}$  miles from the source, to the Prospect Reservoir. Of this distance,  $11\frac{2}{3}$  miles are in tunnel, and  $28\frac{1}{2}$  miles in open canal. Several creeks of considerable magnitude are crossed on the way, some by inverted siphons and others by pipe aqueducts.

### Prospect Reservoir.

When the reservoir is full the surface of water covers an area of 1,297 acres, and has a gross capacity of 11,392,713,000 gallons. The earthen dam is 7,300 feet long. The maximum height is 85.67 feet, with slopes of 3 to 1 on the water side, and  $2\frac{1}{2}$  to 1, with two 15 feet berms, on the outer side, and is 30 feet wide on the top. When quite full there are available by gravitation 7,324,343,000 gallons.

The water is drawn off from the reservoir through a valve-tower by cast-iron pipes, enclosed in a brick tunnel, carried outside and round the northern end of embankment, and is discharged into a basin, at the end of which is a gauge-weir, measuring the volume passing over daily. From thence it proceeds by canal, 5 miles in length, to the Pipe Head Basin, situated  $16\frac{1}{4}$  miles from Sydney. It is then conveyed for a further distance of 5 miles by a wrought-iron pipe, 6 feet in diameter, to Potts' Hill Reservoir.

### Potts' Hill Balance Reservoir.

This tank, having a capacity of 100,000,000 gallons, is built partly in excavation and partly in bank. The bottom is lined with hydraulic lime concrete, and the sides, laid to a slope of 1 to 1, are lined with dry-coursed rubble masonry. This work is designed to tide the city over any interruption of supply from Prospect, and to prevent fluctuation of pressure.

### Screening Tank and Trunk Mains.

The screening-tank at Potts' Hill is built of brick in two concentric rings. The water is delivered into the outer ring, and passes through a series of copper-gauze screens of 840 meshes to the inch. These screens are arranged so that the orifice which they fill can be closed by the insertion of a dummy, and the screens taken out and cleaned. From this tank the water proceeds towards the city in two 48-inch cast-iron mains.

The first laid main is 48-inch as far as Lewisham, whence it bifurcates, one branch (48-inch) leading to Petersham Reservoir, the other (42-inch) to Crown-street Reservoir. The new 48-inch main, completed in 1893, continues of the same diameter to Crown-street Reservoir.

The two trunk mains are connected at New Canterbury Road, Petersham.

### Crown-street Reservoir and Pumping-station.

The Crown-street Reservoir is built of brick, and holds 3,250,000 gallons. The top-water level is 141 feet above high-water mark. Here is situated the main pumping-plant, consisting of three pairs of compound high-duty pumping-engines. No. 1 Worthington pumping-engines are capable of raising 400,000 gallons per hour to the Centennial Park Reservoir, a height of 104 feet above the pumps; No. 2 Worthington pumping-engines are capable of raising 210,000 gallons per hour to Woollahra Reservoir, a height of 140 feet above the pumps, and also of raising 200,000 gallons per hour to Waverley, a height of 220 feet above the pumps; No. 3 pumping-engines, of the horizontal compound condensing rotative direct-acting type, designed and erected by the Mort's Dock and Engineering Company, are capable of raising 100,000 gallons per hour to the Waverley tanks.

Four 142-h.p. boilers of the Babcock and Wilcox type are used.

### Centennial Park Reservoir.

The Centennial Park Reservoir, built by the Public Works Department, was completed in the early part of the year, and handed over to the Board. It is constructed of brickwork, roofed in with coke-concrete groined arches. It has a capacity of 17,000,000 gallons, and a top-water level of 245 feet above high-water mark, a height of 31 feet superior to that of Paddington Reservoir, which tank has since been abandoned.

Woollahra Reservoir.

### Woollahra Reservoir.

Woollahra Reservoir, with a top-water level of 282 feet above high-water mark, or 141 feet above Crown-street, is built of brick, and contains 1,000,000 gallons, supplied by a 24 $\frac{1}{4}$ -inch wrought-iron main from Crown-street, and distributes the water through a 20-inch main.

### Waverley Reservoir.

Waverley Reservoir, with a top-water level of 360 feet above high-water mark, is built of brick, and contains 1,087,000 gallons. Water is distributed therefrom through two outlets of 24-inch and 15-inch diameter respectively. Supplemental tanks in Waverley Park, erected at an elevation of 20 feet above the present reservoir, supply the upper zones of the district.

### Petersham Reservoir.

This reservoir is built of brick, and contains 2,157,000 gallons. The top-water level is 166 feet above high-water mark. It receives its supply by gravitation from Potts' Hill. Water is distributed therefrom through one 20-inch and two 18-inch outlets.

### Ashfield.

Part of Ashfield being too high to receive a supply by gravitation from Potts' Hill, the more elevated parts are supplied from the Woollahra Reservoir by a main, which conveys the water to a 100,000-gallon wrought-iron tank, erected on a brick circular support, at an elevation of 223 feet above high-water mark.

### Hurstville, Kogarah.

The bulk of the supply to Kogarah is by gravitation through a 12-inch main connected with the Petersham Reservoir. The higher portions of this district are supplied from Penshurst, where is erected an elevated steel tank having a capacity of 1,000,000 gallons, and also a 20,000-gallon cast-iron tank, built on brick piers. The tanks are filled from the Carlton pumping-station. The pumping-plant consists of small Blake's duplex pumps, having a capacity of 12,000 gallons per hour, and Worthington compound high-duty pumps, having a capacity of raising 30,000 gallons per hour.

### North Sydney Supply—Ryde Pumping-station, Ryde Hill Tank, and Chatswood Tanks.

North Sydney receives its supply from Potts' Hill, delivered through a 24-inch and 20-inch diameter pipe into Ryde Pumping-station Reservoir, which contains 2,116,000 gallons, from whence the water is pumped through a 24 $\frac{1}{4}$ -inch wrought-iron main into a 1,000,000-gallon tank at Ryde village, 23 $\frac{1}{4}$  feet above high-water mark, and, by a continuation of the same main, into a pair of steel tanks of a joint capacity of 3,000,000-gallons at Chatswood, at an elevation of 370 feet above high-water mark.

From the Ryde village tank the whole of Ryde, Gladesville, and Hunter's Hill get their supplies. A 9-inch main extends over the Parramatta River and Iron Cove Bridges to supply the heights of Balmain. The tanks at Chatswood supply Lane Cove, Willoughby, North Sydney, and Mosman.

### Gordon, Wahroonga, Hornsby, Thornleigh, and Beecroft.

This district, extending from Chatswood to Beecroft, *via* Hornsby, and adjacent to the Milson's Point Railway and Northern Railway Lines, is supplied by Chatswood pumps, which lift water into the Wahroonga tanks, one a steel tank having a capacity of 1,000,000 gallons, and the other a wrought-iron tank of 40,000 gallons, the smaller one being specially reserved to supply the high zone in its immediate environment. These tanks are at a height of 720 feet above sea-level.

The pumping-main from Chatswood to Wahroonga, which is also used as a main distributory, is 10 in. in diameter and 7 $\frac{1}{2}$  miles in length; a further extension, also of same diameter, is laid to Hornsby. From Pierce's Corner an 8-in. steel main branches off this 10-in. pipe, and supplies Thornleigh, Beecroft, &c. About 19 $\frac{1}{4}$  miles of reticulation mains of 6-inch and 4-inch diameters have been laid along such roads and streets in the various centres of population as are sufficiently built upon to warrant the outlay.

### Campbelltown.

Campbelltown is supplied by gravitation direct from the main canal, through a 6-inch pipe from the canal laid to the town, a distance of 2 $\frac{1}{2}$  miles, the reticulation mains being 4 inches in diameter. The offtake is at 16 $\frac{1}{2}$  miles from Nepean.

### Liverpool.

Liverpool receives its supply by a 9-inch pipe from the main canal at Cecil Hills, which is extended as far as Mount Young, and thence by a 6-inch main to the town. In order to tide over any possible interruption to the flow in the canal a 4,000,000-gallon earthen reservoir has been constructed close to the canal, and is filled therefrom.

### Smithfield.

### Smithfield.

The Smithfield Water-works, completed in July, 1895, were designed to supply the township of Smithfield, which is situated on the Prospect Creek, about 3 miles south-east of the reservoir. The works included may be briefly summarised as under:—

An off-take on the main canal, about 3 miles below Prospect Reservoir; a circular concrete tank on the bank of said canal, having a capacity of 100,000 gallons; a 4-inch main to the township; and mains totalling about  $3\frac{1}{2}$  miles of the same diameter laid in all streets occupied by dwellings. The works cost about £2,900, and supply a population of 300.

### Rookwood, Granville, and Auburn.

Rookwood and Auburn receive their supply through an 18-inch main along Joseph-street from Potts' Hill Reservoir.

Granville is supplied through a 15-inch main laid along Woodville-road for a distance of  $2\frac{1}{2}$  miles, connected with the 6-foot trunk main immediately below Pipe Head Basin; and also by an 18-inch and 15-inch main laid along Parramatta-road from John-street, Rookwood.

### Richmond.

In July, 1893, the Board assumed the temporary management of the Richmond Water-works, which were completed in 1892, and had since then been worked locally by the Richmond Municipal Council. The scheme, which is entirely unconnected with the Sydney supply system, consists of a small pumping-plant—two horizontal 6-horse power engines, coupled and geared, working two brass-lined single-barrel deep-well pumps (Tangye's), fixed 61 ft. 6 in. below floor of engine-room—erected on the left bank of the Hawkesbury River, just below the confluence of the Grose and Nepean; a circular brick service tank, 60 feet in diameter, having a capacity of 225,000 gallons; a 6-inch supply main to Richmond, 4 miles in length; and  $5\frac{1}{2}$  miles of reticulation mains, 3-inch and 4-inch diameter, within the town.

## Description of the Metropolitan Sewerage System.

### City.

THE Metropolitan Sewerage System, now under the jurisdiction of the Metropolitan Board of Water Supply and Sewerage, comprises the old and new systems. The old system was initiated by the City Commissioners in 1853, and continued by their successors, the present City Council, since their incorporation in 1857.

The City Council had control of the water and sewerage works in the city until the year 1888, when the water-works were transferred to the Board. The transfer of the existing sewerage-works followed in 1889.

The old system of sewerage was designed on the principles of what is known as the "combined system." It comprised four main outfalls, with subsidiary sewers along the principal streets; these in turn received the reticulation sewers of the minor thoroughfares. The four main outfalls discharged the city sewage of the city into the harbour at Blackwattle Bay, Darling Harbour, Fort Macquarie, and Woolloomooloo Bay respectively. The pollution of the harbour, and the consequent menace to public health, led to the appointment of a Commission to inquire into the best means of diverting the sewage from the harbour, and its disposal when thus diverted. The new intercepting system was the outcome of the labours of the Commission.

The new system adopted is on the lines of the partially "separate system," and intercepts all sewage from the gravitation zone, *i.e.*, all above a contour line about 40 feet above high-water mark. The sewage from the low-level areas, *i.e.*, those below that contour line will eventually be pumped into the gravitation sewers.

The system consists of two main outfalls, the northern and southern respectively. The northern outfall discharges into the Pacific Ocean, at a point named "Ben Buckler," near Bondi, and will, when the low-level systems are complete, take all sewage previously discharged into the harbour.

The southern outfall discharges into the sewage farm at "Webb's Grant," and provides for the remainder of the city, together with some of the suburbs.

The main works were constructed by the Government, and on completion were transferred, with all other existing works, to the control of the Board by Act of Parliament. The works are of considerable magnitude, and have not been constructed without considerable difficulty and outlay.

### Northern Outfall.

The northern system commences at "Ben Buckler," where a large chamber is constructed in the sandstone rock. From this chamber two channels bifurcate, so as to ensure a free discharge during either northerly, easterly, or southerly gales. Above the chamber a shaft has been erected for ventilation and escape of air when the sea breaks into the discharge channels. The dimensions of the main outfall at the chamber are 8 ft. x 7 ft. 6 in., and decreases by decrements to 6 ft. 10 in. x 5 ft. 10 in. at the Oxford and Liverpool Streets junction.

Between these places it receives the discharge of the following branch sewers:—

- (a) The Waverley and Bondi branch, now in course of construction, which will, when complete, drain the sea slopes of Waverley and Bondi.
- (b) The Woollahra and Waverley branch, extending along the eastern side of Double Bay Valley, passing under Edgecliffe-road, and terminating in Denison-street, Waverley. This sewer drains the northern watersheds of Woollahra and Waverley.
- (c) The Darling Point branch, joining the main outfall near Harris-street, Paddington, and extending along the eastern side of Rushcutters' Bay, with a sub-branch running towards Double Bay, into which the Double Bay low-level sewage is now pumped. This branch sewer drains portions of Paddington and Woollahra.
- (d) The Elizabeth Bay branch, joining the main outfall at Great Barcom Street and extending along the western bank of Lacrozia Creek and Rushcutters' Bay, intercepting sewage formerly discharged into both these places.
- (e) The Potts' Point branch sewer, commencing at Bourke-street, near Darlinghurst Gaol, and extending along that street for some distance, then passing along Victoria-street, and terminating at Challis Estate, intercepting a considerable quantity of sewage previously discharged into Woolloomooloo Bay.
- (f) Riley-street branch, extending northwards along Riley-street, a little past Stanley-street, and intercepting portion of sewage prior to its construction discharged into Woolloomooloo Bay.

The Double Bay Creek storm-water channel and an overflow sewer discharging into Rushcutters' Bay are connected with the main outfall to carry off surplus water during heavy rainfalls. The Rushcutters' Bay overflow was carried across low-lying ground on arches and circular piers; the latter were constructed on the same principle as that adopted in India.

At the large chamber at Oxford and Liverpool Streets three different branches discharge into the main outfall sewer:—

1. The northern branch, passing under Hyde Park to Castlereagh-street, where it bifurcates, one sub-main terminating in Macquarie-street below the tram terminus, and intercepting sewage formerly discharged into harbour at Macquarie Point; the other sub-main terminating in Argyle-street and intercepting sewage previously discharged into Sydney Cove.

2. The western branch, which extends along Liverpool and Kent Streets to Miller's Point, intercepting sewage which formerly discharged into Darling Harbour.

3. The south-western branch, passing under Belmore Gardens, Benevolent Asylum, and along George-street West to Carlton-street, where it bifurcates into two sub-mains, one passing through Darlington, University Grounds, and Camperdown, terminating at Liberty-street, Newtown, and intercepting old city sewers and draining new areas at Darlington, Camperdown, Newtown, and Petersham. The other sub-main passes along George-street West by a long syphon, on account of a depression in the ground. Connected with the syphon is a scour-chamber and valves for periodic cleansing. This branch extends through the Glebe, Annandale, and Leichhardt, to Balmain, being carried across Johnstone's and White's Creeks on aqueducts. At Foucart-street the sewer bifurcates, one branch draining the south-eastern slopes of Balmain, the other branch, now almost completed, draining the north-western slopes of the same suburb. This sub-main drains the Glebe, portions of Annandale, Leichhardt, and Balmain. The scheme for the drainage of the low-level areas in Balmain and Leichhardt is now in course of construction.

The work in connection with the whole of these sewers was carried through varying formations—in some instances the stratum was indurated sandstone; in others, shale, clay, and water-charged drift-sand. Concrete enters largely into the construction of the works, the lining of rock tunnels being principally bluestone concrete rendered with cement mortar. Wherever the outfall sewer crossed natural creeks or watercourses, offset and scour valves were provided.

#### Southern Outfall.

The southern main outfall commences at the inlet chamber on the north side of Cook's River, near its junction with Botany Bay. The sewer is 5 ft. 6 in. in diameter, constructed of concrete, with brick lining rendered with Portland cement. In places the sewer is above the level of the adjoining ground; in others it passes through low sandhills and swampy ground. Where natural watercourses are passed over, concrete culverts and overflow chambers and valves are provided. Some distance to the south of Bourke-street the Macdonaldtown and Alexandria branch discharges into the main outfall. This branch is carried on aqueduct over low-lying ground at Alexandria, and receives the sewage from portions of Alexandria, Erskineville, and Newtown.

The sewage from a low-level area, comprising parts of Alexandria, Erskineville, and Newtown, is being temporarily pumped into this branch.

At Botany-road the main outfall receives the discharge of a branch running along that road, and draining portion of Waterloo.

The main outfall continues along Bourke-street to Phelps-street, Surry Hills, receiving on its way the discharges from the Elizabeth-street branch, draining large portions of Waterloo and Redfern, and several small branches draining parts of the Surry Hills portion of the city.

#### Western Outfall.

The sewerage system for the Western Suburbs is being carried out by the Government Sewerage Department under a special vote as regards the main ducts. The outfall works, the eastern branch sewer and sub-branches, and parts of the northern branch have been completed and handed over to the Board.

The main western outfall sewer commences at a receiving chamber in the Rockdale end of the Sewage Farm. From thence it runs in open carrier, 8 ft. 8 in. x 5 ft. 3 in. across portion of the Sewage Farm to another receiving chamber, about a quarter of a mile north-east of Muddy Creek. From thence in 6-foot circular triplicate sewers to Premier-street, Marrickville, being carried on aqueducts over low-lying ground near Arncliffe Station and over Woollie Creek and Cook's River.

At Premier-street is a large chamber, over which a ventilating shaft has been erected. Here the main outfall receives the discharges of three branches, viz. :—

(1.) The eastern main branch passing along the Illawarra-road (partly in syphon, owing to a depression in the ground), then across Marrickville and Petersham, passing under the suburban railway near Stanmore Station, then along Ferris-street, and terminating at Collins-street, Annandale. Connected with the syphon in Illawarra-road is a scour sewer along Sydenham-road, discharging into the low-level system, and used occasionally for cleansing. This main branch sewer receives the discharges of the following sub-mains, viz. :—

(a) The Renwick-street sub-main, draining portion of Marrickville.

(b) The Camden-street sub-main, meeting the main branch at Emily-street and passing along that street, Sarah-street, and Camden-street, and terminating at Union-street, Newtown. This sub-main, with two short branches in Tupper-street and Edgeware-road, drains parts of Marrickville and Newtown.

(c) The Parramatta-road sub-main, leaving the main branch at Corunna-road and passing along Parramatta-road and terminating at Johnstone's Creek, drains portions of Petersham and Annandale. The Nelson-street sub-branch, running along Nelson-street and terminating at Booth-street, discharges into this sub-main and drains portion of Annandale.

The work in connection with the scheme for sewerage the low-level areas in St. Peters, Newtown, Erskineville, Alexandria, and Marrickville is now being proceeded with, and the sewage will eventually be pumped into the eastern branch high-level sewer, at a point near the Marrickville Station.

(2.) The northern main branch sewer passes across the Belmore Railway, near Livingstone-road, through Marrickville, along the Wardell-road, through Petersham, crossing the suburban railway near Lewisham Station, through Leichhardt, along Flood, James, and Church Streets, and terminates at Glover-street. On its way the following sub-mains discharge into it, viz. :—

(a) The Marrickville-road sub-main, draining portion of Marrickville.

(b) The Pile-street sub-main, draining a portion of Marrickville.

(c) The Dobroyde sub-main joins the main branch sewer at Frazer's-road, Petersham, passes under the suburban railway, crosses the Long Cove Creek on aqueduct, and terminates for the present in Sloane-street, Summer Hill. This sub-main also receives the discharge of the Canterbury old road branch, draining portion of Petersham and the Long Cove Creek sub-branch. This sub-branch joins the sub-main in Dover-street, Summer Hill, and extends along the western bank of Long Cove Creek to Pigott-street. The sub-main and its sub-branches drain portions of Petersham, Summer Hill, and Ashfield.

The sewage from the low-level area adjoining Long Cove Creek will, when the scheme is carried out, be pumped into this branch.



(3.) The western main branch passes through Marrickville crossing the Belmore railway near Wardell-road Station; through Ashfield, crossing the suburban railway near Croydon Station; through Burwood, passing along George-street, again crossing the railway about midway between Burwood and Strathfield Stations, passing along Morwick-street; through Strathfield, passing along Margaret-street and Albert-road, and terminating in that road about half a mile to the west of Homebush-road.

On its way this branch will receive the discharges of the following sub-mains, viz. :—

- (a) The Livingstone-road sub-main, draining portion of Marrickville.
- (b) The Canterbury and Enfield sub-main, terminating for the present in Terrace-road.
- (c) The Frederick-street sub-main, draining portion of Ashfield.
- (d) The Carshalton-street sub-main, draining portions of Ashfield and Enfield.
- (e) The Webb-street sub-main, draining portion of Burwood.
- (f) The Five Dock sub-main to be constructed in the future.
- (g) The Elsie-street sub-main, meeting the main branch in Elsie-street, Burwood, and passing through Burwood Park, and along the Parramatta-road, and terminating in that road near Bourke-street, Concord. This sub-main will drain portions of Burwood and Concord.

The work in connection with this branch and its sub-mains is now being proceeded with.

The area to be served by these sewers will include portions of Marrickville, Summer Hill, Ashfield, Croydon, Burwood, Strathfield, Canterbury, Enfield, Five Dock, and Concord.

### North Sydney Outfall.

The main outfall sewer discharges on a filtering bed at Long Bay, Middle Harbour. From thence it extends to Alfred-street, near Ernest-street; thence along Alfred, McDougall, Broughton, Pitt, and Jeffreys Streets to its termination in Campbell-street. On its way it receives the discharges of the following sub-mains :—

- (a) The Willoughby sub-main, joining the main outfall near the Sewage Farm, and extending from thence to a creek near the junction of West and Marks Streets. This sub-main is now in course of construction.
- (b) The Ernest-street sub-main.
- (c) The Neutral Bay and Mosman sub-main, joining the main sewer at McLaren-street, and extending from thence along the foreshores of Neutral Bay at the head of Shell Cove, and crossing Mossman's Bay and Little Sirius Creek. This sub-main is in course of construction.
- (d) The High-street sub-main.
- (e) The Lavender Bay sub-main, joining the main outfall at the junction of Alfred and McDougall Streets, and extending thence along Lavender and Holt Streets, and terminating in Dumbarton-street. The Blue's Point sub-branch joins this sub-main in Holt-street, and extends across Blue's Point, terminating at the junction of East-street and East Crescent Road.
- (f) Two small sub-mains in McDougall and Willoughby Streets respectively.
- (g) The Glen-street sub-main, meeting the main outfall in Broughton-street, and extending from thence to Glen-street.

The area to be sewered by this outfall and its sub-mains comprises North Sydney and portions of Mosman and Willoughby.

### Coogee Outfall.

This outfall sewer discharges into the Pacific Ocean to the north of Coogee Bay. From thence it runs to Dolphin-street, thence along that street to Melody-street, thence to Rainbow-street, passing along that street, Bunnerong-road, and west of Randwick Racecourse to its termination in Allison-road. This outfall sewer when complete will sewer Randwick, Coogee, and Kensington.

### Inlet House.

The sewage passes from the main outfall to the screening-chambers of the inlet house. The chambers are in duplicate and controlled by valves, so that when one series is in use the other is being cleaned out. The sewage in each series is strained by means of three circular screens, which are worked by one central shaft, with suitable gearing fixed on the platform at one end, the meshes varying from 3 inches to 1 inch, which intercept all extraneous matter before the sewage passes to the siphon-well. The sludge thus intercepted is grabbed out of the various chambers and deposited in trucks to be conveyed on to the farm, *via* the temporary bridge now crossing Cook's River. The grab is operated by means of "Capitaine" oil-engine, working on an overhead traveller. Owing to the cost of keeping the temporary bridge in an efficient state of repair being excessive, it has been decided to force the sludge across the river through a submarine line of ball and socket pipes by means of compressed air, and the necessary plans are approaching completion, when tenders will be invited for carrying out the work. Owing to the exposed situation of this house, it was deemed necessary to protect it against being struck by lightning, and a contract was let to Mr. G. C. Penboss, of this city, to erect the necessary conductors, and it is now considered practically lightning-proof. From the siphon-well the sewage passes under the bed of Cook's River by a cast-iron inverted siphon, 3 ft. 9 in. diameter, laid in a trench and surrounded with concrete. The siphon is connected with a well in the outlet house on the south side of river, from which the sewage flows along a main carrier, and is distributed over the irrigation-beds and settling-tanks by valves of simple construction, and the distribution of the sewage is easily controlled by the farm manager. Both the inlet and outlet houses are provided with storm offlet valves, to allow the superabundant storm-water to pass direct into Cook's River. The outlet house is also treated in a similar manner to the inlet house as regards lightning conductors.

### Botany and Rockdale Sewage Farms.

The Sewage Farm is situated on a neck of land called Webb's Grant, on the eastern end of which the southern outfall discharges, while the western outfall discharges on the western end. The formation is raw drift-sand, originally covered with low dense scrub, that portion adjoining Muddy Creek being submerged at high water until the fascine training-banks were built there by the Public Works Department.

For agricultural purposes, to be worked at a profit, this land is useless, except on the eastern end, which has been a number of years in use, and upon which fair crops can be grown if the sewage is applied to it in a state capable of being assimilated by plant-life. That being the case, it is evident some course of treatment is necessary for this particular class of sewage, which contains a large amount of grease from the boiling-down establishments, before it can be utilised for agricultural purposes.

The southern main carrier runs through the centre of the neck of land, the northern side of which is laid out in irrigation beds, at different levels, so as to allow the manager to command the whole area. On this area the sludge, which is dredged from the inlet house, is conveyed in trucks by a small locomotive to the various beds, and used as manure. This sludge is also used as a top dressing to the newly-formed sandbanks to prevent them being demolished by the wind. It is the intention, when the new system of pumping the sludge on to the farm comes into vogue, to pump it into a tank, from which it will be distributed over the farm by means of the loco. or specially-built carts. At the end of the irrigation area three new filter-tanks have been constructed with mains for distributing the sewage evenly over their surface. As soon as these tanks are underdrained they will be brought into active operation.

On the southern side of the main carrier the ground is laid out in a series of these filter-tanks, and to facilitate filtration some of these beds have been underdrained, with satisfactory results, and at times, when circumstances admit, they are cultivated, which assists in keeping the ground clean and improves the soil as a filter. Numerous types of underdrains have been tried, and the one finding most favour at present consists of a coir mat wrapped around each joint and sewn on. Cattle and pigs are reared on the surplus products of the farm. The pig-styes are built of concrete, and kept clean by daily washing. Cattle and horses are also taken for agistment. The daily discharge on to the eastern or Botany farm for the last year has averaged 2,376,000 gallons, a smaller quantity than the previous year, owing to the dry season; this is disposed over 71 acres of land prepared to receive same, the effluent water discharging above high-water mark into Botany Bay.

Now that the whole of the works at the Rockdale end of the farm are under the control of the Board, it was necessary, for efficient management, to provide easy means of transit and through communication from one end to the other; accordingly the Board constructed a light railway, being a continuation of the old line, and the loco. can now run from the inlet house to Marsh-street, close to Arncliffe Station. The new rails are 40 lb. per lineal yard, and were manufactured by the Carnegie Steel Co. (Ltd.), Pittsburgh, Pennsylvania.

### The Western Outfall.

Owing to the completion of this work being of recent date, the flow is still of very limited proportions, being only about  $1\frac{3}{4}$  million gallons daily.

This outfall terminates on the farm in a screening chamber, where the coarser matter is separated from the sewage, which at this point, as well as other offset valves from the main carrier, is diverted on to filter-beds, of which about 127 acres have been levelled and will soon be underdrained, one contract being let and another will be as soon as the ground is fit to be operated upon.

It has been found necessary to make further provision for the overflow of storm-water from the main carrier, as those overflows provided by the Public Works Department were found to be totally inadequate.

## Rates and Charges for Water, Sewerage, and Stormwater Drainage.

### METROPOLITAN WATER RATES.

1. The following rates and charges are those which the owners and occupiers of houses, tenements, and lands shall pay in respect of water supplied by the Board, that is to say:—

*For water supplied for domestic purposes otherwise than by measure.*

2. (I.) In respect of lands and tenements of which the assessed annual value is £17 or under, 10s. per annum.
- (II.) In respect of lands and tenements of which the assessed annual value is over £17, a rate of 7d. for each pound sterling on the amount of the assessed annual value up to £300 inclusive; 5d. for each pound sterling on the amount of the assessed annual value in excess of £300 up to £700 inclusive; 4d. for each pound sterling on the amount of the assessed annual value in excess of £700 up to £1,000 inclusive; 3d. for each pound sterling on the amount of the assessed annual value in excess of £1,000 up to £4,000 inclusive; and 2d. for each pound sterling on the amount of the assessed annual value in excess of £4,000.

3. The following rates shall be paid in each year in respect of lands and tenements which are not supplied with water for domestic purposes, and which are not more than 60 yards distant from a main constructed by or vested in the Board, that is to say:—

- (I.) In respect of lands and tenements of which the assessed annual value is £10 or under, a rate of 1s. in the pound.
- (II.) In respect of lands and tenements of which the assessed annual value is over £10, a rate of 10s. per annum up to the assessed annual value of £17 inclusive.
- (III.) In respect of lands and tenements of which the assessed annual value is over £17, a rate of 7d. for each pound sterling on the amount of the assessed annual value.
- (IV.) In respect of lands on which no building is erected for human habitation, a rate of 4d. in the pound of the assessed value.
- (V.) The like rates as those above mentioned shall be charged on all lands and tenements not included in any valuation by the Municipal Council of the City of Sydney or Redfern, or of any Borough or Municipal District, and on all lands for the time being valued by the said Municipal Council of the City of Sydney or Redfern, or by such Borough or Municipal District, at a sum less than the true value thereof.
- (VI.) When any lands or tenements become liable to a rate, or to an increased rate, during the currency of any half-year by reason of the extension of a main or for any other reason whatsoever, then a part of such rate or increased rate, as the case may be, proportionate to the unexpired period of the current half-year, shall become due and be paid forthwith.

*Supply of water by meter.—Charges for water supplied by meter.*

4. The charge for water supplied by meter shall be 1s. per 1,000 gallons for all water consumed up to 20,000,000 gallons per annum, and 9d. per 1,000 gallons for all water consumed in excess of 20,000,000 gallons per annum: Provided that the minimum quantity of water to be charged for, where water is so supplied, shall be 10,000 gallons per annum. Her Majesty's ships will be supplied free of charge.

5. All charges for water supplied by meter shall, unless otherwise provided by a contract made between the Board and the person to be supplied, be paid within one month after service by the Board upon the person liable to pay such charge of a notice in writing setting forth the amount due for water so supplied, and demanding payment thereof within the period of one month aforesaid. Service of any such notice may be effected by serving the same personally on the person named therein, or by sending such notice through the post to the person named therein at his last known place of abode or business; and where the place of abode and the place of business of such person are unknown to the Board, by sending it through the post addressed to him at the lands and tenements to or in respect of which the water is supplied, or by leaving it on such lands and tenements.

*For water for other than domestic purposes otherwise than by measure.*

- (VI.) The charge for water supplied to gas-engines or oil-engines shall be 5s. per annum for each engine of two horse-power and under, and for every additional horse-power beyond two horse-power an additional charge of 2s. 6d. per annum for each horse-power.
- (VII.) The charge for water supplied to steam-boilers shall be £1 per annum for each steam-boiler up to three horse-power. And for every additional horse-power beyond three horse-power an additional charge of 5s. per annum for each horse-power.

(VIII.)

(VIII.) The charge for water supplied for actuating ventilators or refrigerators shall be by special fee, according to the following scale, namely:—

Class A.—Passing 60 gals. per hour at 65 lb. pressure—	
1 nozzle,	£6 per annum.
2 nozzles,	£4 10s. per annum each.
3    "    "	£3 10s.
4    "    "	and upwards, £3 per annum each.
Class B.—Passing 40 gals. per hour at 65 lb. pressure—	
1 nozzle,	£3 15s. per annum.
2 nozzles,	£3 per annum each.
3    "    "	£2 10s. per annum each.
4    "    "	and upwards, £2 per annum each.

*Supply for twelve hours only in each day.*

Provided, however, that the supply of water under this By-law shall be for twelve hours only in each day, and no person having such supply shall continue to use the same for more than twelve hours in any one day.

*Water for trade purposes, &c.*

(IX.) The charge for water supplied for purposes of the under-mentioned or other trades shall be at such rates, upon such terms, and subject to such conditions as may be agreed upon by the Board and the person requiring to be supplied, provided, however, that for any year or part thereof, the minimum charge for water supplied for the under-mentioned trades shall be that in each hereunder case set opposite the trade, viz. :—

Photography, and any like process...	...	...	5s. per annum.
Tripe-cleaning	...	...	5s.    "
Tying purposes	...	...	5s.    "
Laundries	...	...	5s.    "
Dyers	...	...	10s.   "
Condiment-making	...	...	5s.    "
Bottle-washing	...	...	5s.    "
Small goods (sweets)	...	...	5s.    "
Waterfalls and fountains	...	...	5s.    "
Shop-fronts, by hose	...	...	5s.    "
Organ motors and such like mechanisms ..	...	...	20s.   "

*Washing Vehicles.*

(X.) The Board may supply water for the washing of vehicles with a hose, without meter, at the rate of 5s. per annum for each vehicle.

In all cases where special fees are charged the Board reserve to themselves the right of insisting upon a meter being fixed at any time, notwithstanding the fact that the special fee may have been paid. All special fees are in addition to the assessed annual rate of the premises on which such fees are charged, and are payable in advance. All premises on which water is used for other than domestic purposes, and upon which special fees are paid, shall be open for inspection by the inspectors of the Board at any reasonable hour.

2. Assessed rates shall be paid half-yearly in advance, whether a meter is used or not. In the case when a meter is used the meter account will be rendered only when it is in excess of the assessment. Cheques and Post-office orders will be received in payment of rates; but if the cheque tendered by any person as payment for rates due is dishonored, the Board may cut off his service, and proceed for the recovery of the amount by warrant for distress or otherwise. Cheques and Post-office orders must be crossed in favour of the Board.

3. The minimum charge for water, whether supplied through meter or otherwise, for domestic purposes and for purposes other than domestic, is the assessed annual rate. If the water is supplied by meter, and the meter account exceeds the assessment (calculated at the rate of 1s. per 1,000 gallons), then such excess shall be charged in addition to the assessment.

4. One meter may be allowed to supply several tenements when such tenements are occupied by one person or firm as a place of business or abode, and the meter account will be credited with the assessments of all such tenements. One service only will be allowed under these conditions, upon which the meter will be fixed, and all the water for such tenements must pass through such meter. Where peculiar circumstances entail a departure from the above, and two services are absolutely necessary, then there shall be a meter on each service pipe.

*Building Charges, &c.*

(XI.) The charge for water supplied for building and plastering purposes, shall be at the rate of one half-penny per cubic yard on the cubical contents of each building. The Board will also supply water by meter at the rate of 1s. 6d. per 1,000 gallons (excepting Gordon and Richmond, which shall be 2s. per 1,000 gallons), or at the rate abovementioned per cubic yard on the cubical contents of each building, provided that the meter so used shall be  $\frac{1}{2}$  inch in size; and the minimum charge in each case for water so supplied through meter shall be 15s.

- (1.) The charge for water supplied for plastering rooms only shall be 2s. 6d. for each room, and for the building of wash-houses, water-closets, coppers, and chimneys only, 2s. 6d. each.
- (2.) The charge for water supplied for making and mixing of concrete for foundations of wooden blocks, stone cubes, or other form of permanent roadway or pavement, shall be at the rate of £1 1s. per 1,000 square yards by superficial measurement of road surface, and for all other concrete, brickwork, or masonry, at the rate of three half-pence per cubic yard, as measured on the work.

(XII.)

- (XII.) Any person who maintains horses or cows may be supplied with water, without meter, from the domestic service for the sum of 5s. per annum for each animal, in addition to the assessed annual rate of the premises on which such animal is maintained or supplied with water.
- (XIII.) All lands or premises actually supplied with water by the Board, on which any one or more head of horses or cattle shall be kept or maintained, shall be liable to an extra rate or charge (beyond and in addition to the assessed annual rate of the premises) of 5s. per head for each head of horses or cattle kept or maintained on such lands or premises. And where such lands or premises are not actually supplied with water by the Board they shall be liable to an extra rate or charge (beyond and in addition to the assessed annual rate of the premises) of 2s. 6d. per head for each head of horses or cattle kept or maintained on such lands or premises.
- (XIV.) The Board may supply water for gardens, which do not exceed 1,000 square feet superficial in area (and for such purpose may permit a hose and stand-pipe to be used), without meter, at the rate of 10s. per annum, in addition to the assessed annual rate of the premises to which such gardens belong or are attached.

#### METROPOLITAN SEWERAGE RATES.

1. The following rates and charges are those which the owners and occupiers of houses, tenements, or lands shall pay for or in respect of sewerage, or for or in respect of the liability of such houses, tenements, or lands to rates and charges for sewerage, that is to say :—

- (I.) Where the premises are of the assessed annual value of £10 or under, a rate of 1s. in the £ per annum on the amount of the valuation.
- (II.) Where the premises are above the assessed annual value of £10, a rate of 10s. per annum up to the assessed annual value of £17 inclusive.
- (III.) Where the premises are above the assessed annual value of £17, a rate of 7d. for each pound sterling on the amount of the valuation.

2. The following rates shall be paid in each year in respect of vacant and unoccupied lands and tenements, on which no building is erected for human habitation, and which are not connected with any sewer or drain under the control of the Board, and which are situated within 150 feet from a sewer or drain belonging to the Board, that is to say :—

- (I.) A rate of 4d. for each pound sterling on the amount of the assessed value.

#### *Western Suburbs Outfall Sewer, Rockdale.*

The following rates and charges are those which shall be paid by the owners or occupiers of houses, tenements, or lands liable to be rated in respect of the Western Suburbs Outfall Sewer at Rockdale and reticulating sewers connected therewith, that is to say :—

A rate of 1s. for each pound sterling on the amount of the valuation of such houses, tenements, or lands.

#### *North Sydney Sewerage Works.*

The following rates and charges are those which shall be paid by the owners or occupiers of houses, tenements, or lands liable to be rated in respect of the North Sydney Sewerage Works and reticulating sewers connected therewith, that is to say :—

A rate of 1s. for each pound sterling on the amount of the valuation of such houses, tenements, or lands.

#### FOR COUNTRY DISTRICTS IN COUNTY OF CUMBERLAND.

For water supplied for domestic purposes otherwise than by measure :—

- (I.) On every house, tenement, or land of £10 assessed annual value and under, 10s. per annum.
- (II.) On every house, tenement, or land above the assessed annual value of £10, a rate of 1s. for each pound sterling on the amount of the valuation.
- (III.) Vacant or unimproved lands are subject to a rate of 4d. for each pound sterling on the amount of the valuation.
- (IV.) The like rates as those above mentioned shall be charged on all lands, tenements, and hereditaments not included in any valuation by any Borough or Municipal District, and on all lands for the time being valued by any such Borough or Municipal District at a sum less than the true value thereof.

For water supplied by measure :—

- (V.) The charge for water supplied by measure shall be 1s. per 1,000 gallons for all water consumed up to 20,000,000 gallons per annum, and 9d. per 1,000 gallons for all water consumed in excess of 20,000,000 gallons per annum.

#### *District of Gordon.*

For water supplied for domestic purposes, otherwise than by measure :—

- (I.) On every house, tenement, or land, a rate of 1s. for each pound sterling on the amount of the valuation.
- (II.) In respect of vacant or unimproved lands not supplied with water, and which are not more than 60 yards distant from a main constructed by or vested in the Board, a rate of 6d. for each pound sterling on the amount of the valuation.

For water supplied by measure :—

- (III.) The charge for water supplied by measure shall be 1s. 6d. per 1,000 gallons.
- (IV.) Any person who maintains horses or cows may be supplied with water, without meter, from the domestic service for the sum of 7s. 6d. per annum for each animal, in addition to the assessed annual rate of the premises on which such animal is maintained or supplied with water.
- (V.) The Board may supply water for gardens which do not exceed 1,000 square feet superficial area (and for such purpose may permit a hose and stand-pipe to be used), without meter, at the rate of 15s. per annum, in addition to the assessed annual rate of the premises to which such gardens belong or are attached.

## METROPOLITAN DRAINAGE BY-LAWS.

Whereas by the "Metropolitan Water and Sewerage Act Extension Act of 1894" the Board of Water Supply and Sewerage is authorised and empowered to make, alter, and repeal By-laws: Now, the Board of Water Supply and Sewerage, under and by virtue of the powers contained in the above-mentioned Act, do hereby make the By-laws following, that is to say:—

*Assessment and Rates.*

1. For the purposes of these By-laws the value of lands and tenements in each year shall be the value (if any) at which the same are for the time being assessed for rating purposes by the Municipal Council of the City of Sydney or the Borough or Municipal District respectively in which such lands or tenements are situated, on the 1st day of January and the 1st day of July respectively, as the case may be, in each year; and such value shall continue to be the value of such lands or tenements for the purposes aforesaid during such year.

2. The rates which are respectively set opposite to the descriptions of stormwater drains hereunder mentioned are those which shall be paid by the owners or occupiers of the lands or tenements situated within the boundaries of the drainage areas respectively proclaimed in respect of such stormwater drains, and for the purpose of assessing such rates, the valuation of such lands and tenements by the Municipal Council of the City of Sydney or the Borough or Municipal District respectively within which the same respectively are situated, shall be taken as the valuation thereof by the Board under the said Act. The minimum rate payable under these By-laws shall be in each case 1s. per annum:—

Rushcutter's Creek Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Willoughby Falls, Neutral Bay, and Careening Cove Drains.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Blackwattle, Glebe, and Denison Ward Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Beattie-street, Balmain, Drain.—A rate of 2d. for each pound sterling on the amount of the valuation of such lands or tenements.

Iron Cove Creek, Ashfield, Burwood, Enfield, and Canterbury Drain.—A rate of 6d. for each pound sterling on the amount of the valuation of all lands or tenements situated within the drainage area described as Class A, and a rate of 4d. for each pound sterling on the amount of the valuation of all lands or tenements situated within the drainage area described as Class B.

Shea's Creek, Waterloo, Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Iron Cove Creek Extended, Ashfield, and Burwood Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Homebush Creek, Burwood, and Strathfield Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Homebush Creek Extended, Strathfield, Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Long Cove Creek, Leichhardt, Ashfield, and Petersham Drain.—A rate of 3d. for each pound sterling on the amount of the valuation of all lands or tenements situated within the drainage area described as Class A, and a rate of 1d. for each pound sterling on the amount of the valuation of all lands or tenements situated within the drainage area described as Class B.

Erskineville and Munni-street, Newtown, Alexandria, and Erskineville Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

Euroka Creek, North Sydney, Drain.—A rate of 2½d. for each pound sterling on the amount of the valuation of the lands or tenements.

Easton Park, Balmain, Drain.—A rate of 4d. for each pound sterling on the amount of the valuation of the lands or tenements.

Double Bay, Woollahra, Drain.—A rate of 7d. for each pound sterling on the amount of the valuation of the lands or tenements.

3. All such rates as before-mentioned shall be paid in advance by equal payments on the first day of January and the first day of July in each year, and the first payment shall be made at the time when an owner or occupier becomes liable to pay such rates.

Analyses.

WATER SUPPLY TABLE.

Year.	Average Daily Supply.	Total Supply for Year.	Number of Houses supplied.	Estimated Population supplied.	Average Daily Supply during year.		Mains.	
					Per House.	Per Head of Estimated Population.	Mains laid.	Mains cleaned.
	gallons.	gallons.			gallons.	gallons.	miles yds.	miles yds.
1888.....	8,144,169	2,972,621,623	61,718	296,246	132	27'49	53 893	4 890
1889.....	8,820,000	3,219,244,159	67,924	326,035	129	27'05	86 1,468	16 907
1890.....	8,436,034	3,097,402,486	71,501	343,204	118	24'70	75 866	7 278
1891.....	9,540,102	3,482,237,514	76,093	365,246	125	26'11	102 250	26 1,566
1892.....	12,129,152	4,439,273,890	78,926	378,885	153	32'12	89 915	29 741
1893.....	12,533,652	4,574,782,838	81,288	390,132	153	32'12	15 1,711	26 456
1894.....	13,738,874	5,014,689,009	83,621	401,380	164	34'23	46 1,262	4 295
1 Jan., 1895, to 30 June, 1896 ..	16,645,014	9,194,922,372	85,059	408,232	196	40'76	98 1,568	3 1,623
1 July, 1896, " 1897 ..	17,659,357	6,445,655,328	87,190	418,512	204	42' 2	55 954	10 1,654
1 " 1897, " 1898 ..	18,283,000	6,673,514,000	89,749	434,810	203	42'	60 1,066	18 0
1 " 1898, " 1899 ..	18,794,920	6,860,146,000	92,370	450,483	203	41'72	36 655	17 744

WATER RATES.

Year.	Gross Revenue.	Rates Cancelled.	Discounts.	Net Revenue.	Net Revenue Collected.	Revenue Outstanding.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1888.....	125,762 3 0	276 4 0	.....	125,485 19 0	88,067 13 1	40,791 2 6
1889.....	141,531 3 0	2,607 4 9	.....	138,923 18 3	146,539 9 0	34,655 17 5
1890.....	149,316 0 2	3,325 10 10	.....	145,990 9 4	156,207 12 6	24,691 7 0
1891.....	171,445 17 5	5,614 16 6	.....	165,831 0 11	164,666 4 3	26,028 4 2
1892.....	160,325 3 9	4,438 16 9	.....	155,886 7 0	162,674 19 7	19,194 15 7
1893.....	158,963 12 5	1,537 0 7	.....	157,426 11 8	158,473 1 2	18,067 14 1
1894.....	162,087 0 4	919 19 1	.....	161,167 1 3	153,660 15 11	19,982 11 3
To June, 1895 ..	91,849 12 6	491 19 8	5,992 16 10	85,364 16 0	80,893 15 2	24,145 15 7
" 1896 ..	135,203 5 7	1,326 16 11	9,523 14 4	174,357 14 4	165,195 7 3	30,378 5 1
" 1897 ..	183,454 9 5	1,705 18 0	5,764 0 3	175,984 11 2	173,098 5 9	33,979 17 7
" 1898 ..	186,460 18 8	4,304 4 5	3,275 7 6	178,881 6 9	182,018 13 0	30,606 2 2
" 1899 ..	197,622 7 3	3,290 6 10	.....	194,332 0 5	189,670 5 4	33,465 14 1

MAINTENANCE.

MANAGEMENT.

Year.	Maintenance of Mains and Works generally, including Wages.	Coals.	Rents.	Total Maintenance.	President and Board Fees.	Salaries.	Stationery and Printing.	Advertising and Incidental.	Total Management.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1888.....	8,534 10 5	901 14 5	767 6 8	10,023 11 6	1,253 10 3	6,099 18 10	1,303 7 1	525 6 4	9,182 2 6
1889.....	17,139 9 0	1,489 13 10	1,756 10 0	20,385 12 10	1,708 12 6	12,346 15 8	933 9 11	1,193 13 7	16,182 1 8
1890.....	17,312 12 5	2,272 11 11	960 16 9	20,546 1 1	1,242 10 0	10,912 0 2	965 6 9	1,122 12 0	14,242 8 11
1891.....	19,795 8 10	2,668 6 3	1,107 9 4	23,571 4 5	1,242 10 0	11,204 3 1	948 0 9	1,290 2 1	14,684 15 11
1892.....	23,260 10 8	1,729 17 5	1,100 4 0	31,090 12 1	1,041 18 8	10,747 17 6	641 14 4	1,556 3 10	13,937 14 4
1893.....	20,606 4 0	1,635 13 2	1,101 15 10	23,343 13 0	859 3 4	10,997 18 11	550 5 8	1,390 12 8	13,798 0 7
1894.....	22,067 5 5	2,024 6 5	1,131 4 8	25,222 16 6	847 10 0	11,060 3 8	799 4 1	1,344 5 6	14,051 3 3
To June, 1895 (6 months).	10,912 9 10	871 7 6	722 12 6	12,506 9 10	437 10 0	5,620 7 6	463 14 8	665 8 3	7,187 0 5
" 1896 (12 " )	20,434 12 3	1,986 3 8	1,293 10 5	23,714 6 4	1,015 6 6	10,351 8 5	622 17 3	1,291 7 8	13,780 19 10
" 1897 (12 " )	22,831 1 0	2,088 0 0	1,302 4 11	26,221 5 11	1,042 10 0	11,414 13 7	307 15 9	1,335 3 10	14,600 3 2
" 1898 (12 " )	26,449 11 8	2,744 4 1	1,266 11 7	30,460 7 4*	1,047 10 0	11,704 17 4	507 5 3	1,500 3 10	14,759 16 5
" 1899 (12 " )	27,560 3 0	3,476 6 0	1,209 17 6	32,246 6 6	1,047 10 0	11,660 18 0	643 4 7	1,549 2 7	14,900 15 9

\* Includes £1,672 13s., repairing break, Cataract Dam.

GENERAL SUMMARY.

Year	Revenue.	Total Maintenance.	Total Management.	Total Maintenance and Management.	Interest.		Total Interest.	Depreciation.	Total Expenses.
					On Loan Capital.	On Debentures.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1888.....	125,485 19 0	10,023 11 6	9,182 2 6	19,205 14 0	59,976 7 3	4,300 0 0	64,276 7 3	.....	83,482 1 3
1889.....	138,923 18 3	20,385 12 10	16,182 11 8	36,568 4 6	101,477 5 5	4,150 0 0	105,627 5 5	2,446 8 8	144,641 18 7
1890.....	145,990 9 4	20,546 1 1	14,242 8 11	34,788 10 0	105,099 19 9	4,000 0 0	109,099 19 9	3,421 15 2	147,310 4 11
1891.....	165,831 0 11	23,571 4 5	14,684 15 11	38,256 0 4	107,981 11 8	4,000 0 0	111,981 11 8	3,916 18 0	154,154 10 0
1892.....	155,886 7 0	31,090 12 1	13,987 14 4	45,078 6 5	111,869 8 2	4,000 0 0	115,869 8 2	877 12 3	161,825 6 10
1893.....	157,426 11 8	23,343 13 0	13,798 0 7	37,141 13 7	115,187 0 10	4,000 0 0	119,187 0 10	2,511 15 2	158,840 9 7
1894.....	161,167 1 3	25,222 16 6	14,051 3 3	39,273 19 9	115,660 5 5	4,000 0 0	119,660 5 5	1,771 18 6	160,706 3 8
To June 1895 (6 months) ..	85,364 16 0	12,506 9 10	7,187 0 5	19,693 10 3	69,383 2 9	2,000 0 0	71,383 2 9	775 16 5	91,852 9 5
" 1896 (12 " ) ..	174,357 14 4	23,714 6 4	13,780 19 10	37,495 6 2	137,098 5 2	4,000 0 0	141,098 5 2	3,481 16 5	182,075 7 9
" 1897 (12 " ) ..	175,984 11 2	26,221 5 11	14,600 3 2	40,821 9 1	140,049 12 4	4,000 0 0	144,049 12 4	3,350 2 8	188,221 4 1
" 1898 (12 " ) ..	178,881 6 9	30,460 7 4	14,759 16 5	45,220 3 9	143,496 0 5	4,000 0 0	147,496 0 5	3,543 4 8	196,264 8 10
" 1899 (12 " ) ..	194,332 0 5	32,246 6 6	14,900 15 9	47,147 2 3	135,455 12 10	4,000 0 0	139,455 12 10	3,445 13 7	190,048 8 8



## SEWERAGE TABLE.

Year.	Number of Houses Drained	Estimated Population served	New Sewers Laid During the Year		Existing Sewers	Total Length of Sewers	Storm water Drains Laid					Ventilating Shafts Erected	Sewers Ventilated.
			By Board	By Govt			By Board	By Govt	By Municipalities	Existing	Total		
1890 .	22,765	109,272	miles 9 33	miles 13 68	miles 99 02	miles 122 03	miles 77	miles Nil	miles Nil	miles 2 38	miles 3 15	feet 12,639	miles 14 5
1891	26,884	129,043	21 53	4 46	122 03	148 02	Nil	1 23	Nil	3 15	4 38	47,628	70 74
1892	31,402	150,729	22 50	2 42	148 02	172 94	47	77	Nil	4 38	6 62	49,089	79 25
1893	36,062	173,097	4 30	5 05	172 94	182 34	10	2 38	Nil	6 62	9 10	50,239	81 43
1894 .	39,965	191,832	18 35	1 27	182 34	201 95	06	06	Nil	9 10	9 82	54,405	92 50
1895-96	44,462	213,417	22 63	5 62	201 95	220 20	00	4 60	Nil	9 82	14 42	87,505	182 50
1896-97	47,593	228,446	25 56	Nil	230 20	255 76	766	2 42	803	14 42	18 409	99,397	210 00
1897-98	51,425	257,125	50 85	10 29	255 76	320 25	162	2 03	Nil	18 409	20 591	124,201	270 00
1898-99	58,720	281,556	50 96	8 80	320 25	389 01	08	36	1 277	20 591	22 303	146,611	330 00

## SEWERAGE RATES.

Year	Gross Revenue	Rates Cancelled	Discounts	Net Revenue	Net Revenue Collected	Revenue Outstanding
1890	£ s d 85,291 9 7	£ s d 3,491 18 7	£ s d	£ s d 81,799 11 0	£ s d 74,189 2 1	£ s d 7,610 5 11
1891	83,731 10 11	2,428 12 7		81,302 18 4	80,270 17 0	8,642 10 3
1892 .	89,031 18 4	1,104 19 6		87,926 18 10	86,554 11 5	10,014 17 8
1893	94,504 15 1	843 12 3		93,661 2 10	95,385 6 10	8,290 13 8
1894	93,721 13 0	587 4 4		93,134 8 8	93,356 16 10	8,068 5 6
June, 1895 (6 months) . . .	47,123 16 6	213 7 2	3,800 7 7	43,110 1 9	43,372 17 0	7,805 10 3
June, 1896 (12 ,, ) . . .	91,082 15 10	260 0 5	5,337 1 0	85,485 14 5	84,355 2 6	8,936 2 2
June, 1897 (12 ,, ) . . .	91,366 4 5	490 16 5	3,217 12 6	87,652 15 6	87,266 2 9	9,322 14 11
June, 1898 (12 ,, ) . . .	91,881 12 10	521 10 3	1,671 10 4	89,688 7 3	90,744 2 8	8,266 19 6
June, 1899 (12 ,, ) . . .	105,172 19 4	1,217 8 3		103,955 11 1	103,909 15 2	8,312 15 5

## MAINTENANCE.

## MANAGEMENT.

Year	Maintenance of Sewers and S W Drains and Works generally, including Wages	Sewage Farm Maintenance, Botany and Rockdale	Rents	Total Maintenance	President and Board Fees	Salaries	Stationery and Printing	Advertising and Incidentals	Total Management
1890	£ s d 9,490 12 3	£ s d 918 2 10	£ s d 1,041 13 4	£ s d 11,450 8 5	£ s d 1,427 2 6	£ s d 7,796 17 0	£ s d 1,110 6 3	£ s d 464 19 7	£ s d 10,799 5 4
1891 . . .	13,794 8 4	829 18 7	1,000 0 0	15,624 6 11	1,242 10 0	7,180 7 6	889 7 8	475 2 9	9,787 7 11
1892 .	14,492 18 9	887 17 1	1,002 0 0	16,382 10 10	1,041 18 8	8,533 13 5	611 18 6	735 2 4	10,922 12 11
1893	15,567 9 0	968 8 2	1,069 13 6	17,605 10 8	8-9 3 4	7,270 14 11	550 4 1	806 14 3	9,486 16 7
1894	16,181 8 10	890 18 9	1,116 3 0	18,189 10 7	847 10 0	7,428 3 3	658 1 9	930 16 2	9,804 11 2
To June, 1895 (6 months)	8,002 17 2	*64 6 6	559 2 6	8,626 6 2	437 10 0	3,927 4 2	410 2 10	840 10 0	5,624 7 0
To June, 1896 (12 ,, )	18,185 2 5	625 2 1	1,227 10 5	20,037 14 11	1,015 6 5	7,792 3 0	711 0 9	747 14 9	10,266 4 11
To June, 1897 (12 ,, )	16,802 0 8	884 4 9	1,232 7 5	18,918 12 10	1,042 10 0	8,140 13 3	687 18 3	890 16 10	10,761 18 4
To June, 1898 (12 ,, )	17,638 17 4	†36 3 3	1,232 7 5	19,807 8 0	1,047 10 0	8,369 16 10	418 11 2	921 5 11	10,757 3 11
To June, 1899 (12 ,, )	18,820 10 9	1,403 17 0	1,138 7 6	21,363 0 3	1,047 10 0	8,492 18 7	495 3 4	1,034 10 0	11,070 1 11

\* Farm leased during this period † Rockdale Farm maintenance commenced

## GENERAL SUMMARY.

Year	Revenue	Total Maintenance	Total Management	Total Maintenance and Management	Interest		Total Interest	Depreciation	Total Expenses
					On Loan Capital	On Debentures			
1890 .	£ s d 81,799 11 0	£ s d 11,450 8 5	£ s d 10,799 5 4	£ s d 22,249 13 9	£ s d 36,141 10 1	£ s d 8,635 0 0	£ s d 44,776 10 1	£ s d	£ s d 67,026 3 10
1891 .	81,302 18 4	15,624 6 11	9,787 7 11	25,411 14 10	39,674 17 4	6,820 0 0	46,494 17 4	.	71,906 12 2
1892	87,926 18 10	16,382 15 10	10,922 12 11	27,305 8 9	45,196 19 0	6,820 0 0	52,016 19 0	220 12 10	79,543 0 7
1893	93,661 2 10	17,605 10 8	9,486 16 7	27,092 7 3	50,863 12 4	6,820 0 0	57,683 12 4	586 15 11	85,362 15 6
1894 .	93,134 8 8	18,188 10 7	9,864 11 2	28,053 1 9	53,821 12 7	6,820 0 0	60,641 12 7	541 19 10	89,236 14 2
To June, 1895 (6 months)	43,110 1 9	8,626 6 2	5,624 7 0	14,250 13 2	23,564 0 3	3,560 0 0	32,124 0 3	230 15 8	46,605 9 1
To June, 1896 (12 ,, )	85,485 14 5	20,037 14 11	10,266 4 11	30,303 19 10	60,408 15 11	6,970 0 0	67,428 15 11	1,016 3 0	93,748 18 9
To June, 1897 (12 ,, )	87,652 15 6	18,918 12 10	10,761 18 4	29,690 11 2	61,151 9 3	7,177 0 0	71,328 9 3	985 17 5	101,994 17 10
To June, 1898 (12 ,, )	89,688 7 3	19,807 8 0	10,757 3 11	30,564 11 11	67,216 8 9	7,384 0 0	74,600 8 9	1,217 11 3	106,382 11 11
To June 1899 (12 ,, )	103,955 11 1	21,363 0 3	11,070 1 11	32,433 2 2	75,757 0 10	7,271 10 0	83,028 10 10	1,187 8 1	116,649 1 1

## Analysis of Approximate Cost of Water Supply Scheme, City and Suburbs, and Percentage of Revenue on same to 30 June, 1899.

District.	Acreage.	Mileage of Mains.	Properties Liab.	Houses Liab.	Population	Capital Cost of Work.			Maintenance and Management and Depreciation.	Revenue.	Percentage of Net Return on Cap. Cost after paying Expenses.
						Local Reticulation.	Proportionate Charge for Main Works on Population Basis.	Total.			
Alexandria .....	1,024	12·82	2,441	1,819	8,767	12,611	66,453	79,064	910	2,215	1·65
Annandale .....	333	10·47	2,011	1,721	8,295	8,144	62,876	71,020	817	1,856	1·46
Ashfield .....	2,018	36·99	3,511	2,585	12,459	35,400	94,439	129,839	1,494	4,426	2·26
Auburn .....	2,018	12·23	747	306	1,474	7,527	11,172	18,699	214	404	1·02
Balmain .....	576	39·07	7,041	5,879	23,336	53,259	214,786	268,045	3,085	7,414	1·24
Bankstown .....	.....	1·8	16	7	33	1,000	250	1,250	14	94	6·4
Botany.....	2,163	6·87	666	536	2,583	4,952	19,579	24,531	282	937	2·67
Burwood .....	1,050	25·08	1,846	1,438	6,931	22,833	52,536	75,369	867	2,861	2·64
Campbelltown.....	.....	5·7	220	204	983	4,670	7,451	12,121	139	303	1·35
Camperdown .....	435	11·32	1,663	1,550	7,471	9,162	56,630	65,792	757	1,577	1·24
Canterbury .....	7,104	13·49	963	499	2,405	10,092	18,229	28,321	325	580	0·9
City of Sydney .....	2,880	171·17	23,178	22,309	107,529	169,090	815,069	984,159	11,318	72,702	6·23
Concord .....	2,560	15·47	669	397	1,913	11,513	14,500	26,013	299	1,122	3·16
Darlington .....	38	3·51	764	761	3,668	2,217	27,803	30,020	345	848	1·67
Drummoyne .....	512	9·01	1,097	549	2,646	6,673	20,056	26,729	307	778	1·76
Enfield.....	1,696	10·93	693	427	2,058	5,689	15,599	21,288	245	622	1·77
Ersleville .....	166	5·9	1,399	1,244	5,996	4,500	45,449	49,949	574	1,041	0·93
Five Dock .....	1,412	9·6	419	213	1,026	10,450	7,777	18,227	209	448	1·31
Glebe .....	461	23·61	4,026	3,700	17,834	18,430	135,181	153,611	1,767	4,779	1·96
Gordon and Beecroft .....	.....	32·34	1,549	1,030	5,064	32,464	38,385	70,849	814	2,588	2·5
Granville and Guildford .....	2,830	20·83	1,560	845	4,072	22,550	30,865	53,415	614	1,236	1·16
Hunter's Hill .....	1,100	11·57	774	549	2,616	9,139	20,056	29,195	336	1,284	3·24
Hurstville .....	8,384	32·33	1,692	794	3,827	26,130	29,008	55,136	634	1,106	0·85
The Islands .....	.....	1·2	24	24	115	3,250	871	4,121	47	493	9·36
Kogarah .....	3,648	16·75	1,442	821	3,957	14,160	29,994	44,154	508	869	0·81
Lane Cove .....	2,496	9·48	593	256	1,233	5,340	9,346	14,686	169	637	3·18
Leichhardt .....	1,120	35·8	4,130	3,352	16,156	36,000	122,462	158,462	1,322	3,089	0·79
Liverpool and Hoxton Park.....	20,608	13·78	499	423	2,034	10,990	15,417	26,407	304	557	0·95
Marrickville .....	2,010	37·74	4,532	3,493	16,836	37,867	127,616	165,483	1,903	4,710	1·69
Mosman .....	2,048	19·47	1,973	1,054	5,080	15,790	38,506	54,296	624	1,828	2·21
Newtown.....	442	27·54	5,061	4,580	22,075	28,378	167,328	195,706	2,251	5,120	1·46
North Bctany.....	2,176	10·14	802	398	1,918	4,418	14,538	18,956	218	523	1·1
North Sydney .....	2,067	39·77	6,460	5,115	24,654	39,740	186,877	226,617	2,606	6,832	1·86
Paddington .....	403	30·36	4,747	4,401	21,212	27,765	160,786	188,551	2,168	5,314	1·66
Petersham .....	762	31·83	3,471	3,050	14,701	30,890	111,433	142,323	1,637	3,909	1·59
Prospect and Sherwood.....	7,680	5·31	231	192	925	4,307	7,011	11,318	130	418	2·55
Parramatta .....	2,176	·5	12	6	28	850	212	1,062	12	779	72·22
Randwick .....	8,000	36·02	2,292	1,595	7,687	29,118	58,267	87,385	1,005	3,283	2·6
Redfern .....	435	26·68	4,789	4,709	22,697	25,407	172,043	197,450	2,271	5,536	1·65
Rockdale .....	4,442	29·32	2,429	1,299	6,261	29,546	47,458	77,004	886	1,894	1·32
Rookwood, Newington, & Silver Water.	5,376	13·73	633	369	1,778	20,166	13,477	33,643	387	1,375	2·93
Ryde .....	10,240	8·90	443	316	1,523	7,891	11,544	19,435	224	550	1·67
St. Peters.....	896	12·78	1,692	1,220	5,880	18,979	44,570	63,549	732	980	0·39
Strathfield, Homebush, and Flemington.	1,747	18·36	1,086	583	2,810	18,980	21,299	40,279	463	1,781	3·27
Smithfield and Fairfield .....	7,680	3·6	101	92	443	2,128	3,357	5,485	63	118	1·0
Waterloo.....	806	14·6	2,252	1,992	9,601	14,560	72,775	87,335	1,004	2,399	1·59
Waverley .....	1,965	23·87	2,365	1,217	5,865	21,855	44,456	66,311	763	3,454	4·05
Willoughby .....	5,286	24·33	1,624	1,036	4,993	23,127	37,846	60,973	701	1,837	1·86
Woollahra .....	2,222	} 27·71	2,682	2,307	11,119	} 20,930	84,282	} 111,927	1,287	5,170	3·46
Vaucluse.....	768		240	184	886		6,715				

Revenue from Government Meters not included.

## Approximate Mileage of the various sized Mains, City of Sydney and Suburbs, &c.

	3"	4"	5"	6"	8"	9"	10"	12"	15"	18"	20"	24"	Miles.
Alexandria .....	...	6.18	...	3.96	...	1.1	...	...	1.5	...	...	...	12.74
Annandale .....	...	7.47	...	.75	...	1.35	...	.5	...	...	...	...	10.07
Ashfield .....	...	18.83	...	12.09	...	1.2	...	2.7	.25	...	...	...	35.07
Auburn .....	...	6.80	...	2.18	...	.2	...	1.06	.88	...	...	...	11.12
Balmain .....	1.1	24.32	...	7.48	1.26	2.0	...	1.2	1.4	2.8	...	...	41.56
Beecroft .....	...	.90	...	1.39	3.38	...	...	...	...	...	...	...	5.67
Botany .....	...	4.32	...	1.2	...	1.3	...	...	...	...	...	...	6.82
Burwood .....	...	13.94	...	6.5	...	2.6	...	1.8	...	...	...	...	24.84
Bankstown .....	...	1.8	...	...	...	...	...	...	...	...	...	...	1.8
Camden .....	...	.....	...	.01	.67	...	...	...	...	...	...	...	.68
Campbelltown .....	.02	2.7	...	3.1	...	...	...	...	...	...	...	...	5.82
Camperdown .....	.5	6.92	...	1.2	...	1.4	...	.2	.01	...	...	...	10.23
Canterbury .....	...	7.43	...	4.96	...	...	...	1.0	...	...	...	...	13.39
City of Sydney .....	5.11	29.71	2.0	39.80	2.01	10.01	3.15	15.31	16.87	1.19	4.0	1.77	130.93
Concord .....	...	7.57	...	3.45	...	.1	...	.6	...	2.0	...	...	13.72
Darlington .....	.2	2.71	.4	.1	...	.1	...	...	...	...	...	...	3.51
Drummoyne .....	...	5.22	...	2.0	...	1.7	...	.1	...	...	...	...	9.02
Enfield .....	.1	7.53	...	1.2	...	.25	.9	.5	...	...	...	...	10.48
Erskineville .....	...	4.4	...	.6	...	...	...	.7	...	...	...	...	5.7
Five Dock .....	...	4.5	...	1.6	...	1.3	...	1.3	.9	...	...	...	9.6
Glebe .....	2.2	13.01	...	5.5	.08	2.4	...	...	...	...	...	...	23.19
Gordon .....	...	10.79	...	5.90	.02	...	9.71	...	.25	...	...	...	26.67
Granville .....	...	16.93	...	3.0	...	...	...	...	3.7	...	...	...	23.63
Hunter's Hill .....	...	6.38	...	2.4	...	2.5	...	.8	1.6	...	...	...	13.68
Hurstville .....	...	19.72	...	5.67	...	...	2.2	2.7	...	...	...	...	30.29
The Islands .....	.3	.3	...	.6	...	...	...	...	...	...	...	...	1.2
Kogarah .....	...	9.57	...	5.93	...	1.5	...	.6	...	...	...	...	17.60
Lane Cove .....	...	8.74	...	.6	...	...	...	...	...	...	...	...	9.34
Leichhardt .....	...	26.5	...	5.6	...	.8	...	.25	1.5	1.3	...	...	35.95
Liverpool .....	...	5.56	...	3.3	...	4.9	...	...	.1	...	...	...	13.86
Marrickville .....	...	23.89	...	8.1	...	1.4	...	...	2.3	...	1.0	.7	37.39
Mosman .....	...	11.87	...	5.14	...	...	...	...	1.3	...	...	...	18.31
Newington .....	...	.08	...	.....	...	...	...	...	...	...	...	...	.08
Newtown .....	.15	17.87	...	5.9	...	2.6	.3	.6	...	...	...	...	27.42
North Botany .....	...	4.29	...	4.5	...	1.2	...	.2	...	...	...	...	10.19
North Sydney .....	.23	22.45	...	10.57	...	.7	.75	.75	1.95	.47	...	...	37.87
Paddington .....	...	12.20	.15	14.1	.8	.6	.1	.25	...	...	.5	.2	28.90
Petersham .....	...	16.14	...	9.01	.2	.5	.98	1.6	1.3	.7	.1	...	30.53
Prospect and Sherwood .....	...	2.91	...	1.6	...	.5	...	...	.03	.2	...	...	5.24
Parramatta .....	...	.....	...	.....	...	.5	...	...	...	...	...	...	.5
Randwick .....	...	19.21	...	12.81	.3	1.1	.3	3.0	...	...	...	...	36.72
Redfern .....	1.0	13.72	...	6.1	.41	2.3	.41	.9	1.6	.5	...	...	26.94
Richmond .....	7.95	2.06	...	.8	...	...	...	...	...	...	...	...	10.81
Rockdale .....	.7	15.75	...	5.36	...	2.7	...	2.8	...	...	2.1	...	29.41
Rookwood and Silverwater .....	.12	5.75	...	1.3	...	...	...	.52	1.0	2.7	...	...	11.39
Ryde .....	...	5.20	...	2.1	.2	.5	...	.6	.25	...	1.3	...	10.15
St. Peters .....	...	6.68	...	1.5	...	1.25	...	1.0	.1	...	...	...	10.53
Strathfield and Flemington .....	...	7.99	...	6.79	...	.8	.8	1.3	...	...	...	...	17.68
Smithfield and Fairfield .....	...	3.66	...	.....	...	...	...	...	...	...	...	...	3.66
Vaucluse .....	...	1.93	...	2.8	...	...	...	...	...	...	...	...	4.73
Waterloo .....	.05	8.3	...	4.15	...	...	.2	...	...	.8	...	...	13.5
Waverley .....	...	15.71	...	4.87	...	.75	.42	1.3	.1	.5	...	...	23.65
Willoughby .....	.01	14.32	...	5.4	.4	.02	.25	...	...	2.4	.02	...	22.82
Woollahra .....	.25	12.51	...	7.3	...	2.42	.08	.18	...	...	1.0	...	23.74
Totals .....	19.99	525.24	2.55	252.27	9.73	56.55	20.55	46.32	38.89	15.56	10.02	2.67	1000.34

The above does not include Trunk or Pumping Mains.

List of Properties in each Municipality that will be affected by the Proposed Increase in the Minimum Water Rate, from 10s. to 15s., and to what extent affected.

	5/-	4/6	4/-	3/4	2/10	2/2	1/8	1/-	-/6
MUNICIPALITY.									
Alexandria ... ..	641	312	1	10	367	2	251	9	4
Annandale ... ..	282	50	152	47	107	15	207	9	7
Ashfield ... ..	369	59	130	29	107	17	234	16	75
Auburn ... ..	159	8	41	10	17	...	46	4	4
Balmain ... ..	1,008	835	1	10	645	1	846	11	292
Bankstown ... ..	1	...	...	...	...	...	...	...	...
Botany ... ..	200	9	68	4	41	...	46	2	3
Burwood ... ..	229	32	70	7	60	7	100	5	7
Camperdown ... ..	292	58	200	34	150	...	222	1	1
Canterbury ... ..	205	26	25	5	10	5	25	1	2
Concord ... ..	187	17	37	4	29	2	36	2	4
Darlington ... ..	31	...	40	...	43	4	115	1	...
Drummoyne ... ..	99	14	37	7	17	2	10	45	5
Enfield ... ..	96	17	42	7	17	8	37	3	14
Erskineville ... ..	424	1	216	31	123	2	117	19	...
Five Dock ... ..	81	13	9	8	3	5	16	2	10
Glebe ... ..	155	40	270	31	326	20	398	21	262
Granville ... ..	516	63	10	38	26	1	56	4	23
Homebush ... ..	16	3	11	13	3	...	21	3	...
Hunter's Hill ... ..	74	4	46	...	56	...	34	...	3
Hurstville ... ..	478	80	4	8	30	5	79	8	26
Kogarah ... ..	223	24	10	8	30	2	53	9	2
Lane Cove ... ..	71	11	1	3	2	...	15	...	1
Leichhardt ... ..	951	203	328	126	130	12	369	45	18
Marrickville ... ..	612	116	219	89	141	2	377	13	31
Mosman ... ..	41	25	3	4	7	6	18	...	1
Newtown ... ..	786	403	9	304	24	21	480	42	1
North Botany ... ..	254	66	6	23	18	2	29	6	4
North Sydney ... ..	334	90	155	66	176	22	374	11	38
Paddington ... ..	218	168	14	26	212	2	428	9	191
Petersham ... ..	293	175	...	117	1	210	10	1	93
Prospect and Sherwood ... ..	38	8	16	1	...	6	6	...	...
Randwick ... ..	109	50	119	17	56	7	99	1	20
Redfern ... ..	453	334	...	61	398	3	605	16	466
Rockdale ... ..	322	93	53	34	52	6	159	13	7
Rookwood ... ..	198	3	41	2	13	1	31	1	2
Ryde ... ..	63	29	1	8	5	18	22	1	15
St. Peters ... ..	521	136	10	38	107	13	115	14	33
Strathfield ... ..	34	26	...	2	...	14	2	...	12
The Islands ... ..	...	...	...	4	...	...	2	...	...
Silver Water ... ..	36	7	4	2	7	...	7	1	...
Vauluse ... ..	24	6	...	9	3	...	19	...	4
Waterloo ... ..	506	264	39	1	228	17	329	21	91
Waverley ... ..	117	111	5	42	29	24	258	21	82
Willoughby ... ..	157	43	14	4	17	3	48	2	9
Woollahra ... ..	125	63	16	16	84	2	194	7	82
	11,929	4,095	2,473	1,310	3,917	489	6,945	400	1,945
CITY WARDS.									
Bourke Ward ... ..	36	10	26	...	3	...	7	...	1
Brisbane Ward ... ..	67	47	2	2	12	...	68	...	29
Cook Ward ... ..	305	260	26	12	364	3	674	10	271
Denison Ward ... ..	328	266	35	20	364	8	478	8	302
Fitzroy Ward ... ..	162	198	8	8	175	...	254	2	67
Gipps Ward ... ..	100	73	7	4	40	...	91	1	45
Macquarie Ward ... ..	71	68	10	1	37	2	167	3	35
Phillip Ward ... ..	178	200	21	2	117	...	316	6	25
	1,247	1,122	135	49	1,112	13	2,155	30	775

List of Properties affected by Proposed Increase in the Minimum Water Rate—*continued.*

COUNTRY DISTRICTS.	5/-	4/-	3/-	2/-	1/-
Campbelltown ... ..	44	6	6	14	12
Gordon ... ..	20	...	3	2	4
Guildford ... ..	...	...	...	...	...
Hoxton Park ... ..	...	...	...	...	...
Liverpool ... ..	84	1	52	33	27
Parramatta ... ..	...	...	...	...	3
Richmond ... ..	18	1	1	74	1
Smithfield ... ..	21	12	5	5	12
	187	20	67	128	59

## TOTALS.

	5/-	4/6	4/-	3/4	2/10	2/2	1/8	1/-	-/6
Suburbs ... ..	11,929	4,095	2,473	1,310	3,917	489	6,945	400	1,945
City ... ..	1,247	1,122	135	119	1,112	13	2,155	30	775
Country ... ..	187	...	20	...	67	128	...	59	...
	13,363	5,217	2,628	1,359	5,096	630	9,100	489	2,720

## PERCENTAGES.

	5/-	4/6	4/-	3/4	2/10	2/2	1/8	1/-	-/6
Suburbs ... ..	35.60	12.22	7.38	3.91	11.69	1.45	20.72	1.19	5.80
City ... ..	18.78	16.90	2.03	.73	16.75	.19	32.47	.45	11.67
Country ... ..	40.56	...	4.33	...	14.53	27.76	...	12.79	...
The Whole ... ..	32.91	12.84	6.47	3.34	12.55	1.55	22.41	1.20	6.69

Suburban properties affected	...	...	...	33,503
City do do	...	...	...	6,633
Country do do	...	...	...	461
Total	...	...	...	40,602

List of Properties in each Municipality that will be affected by the Proposed Increase in the Minimum Sewerage Rate, from 10s. to 15s. per annum, and to what extent affected.

				5/-	4/6	4/-	3/4	2/10	2/2	1/8	1/-	-/6
MUNICIPALITY.												
Alexandria	...	...	...	296	221	...	3	204	1	200	8	4
Camperdown	...	...	...	242	57	170	29	133	...	175	1	1
Darlington	...	...	...	31	...	40	...	43	4	115	1	...
Erskineville	...	...	...	422	1	207	31	121	2	115	19	...
Glebe	...	...	...	44	13	66	...	82	19	206	14	140
Marrickville	...	...	...	...	...	...	...	...	...	3	...	...
Newtown	...	...	...	416	218	2	244	6	11	286	38	1
Paddington	...	...	...	201	160	14	25	209	2	48	9	191
Petersham	...	...	...	3	4	...	1	...	2	...	...	2
Redfern	...	...	...	453	334	...	61	398	3	605	16	466
Randwick	...	...	...	18	15	48	5	26	3	51	...	5
Waterloo	...	...	...	442	143	29	1	220	17	315	21	88
Waverley	...	...	...	38	67	3	22	23	18	181	4	68
Woollahra	...	...	...	125	62	16	13	78	...	176	6	72
				2,831	1,295	595	435	1,543	82	2,816	137	1,044
CITY WARDS.												
Bourke...	...	...	...	37	10	26	...	3	...	7	...	...
Brisbane	...	...	...	51	47	2	2	12	...	68	...	29
Cook	...	...	...	306	260	26	12	364	3	674	10	271
Denison	...	...	...	287	236	35	20	329	5	463	8	296
Fitzroy	...	...	...	162	198	8	8	175	...	255	2	67
Gipps	...	...	...	200	73	7	4	40	...	191	1	45
Macquarie	...	...	...	71	68	10	1	37	2	167	3	35
Phillip	...	...	...	178	200	21	2	117	...	316	6	25
				1,192	1,692	135	49	1,077	10	2,141	30	768

## TOTALS.

				5/-	4/6	4/-	3/4	2/10	2/2	1/8	1/-	-/6
Suburbs	...	...	...	2,831	1,295	595	435	1,543	82	2,845	137	1,044
City	...	...	...	1,192	1,092	135	49	1,077	10	2,141	30	768
Totals	...	...	...	4,023	2,387	730	484	2,620	92	4,986	167	1,812

## PERCENTAGES.

				5/-	4/6	4/-	3/4	2/10	2/2	1/8	1/-	-/6
Suburbs	...	...	...	26.19	11.98	5.50	4.02	14.27	.75	26.33	1.26	9.65
City	...	...	...	18.35	16.81	2.07	.75	16.58	.15	32.96	.46	11.82
The Whole	...	...	...	23.25	13.79	4.21	2.79	15.14	.53	28.82	.96	10.47

## PROPERTIES AFFECTED.

Suburban	...	...	...	...	...	10,808
City	...	...	...	...	...	6,494
Total	...	...	...	...	...	17,302







## RETURN of Information supplied by Authorities of various English and

City.	Population Supplied.	Average Daily Supply.	Consumption per head per day.	Whether supplied by Gravitation or Pumped.	Capital Cost of Works	Annual Revenue.				Annual Expenditure.					
						Ordinary Domestic Duties	Meter Rates.	All other Revenues.	Total.	Maintenance.	Management.	Interest charges.	Sinking Fund	Any other Expenditure	Total.
Sydney .....	434,810	18,283,000	gals 42	50 % pumped	£ 3,950,161	£ 120,832	£ 45,171	£ 12,878	£ 178,881	£ 30,460	£ 14,760	£ 147,496	£ . .	£ 3,548	£ 190,264
Adelaide .....	140,000	8,603,000	61	1 6 "	1,585,983	49,656	15,550	366	65,572	11,839	4,439	49,073			65,351
Brisbane .....	73,000	4,000,000	54	50 "	642,819	39,579	11,711	690	51,980	9,758	3,089	23,988	6,407	8,597	51,839
Melbourne .....	450,000	28,250,000	63	Gravitation .	3,667,561	160,479		3,658	164,137	19,994	21,062	103,756			144,812
Aberdeen .....	145,000	6,000,000	42	"	303,610	8,332	8,209	9,171	25,712	7,879	687	6,213	9,041	1,682	25,502
Barrow-in Furness ..	68,800	2,570,000	37 3	"	237,194	9,222	9,924	124	19,270	1,825	1,313	8,746	2,183	818	14,885
Bath .....	66,600	1,400,000	21	"											
Belfast .....	350,000	12,000,000	35½	"	1,143,253	31,048	21,932	11,165	64,145	18,378		30,270	3,764	1,200	59,112
Birkenhead .....	115,162	2,805,203	17 11	Pumped ...	£21,025				20,954						18,262
Birmingham .....	707,955	16,178,000	23 17	"	2,148,283 1,309,049 new gravitation works in Wales	150,093	61,828	3,337	215,258	55,681	18,883	109,702	6,834	342	186,602
Blackburn .....	135,500	3,350,000	25	Gravitation	907,107	23,495	9,863	2,627	35,985	1,425	2,317	26,350	4,260	3,357	37,718
Bolton .....	270,000	6,000,000	23½	"	819,488										
Bradford .....	452,000	11,000,000	40	"	2,943,618	59,922	70,336	15,249	145,507	8,094	2,766	91,571	21,330	15,826	139,587
Brighton .....	175,000	6,245,000	35	All pumped		35,240	19,242		54,482	2,526	3,718	20,761	6,275	12,462	45,742
Burnley .....	100,000	2,250,000	20	Gravitation .	292,507	13,348	4,255	2,590	20,193	5,886	1,468	2,303	9,392		19,139
Bury .....	160,475			"	846,611	25,278	9,825	2,869	37,972	10,207		8,465	4,724	Dividends, &c., 17,370	40,766
Cardiff .....	205,000	5,000,000	23	"	1,184,000	34,445	20,018	500	54,963	11,835	2,679	38,110	7,869	1,319	61,812
Cork .....	87,000	4,350,000	50	Pumped .	141,175	2,564	6,938	5,863	15,365	8,595	515	2,614	1,394	2,389	15,507
Coventry .....	62,500	1,620,000	25 9	"	120,000	7,629	2,841	322	10,792	3,950	358	1,154	462	223	6,147
Dundee .....	200,000	9,613,000	49	Gravitation .	903,343	16,386	16,544	15,897	48,827	4,536	2,023	17,563	6,148	14,315	44,585
Edinburgh .....	398,000	15,581,000	39	"	1,277,369	39,946	33,425	30,690	104,061	29,228	4,000	48,053	12,405	10,614	104,300
Glasgow .....	933,125	51,450,865	55	Pumped .	3,525,000	66,962	77,770	59,484	204,216	53,609		92,854	54,337	4,430	205,230
Greenock .....	70,000	22,000,000	75	Gravitation	440,000	5,270	6,638	7,381	19,289	1,600	1,060	10,955	2,150	3,524	19,289
Halifax (Eng) .....	97,000	4,750,000	32	"	716,744	19,081	27,838	1,323	48,242	8,398	3,760	19,374	1,467	4,772	37,771
Huddersfield .....	139,555	3,209,765	23	"	1,197,069	35,524	14,982	1,126	51,632	5,536	1,551	30,570	2,995	10,980	51,632
Hull .....	233,000	9,174,000	39 37	All pumped	438,200	35,743	14,065	1,444	51,252	23,002	4,402	13,969		3,600	44,973
Liverpool .....	808,475	23,241,000	28½	Gravitation	4,521,684	162,139	64,060	42,246	268,445	46,948	41,720	153,301	27,670		268,639
London—				14-39% pumped										Dividend	
Chelsea Water Company	278,662	12,283,000	44 35		1,283,415			157,097	1,433	158,530	40,163	11,827	24,096	82,444	158,530
East London Water Company	1,294,672	39,120,000	30 21	Pumped ..	3,090,761	206,646		131,767	2,173	310,886	151,657	26,588	45,145	115,775	340,886
Grand Junction ..	400,846	19,532,000	49 03		1,778,460	203,433		390	203,823	33,677	15,502	12,400		92,244	203,823
Kent ..	518,310	15,482,000	30 22	Pumped .	1,009,567	167,062		671	167,733	45,707	13,188	3,468		105,170	167,733
Lambeth ..	674,456	23,688,000	35 52	"	1,902,094	267,195		577	267,772	86,520	16,628	15,000	3,313	145,811	267,772
New River ..	1,183,000	35,974,000	30 55		3,713,482	559,097		947	500,044	185,107	41,563	63,338		270,036	560,044
Southwark and Vauxhall ..	812,822	3,767,000	41 72	Pumped .	2,897,631	238,827		146	23,973	94,119	14,070	70,164		75,620	253,973
West Middlesex ..	695,505	20,437,000	33 81		1,611,864	239,967		2,169	242,136	82,781	22,050	15,000		122,305	242,136
Manchester .....	1,160,000	30,000,000	27	Gravitation	6,009,357										
Middlesborough, Stockton, Thosaby, &c	220,000	10,500,000	47 6	¾ pumped	1,900,000	30,671	45,284	1,355	77,310	6,732	3,231	64,566	10,235	6,006	90,710
Newport .....	77,100	1,741,854	23	Gravitation	300,000	13,226	7,806	1,663	22,695	5,094	1,180	14,785	2,094		23,153
Plymouth .....	103,000	4,750,000	46	"		13,450	7,500	550	21,500	4,200	1,400	4,325	2,445	1,968	14,338
St. Helen's .....	85,000	3,500,000	40	Pumped ...	208,403	7,892	10,551	6,538	24,981	15,950	1,500	3,857	2,583		23,890
Salford .....	108,782	2,551,000	23 44	Gravitation in bulk by Manchester Corporation	62,500	10,787	16,052	1,203	28,042	2,964	1,793	1,441	984	15,690 water supply.	22,372
Southampton .....	78,580	3,059,000	38 9	Pumped ...	246,735	9,600	9,300	200	19,100	6,800	1,430	4,706	4,490	920	18,346
Swansea .....	100,000	3,000,000	30	Gravitation .	598,221	12,688	4,459	1,448	18,595	2,916	3,200	18,498	3,765		28,479
Warrington .....	75,000	1,500,000	20	Pumped .	272,000	15,715		312	16,027	4,004	650	10,146		1,227	16,026
Wolverhampton .....	130,000	2,700,000	20½	"	280,000	20,779	6,125	255	27,159	7,846	1,279	5,046	6,052	2,477	22,700
York .....	73,474	2,613,000	33 72	"	170,005	19,635		409	20,044	3,299	1,570	435		2,615	7,919

Australian Cities with reference to Systems of Water Supply, 1898.

Charges		Extra or Special Fees											Mileage of Mains Laid.	
Ordinary Domestic Rate	Meter Rate	Baths	Closets	Urinals	Gardens	Stock	Building	Gas Engines	Steam Engines	Motors	Washhand Basins	Other Fees	Trunk or Pumping Mains	Retention Mains
7d in the £	per 1,000 gallons												miles	miles
= 1s	1/3 to 1/6												33 1	981 5
6s per 100 sq feet of flooring	1/6	Public baths by meter	Arranged										4	540
6d in the £	1/												51	156
6d	6d to 2d												258 3/4	1,089 1/2
1s in £	10d to 5 1/2d per 1,000 gals												24	97
= 10 1/2d in £	15% on cost												22 1/2	54 1/2
By schedule													86 3/4	..
= ab 1/7 in £	2s to 6d per 1,000 gals												93 3/4	486 1/2
£50 hse, £3 5s p a	9d to 6 1/2d	3s to 12s	3s to 12s	os									28 1/2	97 1/2
9d in £	1s 3d to 7d												..	..
1s in £ on gross rental	8d per 1,000	10s	Free	10s	Agreement	By meter	1/2% on ann value	10s	By meter	By meter	Free		243	..
By scale	2s to 9 1/2d	1s to 2s 6d per qt	1s to 2s 6d per qr	Free	10s	Agreement	1% on est ann value	By meter	By meter	By meter	Free		58	..
= 1s in £	1s 6d to 6d	Free	Free	Free	10s	By meter	By meter	By meter	By meter	By meter	Free		60	140
6d in £	9d to 5d	2s to 8s	..	..	By meter	By meter	By meter	..	..	..	By agmt		2	78
By scale	1s to 8d	..	..	..	By meter	By meter	By meter	..	..	..	..		4 1/2	45
10d in the £	7d per 1,000	Free	Free	Free	Agreement	By meter	By meter	2/6 per h p	By meter	By meter	..		49	220
5d	6d ..	..	..	..	From 5s	Horse, 8 6, cow, 2/6	7/6 and 15/2% on est	5s per h p	£2 2s for 4 h p	2 in dmt, £1 4s	..		80	..
6d	4d	..	5s	5s	..	..	..	os, 4 h p	2 in dia, 6s	..			..	..
6d	2d to 3 1/2d	By agr'mnt	5s	..	1os per rood market	3s per head	By meter	10s per h p	21s per h p	By meter	Nil		..	..
Av 9 1/2d to 1s 4 1/2d	6d to 8d	5s to 7s 6d	5s to 7s 6d	3/6 private, 5/ to 7/6 hotels, &c	30s	6d per 100 sq yds	4s	5s % on est, plastering, 10s	Scale and meter	Agreement	..	No charge	..	244
As per scale	7d	10s	Free	Free	..	..	..	..	..	..	..	..	..	..
Av 1s to 8d	9d to 6d.	..	..	10/	5/	horse, 6/ , cow, 3/	1 annual water rent	1 h p 5/ water rent add, 2/6	10/ per h p	21/ per h p	By meter	..	138	46
7 1/2d in £	6d ..	..	..	..	10/ 500 sq yards	4/ horses, 3/ cows	4d in £ on gross rental	2/6 per h p	21/ per h p	By meter	..	..	263	516
9 1/2 in £	1/6 to 6d	4/ to 12/	4 to 12/	4/ to 8/	Agreement or meter	By meter	1/ per rod	5/ per h p	21/ per h p	By meter	Agreement	..	921	..
1 1/2 in £	9d to 6d	6/ to 12/	Nil	10/ to 20/	..	..	..	..	..	..	..	..	..	..
1s 6d to 1s in £	9d to 6d	6/ to 12/	Nil	10/ to 20/	..	..	..	..	..	..	..	..	..	..
9 1/2d in £	7 1/2d to 6d	4/ to 12/	4/ to 12/	..	..	..	..	..	..	..	..	..	..	..
1s in £	9d to 6d	..	..	..	..	..	..	..	..	..	..	..	..	..
9 1/2d in £	2/ to 4 1/2d	..	..	..	..	..	..	..	..	..	..	..	..	..
by scale = 11d to 1s 6d in £	1/6 to 6d	5/ to 12/	5/ to 12/	12/4 min	= 12/6 per 1,000 sq yds	horse, 10/ , cow, 4/	10/ per quartacre	1/2 per e yd	..	..	No charge	By arrangement	..	..
1s in £	1/6 to 3d	10/	10/	..	10/ p a	By agreement	By meter	..	..	..	..	..	94	..
Av = 9 1/2d to 6d	2d	..	..	..	by area	..	..	..	..	..	..	..	20	90
4 1/2% on gross rental	5d	..	..	..	£2 per acre	horse, 5/ , cow, 3/	horses, 4/	By agreement	..	..	..	..	23	80
9d in £	10d to 6d	4/ to 10/	..	..	..	..	..	..	..	..	..	..	..	44
10d in £	8d	Nil	Nil	Nil	10/6 each hose by meter	..	..	..	..	..	Nil	..	15	45
= 1/1 1/2 in £	14 1/2d to 6d	Nil	Nil	Nil	..	..	..	..	..	..	..	..	No data	No data
= 1/2 in £	2/ to 3d	10/	10/	10/	10	horse, 5/ , cow, 2 6	by number or meter	5% on est yearly value	By meter, 2/ per 1,000	Special charge or meter	..	..	6	55
= 1/3 in £	1/4 to 6d	Nil	10/	5/	according to area	..	..	..	..	..	..	..	20	125
By scale	1/6 to 6d	9/4	3/	Meter	By meter	By meter	By meter	5% on an nual value	By meter	By meter	By meter	..	6	63

## RETURN of Information supplied by Authorities of various English

City.	Population served.	Average daily flow.	Flow per head per day.	Whether sewered by gravitation or pumping.	Capital cost of works.	Annual Revenue.				Annual Expenditure.					
						Ordinary Sewerage Rates.	Drainage Rates.	All other Revenues.	Total.	Maintenance.	Management.	Interest charges.	Sinking Fund.	Other expenditure.	Total.
Sydney .....	270,800	14,332,000	52.0	Gravitation	£ 2,012,875	£ 81,442	£ 6,382	£ 1,864	£ 89,688	£ 19,807	£ 10,757	£ 74,000	£ 1,250	£ 1,218	£ 106,382
Adelaide .....	77,060	2,718,000	35	"	551,593	22,000	Nil	5,250	27,250	2,426	1,548	20,028		4,325	29,577
Brisbane .....	..	No sewerage system.													
Melbourne .....	55,000	7,000,000		All pumped..	2,438,972 (in progress).	Nil	Nil...	5,339	5,339	5,432	2,970	138,451			146,862
Aberdeen .....	145,000	5,800,000	40	Gravitation	156,435	10,774	2,560		13,334	5,804	287	2,152	4,520		12,768
Barrow-in-Furness .....	40,000	940,000	23½	Pumping and Gravitation.	135,000		5,754	9	5,763	2,113	250	2,614	694	92	5,763
Bath .....	52,000	1,500,000	30	Gravitation	No disposal	works at present.									
Birkenhead .....	115,162		30	"	57,000	Nil	Nil...	Nil	Nil	3,315		1,010	300		4,625
Birmingham .....	725,000	22,000,000	30	"	427,000			22,900	22,900	43,580		20,406			68,986
Blackburn .....	130,000	5,000,000	37	"	169,458	No separate rate included in general district rate		From crops, Nil.	Amount required for sewerage at 6½d. in £.	3,326		6,000	1,065	Nil...	10,991
Bradford .....	235,000	10,000,000	42	"	288,974				Included in general district rate.	1,105		4,335	6,070		11,510
Brighton .....	123,226			"	250,000					2,290		7,200			9,490
Bainley .....	80,000	2,000,000	25	"	156,000	10,772	"	900	11,672	5,137		3,535	2,654	346	11,672
Coventry .....	60,000	3,000,000	50	"											
Dumfries .....	106,000			"	170,000				6,401	738		2,896	1,760	330	5,724
Edinburgh .....	298,927	11,658,153	39	"	182,677	20,357		1,682	22,039	5,819	1,722	1,107	3,346	10,217	22,211
Halifax .....	80,000	3,000,900		"	146,055				Included in general district rate.	8,177		1,332	5,483	1,362	8,177
Huddersfield .....	109,000	7,000,000	70	"	100,308				Total Borough rates vary from 3s. 8d. to 5s. 1d. in £	5,387	276	4,183			10,251
Hull .....	240,000	Cannot say		80 % pumped	45,000				Included in general district rates.						
London .....	4,700,000	194,000,000	40	70 % "	7,968,280				484,605	494,605	220,630	144,944	119,031		484,605
Manchester .....					768,094				47,622	584	48,156	20,508	19,369	8,279	48,156
Newport .....									No special drainage or sewerage rates.						
Oldham .....	150,000	5,250,000	35	Principally gravitation		Nil	Nil	Nil	Nil	2,000		5,750	4,000	Nil	11,750
Plymouth .....	100,000	4,400,000	44	A scheme of mixed pumping and gravitation, to cost £95,000, has lately been sanctioned.	70,000	7,945	Nil	Nil	7,945	3,468		3,433	605		£50,000 spent on
Rochdale .....	50,000	1,500,000	30	Gravitation..											7,506
St Helen's .....	86,000	2,000,000	23½	"	Works not completed 133,200	1,234		6	1,240	378	23	230	563	45	1,239
Salford .....	215,000	10,000,600	50	85 % pumped		20,254		118	20,372	15,074		4,530	768		20,372
South Shields .....	101,000	1,515,000	15	Gravitation..	30,000				Nil	1,000	250				1,250
Sunderland .....	145,000	No data		"	Main sewers only.										
Swansea .....	100,000			"	95,340					2,563		1,650	2,514		6,727
Warrington .....	63,000	Sewers discharge directly into tidal portion of river Mersey.		"	200,050					250		6,397	2,428		9,075
Wolverhampton .....	97,000	2,750,000	28	Gravitation & pumping.	224,027				16,147			2,000	6,468	3,090	16,147
York .....	75,500	3,250,000	43	"	206,500	No separate account.				4,233	100	6,126	3,879		14,338

and Australian Cities with reference to Sewerage Systems, 1898.

Charges.			Mileage of Mains laid.			System of Flushing.	System of Ventilating.
Ordinary Domestic Rate (Sewerage).	Ordinary Domestic Rate (Drainage).	Vacant land.	Gravitation.	Pumping.	Reticulation.		
7d. in £ 8d. in £	2d. to 7d. in £ Nil	4d. in £ 8d. in £	67·9 192	·95 None	301·4	Stop boards and flushing tanks From watermains by flushing tanks	Plenum vacuum. Vent pipes on buildings and open gratings.
Nil	Nil	Nil	32	2½ Rising.	251	Flushing gates and automatic flushing syphons.	Open street grids and vent columns on main and branch sewers.
3½d. in £ 6½d. in £	Nil	Nil	75 12½	10½	57½	Hose flushing and by automatic flushing syphons By water vans	Open man-hole covers in streets. By surface grids on man-holes and lamp-holes.
Nil Included in general rate.	Nil	Nil	80			Not necessary; self-cleansing Automatic tanks and horse-flushing van	Ventilation shafts. Open grids and cast-iron shafts attached to buildings.
Nil	Nil	Nil	300 160			By hose and vans Water carts	Open covers and columns. Street gratings and rain-water pipes.
Included in general rate = 2½d. in £			96	None	No record.	Flushing chambers, Adam's syphons	Pipe shafts brought up from sewer to street; covered with grate.
Nil	Nil	Nil	84	„	None	Flushing shafts at head of sewer	Iron and brick shafts attached to buildings. By man-holes in streets.
2½d. in £ Included in burgh assessment = about 2½d. in £. = about 5½d. in £			77 250			Very little flushing required; portable tanks used	Perforated man-hole cover and gullies untrapped. Party ventilating gratings, Reeves chemical system, and partly tall shafts.
Nil	Nil		13	None		Hose pipes from stand pipes in streets	Man-holes and side gullies.
			110	¼ mile		From docks, River Hull, and Agricultural Drains	Openings in man-hole covers.
			Intercepting 83 miles.	None	Vested in Local Authorities.	No special system	Mainly by openings at street levels. Occasionally by vent shafts attached to buildings and ornamental columns 30 ft. high placed on footpath.
Nil	Nil		10½ miles	750 yards	80	No special system	Gratings at street level.
works within past few years, in addition to numerous old sewers built during last three centuries.			42	None		By portable tanks	Open gratings at surface level of streets and shaft ventilators at upper ends of sewers.
Included in rates for general purposes.			30			By water from brooks	By works, chimneys, and vent shafts.
			No record.			By portable tanks	4-inch pipes on summit of branches and grids on man-holes.
Included in general district rate.			85			Flushing tanks, 1,000 gallons, at dead ends of all sewers.	Ventilators on buildings and open grids.
Work done by private owners.			90			Three flushing vans down vertical shafts	Man-holes and lamp-holes, 50 to 100 yards apart.
Included in general district rate.			200			From water-mains	Surface grids and vertical 6-inch pipes.
4d. in £ on buildings, 1d. £ land.			120	2 (ejector).		Automatic flushing chambers and travelling tank, 1,760 gallons.	Man-holes, lamp-holes, and columns, 26 and 23 feet high.
			22	2		Automatic flush tanks	Surface ventilators and upright shafts.

RETURN of information supplied by authorities of various

City	Population Supplied	Average daily supply, U S Gallons	Consumption per head per day, U S Gallons	Whether supplied by gravitation or pumped	Capital cost of Works (In this and other money columns, 5 dollars are taken to equal £1)	Annual Revenue				Annual Expenditure					
						Ordinary Domestic Rates	Meter Rates	All other Revenues	Total	Maintenance	Management	Interest Charges	Sinking Fund	Any other Expenditure	Total.
Allegheny, Penn	120,000	30,000,000	250	All pumped		£ 65,000	£	£	£	£ 51,000	£	£ 1,993	£	£	£
Brooklyn, N Y	1,119,000	93,563,231	83 5	"	4,880,000	273,800	76,800	35,400	386,000	174,800	34,200	150,000	88,000		447,000
Cambridge, Mass	90,000	7,650,000	85 7	"	1,120,473	44,089	15,969	1,853	61,911	15,222		24,970	20,731		60,923
Chicago, Ill .	2,000,000	273,972,603	137	"	6,044,190	411,981	203,600	1,815	617,436	364,708		40,465			405,173
Cincinnati, Ohio	405,000	38,345,325	94 67	"	2,058,344	97,165	55,025	7,023	159,213	79,838	8,632	12,186	36,256	20,244	157,136
Cleveland, Ohio	375,000	51,839,816	148 5	"	1,679,296				128,404	39,444		20,600			60,044
Denver, Col	108,000			Gravitation, 2/3 pumped		Company declines to give information									
Detroit, Mich.	289,592	39,092,252	135	Pumped	1,200,000	35,898	11,450	20,372	67,720	3,383	15,960	13,904	23,772	2,959	59,983
Grand Rapids, Mich	67,500	12,702,763	189	All pumped	270,034	12,768	5,565	300	13,663	7,531		7,825			15,356
Indianapolis, Ind	105,000														.....
Milwaukee, Wis	250,000	26,000,000	104	All pumped	974,130	28,371	54,259	9,545	92,175	26,280		12,999	35,250	8,294	62,823
Minneapolis, Minn	200,000	18,000,000	90	"	854,400	25,396	15,020	9,434	49,850	20,991		15,800		1,500	38,291
Montreal, Canada	299,270	19,856,000	65 Imp	Pumped by steam and water power 2/3 gravitation	1,776,266	121,072	34,380	1,000	156,452	30,974		4 %			...
New York, N Y	3,550,000	350,000,000	122 for 3/4, 85 for 1/4, Imp	2/3 gravitation	22,129,600				1,261,400	375,987		590,584	144,000		1,110,571
Omaha, Neb	150,000	14,000,000	93 1/2	All pumped											
Philadelphia, Pa	1,250,000	275,000,000	220	"	7,000,000	547,570	27,652	37,910	613,133	272,044	27,155	No separate account			299,199
Pittsburgh, Pa	218,000	49,892,584	228	Pumped to reservoir Gravitation	1,335,603				152,200	40,094	2,126	56,216		24,621	123,057
Portland, Oregon	65,000	16,000,000	250	"	781,364	44,200	3,193	2,758	50,151	6,676		29,000		14,476	50,152
Providence, R Id	170,200	9,148,993	54	Pumped	1,283,540	19,946	79,500	1,074	100,520	16,825		70,183	17,724		104,732
Richmond, Va	70,000	9,992,314	143	Pumped to Reservoirs, thence by gravity	500,000	27,000			31,600	7,000		Cost all paid.			
Rochester, N Y ...	175,000	12,500,000	72	Gravitation, 12 % pumped	1,402,958	32,102	39,062	8,398	79,562	22,494		55,000			77,494
Syracuse, N Y	100,000	7,956,000	79 56	Gravitation	833,693				61,981	36,910		26,975			63,885
Troy, N Y	70,000	10,500,000	147	Gravity and pumped, 2/3 pumped	258,619	15,699	4,810		20,509	11,770		1,992	3,930	2,233	19,925
Washington ..	263,000	47,000,000	179	12 % pumped	2,000,000										50,000

RETURN of Information supplied by Authorities of various

City	Population served	Average daily flow, U S gallons	Flow per head per day, U S gallons	Whether sewered by gravitation or pumping.	Capital Cost of Works (In this and succeeding money columns 5 dollars = £1)	Annual Revenue				Annual Expenditure.					
						Ordinary Sewerage Rates	Drainage Rates	All other Revenues	Total	Maintenance.	Management	Interest charges	Sinking Fund.	Other Expenditure.	Total.
Cambridge, Mass . . .	90,000	13,100,000	145 1/2	All pumped	265,586	No revenue, covered by taxation				4,000					
Chicago, Ill. . . . .	2,000,000	Unknown	15 to 20 cub ft	4% pumped	3,700,000	Special and general taxation				40,800		32,000			160,400 Construction
Grand Rapids, Mich.	60,000	Unknown		Gravitation	157,281	None	None	None	None	1,600	By common Council Not separated 6,925		None		
Indianapolis, Ind	197,500	12,245,000	62	Direct pressure	720,000	61,992			61,992			13,500			
Milwaukee, Wis	250,000	37,500,000	150	Gravitation	895,375	None	None	None	None						
Minneapolis, Minn.		6,332 connect'ns		"	847,701	"	"	"	"	.....					
New York, N Y (Manhattan)	1,950,000	No data		"	4,800,000	4,800			4,800	32,000					
Omaha, Nev	150,000	12,000,000	80	"	360,000	None	None	None	None	2,000				32,000	
Philadelphia, Penn	1,000,000	No data		"	3,620,202	"	"	"	"	From emergency funds				No data	
Providence, R I	120,000	15,000,000	125	86% pumped	1,312,170	Included in general tax				13,227		29,500	15,200	58,227	
Rochester, N Y	175,000	20,000,000	115	Gravitation	850,000	None	None	None	None	4,200	Cost of sewer construction borne by property benefited, and repaid in from one to five years				
Troy, N Y	50,000			"	111,000	No revenue, cost of pipe sewers assessed to property benefited, cost of large sewers half assessed to city and balance on property benefited									
Washington, D C	263,000	No data	...	"	1,904,350	Appropriated by Congress from general funds				10,000	1,000	None	None	None	11,000

American Cities with reference to systems of Water Supply, 1898.

Charges		Extra or Special Fees											Mileage of Mains Laid	
Ordinary Domestic Rate	Meter Rate per 1000 Gall <sup>s</sup> U S	Baths	Closets	Urinals	Gardens	Stock	Building	Gas Engine	Steam Engine	Motors	Wash hand Basins.	Other Fees	Trunk or Pumping Mains	Reticulation Mains.
6 rd house, £2 p a	5d	8/ and 12/-	8/ to £2 8		10/ to £2/8	Horse, 6/ ; cow, 3/-					6/			130
Charged on width and height of buildings 16/- per house	5d				10/	Horse, 10/ to 4/	2½d per 1000 bricks		24/ per h p			.. ..	39 6	578 6
Charged on width and height of buildings By rooms	Equals 10d to 5½d	16/	12/			Horse, 16/ , cov, 8			24/ "		9/-	..	13 1	114½
"	5d to 2d	8/	10/	6/	12/- per 1000 sq ft		2½d per 1000 bricks		16/ "	..	4/		167	1,637
"	2½d	11/-	6/-	Nil	4/ to £1	4/ horses	5d per 1000 bricks	12/ per h p	8/- "				3½	378½
Per room	8½d to 5d	6 6 to 16/-	16/	32'		Horse, 9/ ; cow, 3/4	2½d per 1000 bricks	By meter	8/- "		Church, £5 to £6/8/	..	59	455
8/ per family	2½d to 5d	4/	6/6	8		Horse, 4/ to 2/ , cov, 2	1d per 1000 bricks					2/ to 8/-		553
16/- "		8/	16/	8'	8/ per 1000 sq ft	Horse, 8/			£1 per h p			Water troughs, £2		127
£1-5 rd house ..	9d to 2½d	12/	12/	£1	£1 for 30 ft frontage			By meter	4/ to £1 per h p	By meter	Nil			198
4/ per room . . .	3d	12/	8/	12/	10/ per 1000 sq ft	4/- each	3d per 1000 bricks	"	By meter	"	4/- ..			326
8/- "	4d per 1000	8/-	10/	8/-	12/ to £3	3/4 per head		£2 to £10	First 10 h p	"	2'	.....	15	251
Equals 1/6 in £	7½d to 1/3	4/-			8/	Horse, 8/	3d per 1000 bricks	By meter	£1 8/ per h p	"	Nil		9	223
..														1,451 79
24/-5 rd. house	1/5½ to 5d	14/-	10/-	14/	4' per 1000 sq ft	Horse, 6/- to 12/	3½d per 1000 bricks		10/- per h p		Free		20	190
£1 per dwelling ..	2½d	12/-	4/-	4/-			2½d per 1000 bricks	Special rating	8/- "	Organ, £5 to £20.	4/-	.. . .	146 66	1,131 36
Rated by rooms	10d to 4d	4/	12/	12/	20/- each	10/- per head	By measure	10d per 1000 galls.	14/- "	By meter	10/-..		5 35	298 93
£1/4/- per family	1/3 to 5d	£1 4s.	£1/16-	12/- ..			7½d per 1000 bricks	..	2/- "	Min. 4/- .			30	135
£1/4/ per house	10d	£1	£1	12/-	£1 for hose	4/ to 8/	£1				8/	Various	21 79	293
16/- to 32/-	7½d. to 2½d	14/-	12/-	6/		4/- to 5/-	2½d per 1000 bricks.		£1 per h p			"	5½	94½
Min 16/-	7d	8/	8/-	4/-	16 for 50 ft frontage	4/	5d per 1000 bricks	12/-per h -p	12/- "	By meter .	Nil	None ..	57	277 3
£1 per house	Equals 9½d	16/-	£1	£1		Horse, 12/ ; cow, 6/	3d per 1000 bricks					.. . . .	19	157
£1-25 ft frontage	2½d	8/-	12/-	8/-	16.8 per 1000 sq ft	Horse, 8/ ; cow, 4/-	3½d per 1000 bricks	10/-per h p	10/ per h p		Nil	Troughs, £1.	3	57
14/ -16 ft frontage						Horse, 6/ , cov, 1/ .	1½d per 1000 bricks	16/ per h -p	12/- "				66	280

American Cities with reference to Sewerage Systems, 1898.

Charges			Mileage of Mains Laid			System of Flushing.	System of Ventilating.
Ordinary Domestic Rate (Sewerage)	Ordinary Domestic Rate (Drainage)	Vacant Land	Gravitation	Pumping	Reticulation		
Land only assessed when sewer is built					106 7	By hose	Perforated manhole covers.
No charge	.....		1,308	80		Tank waggons, little used .	" "
"	..		115			From fire hydrants	Through manholes and catch basins.
No charge	..		313, including reticulation	198 5		None	By manholes
"	..		136 89	None.	..	Syphons	Ventilated manhole covers
£2 per house			484			With hose from hydrant	Perforated manhole covers
No charge			125	None		Automatic tanks	Perforated manhole covers, and untrapped inlets on stormwater branches
6s per front			132	"	580		Perforated manhole covers and vent pipes at dead ends and in drain at curb
"			36 18	14	132 58	From fire hydrants	Perforated manhole covers
"			50	Nil	211	From hydrants	Manholes and surface sewers or street gullies, untrapped.
No charge.			37			Storm waters	Manholes.
"			84	None	299	Automatic flushing syphons	"





WATER.

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE—BALANCE-SHEET, WATER SUPPLY, 30 JUNE, 1899.

179—F	DR.			£ s. d.			CR.			£ s. d.			£ s. d.			
		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.
	To Amount advanced by Treasury—								By Metropolitan Water Supply Works, constructed by Works Department and vested in Board .....	2,699,391	10	1				
	From Loans, Works Department .....	2,700,316	17	4					Duplicate pipe line—Potts' Hill to Crown-street .....	163,495	3	2				
	Interest paid to 25 May, 1888, the date the debt was taken over by the Board, as per Legislative Council statement of 28 June, 1888 .....	423,657	0	0					Water Supply Works, districts north of Parramatta River .....	159,314	11	7				
		3,123,973	17	4					Lands .....	139,852	19	1				
									Reservoirs .....	167,599	1	5				
	Less amount repaid during 1896 .....	£ 662	10	6					Machinery .....	34,149	5	7				
	„ „ 1898-9 .....	£ 140	10	0					Buildings .....	26,405	0	0				
		803	0	6					Mains—							
	Amount advanced to Board by Treasury—				3,123,170	16	10		City Council .....	£ 241,453	18	8				
	From loans to 30 June, 1898 .....	746,850	0	1					Board .....	£ 642,491	9	8				
	„ for financial year ending 30 June, 1899 .....	71,542	4	1									883,945	8	4	
	„ 30 June, 1899—Account, Erection of Board's Offices .....				818,392	4	2		Campbelltown Water Supply Works .....	4,741	10	1				
	Amount advanced by Treasury—								Liverpool Water Supply Works .....	13,620	12	2				
	From loans for Richmond Water Supply Works—								Smithfield Water Supply Works .....	2,649	5	4				
	Expended by Public Works Department .....	12,340	0	0					Gordon Water Supply Works (including Wahroonga Tank, £5,184 16s. 9d.) .....	31,694	14	2				
	Expended by Board .....	385	7	2					Richmond Water Supply Works .....	12,725	7	2				
					12,725	7	2		Beecroft Water Supply Works .....	5,003	19	10				
	City Council Water Fund .....								Camden Water Supply Works .....	672	13	7				
	„ Debentures .....				377,382	1	6		Sundry Works .....	2,639	13	2				
	Colonial Treasurer—Cash Account Balance .....				80,000	0	0		„ Prospect and Canal .....	34,607	0	6				
	„ „ Store Advance Account .....				8,192	15	0		Stores .....	14,115	0	2				
	„ „ Summons Fees Advance Account .....				23,137	11	7		„ Meter Branch .....	439	17	7				
	„ „ Contractors' Advance Account .....				81	1	6		Samples .....	74	16	0				
	President's Trust Fund Account—Contractors' deposits, &c. .....				15	18	7		Meters .....	9,966	0	7				
	Outstanding accounts .....				967	0	3		Working plant .....	2,250	0	6				
	Rates overpaid .....				5,923	14	4		Board's offices—Water Supply portion .....	30,618	11	7				
	Unclaimed wages .....				136	13	7		Furniture .....	1,957	4	6				
	Balance, Metropolitan Revenue Account .....				209	2	6						4,441,929	6	2	
	„ Richmond Revenue Account .....				887	0	3		Rates outstanding .....	32,958	16	1				
									Summons fees outstanding .....	80	10	0				
									Accounts outstanding .....	7,283	13	8				
													40,322	19	9	
									Commercial Banking Company of Sydney (contractors' deposits) .....							
									Dishonored cheques .....							
									Colonial Treasurer—Richmond Cash Account Balance .....	507	11	11				
									„ „ unclaimed moneys Account .....	24	17	11				
													532	9	10	
					£4,483,771	9	1						£4,483,771	9	1	

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Sydney, 2 August, 1899.

Audited and found correct—

T. KENNEDY, 18th September, 1899.

MELBOURNE GREEN,

Accountant.

REVENUE SEWERAGE ACCOUNT.

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE—SEWERAGE REVENUE ACCOUNT, 30TH JUNE, 1899.

REVENUE.	Totals.		EXPENDITURE.	Totals.	
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Sewerage rates.....	97,006	13 10	By balance brought forward .....		3,045 5 3
Drainage rates.....	5,030	7 7	<i>Maintenance.</i>		
Drainers' licenses.....	215	7 6	Wages, general maintenance, working expenses, repairs, &c., maintenance of ventilating shafts, maintenance of storm- water sewers .....	17,527	13 2
Sale of plans.....	1,933	0 0	Rent .....	1,138	7 6
Drainers and others—Accounts .....	44	15 6	Inlet and outlet house expenses, sewage farm .....	607	9 0
Rents receivable .....	277	17 11	Maintenance of sewage farm, Botany.....	1,048	0 3
Compulsory drainage .....	464	18 9	"    "    Rockdale.....	355	16 9
Agistment, sewage farm .....	38	15 9	"    ejector station, Alexandria.....	685	13 7
Miscellaneous receipts .....	2	9 9			21,363 0 3
Sale of produce, sewage farm .....	69	12 0	<i>Management.</i>		
"    live stock    "    .....	89	0 9	President's salary and Board fees .....	1,047	10 0
	105,172	19 4	Salaries .....	8,492	18 7
<i>Less—</i>			Stationery and printing.....	495	3 4
			Advertising and incidental expenses .....	1,034	10 0
Rates cancelled .....	£ s. d. 1,211	14 9			11,070 1 11
Revenue refunded.....	5 13 6	1,217 8 3	Depreciation.....		1,187 8 1
			Interest on—		
			Debentures .....	7,271	10 0
Balance .....		103,955 11 1	Loan expenditure .....	75,757	0 10
		15,738 15 3			83,028 10 10
		£119,694 6 4			£119,694 6 4

42

Sydney, 2 August, 1899.

Audited and found correct—  
T. KENNEDY, 18 September, 1899.

MELBOURNE GREEN,  
Accountant.



## Report on the Health of the Officers and Employees of the Board.

To the Secretary for presentation to the President and Members of the Board,—

Sir,

I have the honor to inform you that 147 persons presented themselves for examination during the past financial year. Thirty-four were examined as to their fitness for being employed by the Board; 25 were suffering from measles; 12 were suffering from accidents; 5 were ordered to return to work; 1 caused his illness through his own fault; 70 were suffering from general diseases; 1,150 days of leave were recommended. Subjoined is analysis of diseases, and the number of days of sick leave recommended for each disease.

I have, &c.,  
THEO. MAILLER KENDALL,  
Medical Adviser.

Diseases.	No. of days of sick leave recommended.	Diseases.	No. of days of sick leave recommended.
Rheumatism ... ..	84	Bicycle injury... ..	14
Influenza ... ..	94	Belladonna poisoning... ..	5
Measles ... ..	328	Diarrhœa ... ..	4
Ulcer of leg ... ..	53	Cancer ... ..	*21
Injured hand ... ..	27	Injury to foot ... ..	10
Carbuncle ... ..	20	Peritonitis ... ..	*2
Stone in kidney ... ..	19	Debility ... ..	14
Boils ... ..	38	Sprained wrist... ..	12
Pneumonia ... ..	*1	Sun ... ..	4
Sore throat ... ..	†28	Dog-bite ... ..	18
Dysentery ... ..	14	Broken ribs ... ..	35
Inflamed fingers ... ..	8	Disease of the eye ... ..	26
Catarrh ... ..	35	Paralysis ... ..	63
Piles ... ..	3	Bite of tongue ... ..	2
Liver ... ..	23	Typhoid fever... ..	42

\* Died. † One man died.

## Medical Adviser's Report on the Health of the Metropolis during the year 1898.

To the Secretary, for presentation to the President and Members of the Board,—

Sir,

I have the honor to submit my report on the health of the metropolis during the year 1898.

The population increased by 7,250 souls over the population for the year 1897, and the increase is to be noted both in the city and the suburbs.

Population.	1895.	1896.	1897.	1898.
City ... ..	103·870	100·000	95·850	97·500
Suburbs ... ..	319·730	308·500	314·150	319·750
Metropolis ... ..	423·600	408·500	410·000	417·250
Density per acre ... ..	48·7	44·9	45·93	46·1

The mean temperature for the year just ended was less than that for the year 1897. The extremes of temperature were sudden and severe, and the humidity was very great. The highest temperature, 99·7, was registered 19th October; the lowest, 40·4, 20th July; greatest range, 37·3, occurred 19th October, 1898.

Temperature.	1896.		1897.		1898.	
	Date.	Temperature.	Date.	Temperature.	Date.	Temperature.
January ... ..	6	105·2	18	51·7	19	98·1
" ... ..	13	108·5	22	90·6	22	58·3
" ... ..	30	63·0	22	76·0	.....	.....
February ... ..	1	98·0	6	61·3	9	94·8
" ... ..	4	58·7	24	90·5	20	59·8
March ... ..	5	80·9	11	51·8	2	83·8
" ... ..	31	52·6	14	92·9	16	55·6
April ... ..	8	83·9	12	88·0	3	83·0
" ... ..	15	51·0	22	50·8	22	48·5
May ... ..	3	81·0	9	44·0	22	66·8
" ... ..	13	45·2	17	78·8	25	42·4
June ... ..	22	42·5	10	68·8	11	65·4
" ... ..	28	67·0	30	44·8	28	41·5
July ... ..	2	39·8	18	41·4	20	10·4
" ... ..	5	66·0	31	66·9	27	70·1
August ... ..	1	40·5	5	42·3	18	42·7
" ... ..	.....	.....	31	72·0	28	72·4
September ... ..	13	78·0	5	45·8	22	89·8
" ... ..	26	44·6	18	81·9	28	47·2
October ... ..	12	92·4	25	87·9	2	48·9
" ... ..	.....	.....	12	47·3	19	99·7
November ... ..	1	48·3	3	52·0	2	93·7
" ... ..	18	88·0	20	99·4	11	53·6
December ... ..	8	58·4	12	57·8	2	93·7
" ... ..	28	101·0	17	87·1	11	53·6

The rainfall was greater than during the year 1897. The amount registered was 43·16 inches, or ·80 inch more than fell during the year 1897. It was distributed over 148 days, or eleven days more than during the year 1897.

Rainfall. Quarters ending—	1894.		1895.		1896.		1897.		1898.	
	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.
31 March ... ..	17·25	61	16·20	59	9·97	43	5·95	37	11·61	36
30 June ... ..	6·63	38	5·12	41	18·70	34	17·60	33	17·53	45
30 September ... ..	7·11	39	4·41	31	4·83	32	11·70	32	9·15	40
31 December ... ..	6·75	50	6·13	42	8·92	44	7·07	35	4·87	27
Total ... ..	37·74	188	31·86	173	42·42	157	42·30	137	43·16	148

The mortality due to general causes was much greater during the year 1898 than it has been for some years.

## DEATHS from General Causes.

Quarters ending.	1894.			1895.			1896.			1897.			1898.		
	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.
31 March ...	...	...	...	448	925	1,323	474	1,141	1,615	341	872	1,213	401	955	1,356
30 June ...	...	...	...	358	962	1,320	364	840	1,204	444	954	1,408	429	980	1,409
30 September ...	...	...	...	433	944	1,377	391	931	1,322	373	795	1,168	593	1,282	1,875
31 December ...	...	...	...	443	1,036	1,497	396	955	1,351	415	1,027	1,442	573	1,152	1,725
Total ...	1,782	4,177	5,961	1,682	3,867	5,549	1,625	3,867	5,492	1,573	3,648	5,231	1,996	4,369	6,365

## COMPARISON of Deaths in the Metropolis for ten Years.

Year.	Population.	Deaths under—				Total Deaths.	
		One Year.		Five Years.		Deaths.	Rate per 10,000 of Population.
		Deaths.	Rate per 10,000 of Population.	Deaths.	Rate per 10,000 of Population.		
1889 ...	357,470	5,323	66.09	4,273	121.9	6,431	182.9
1890 ...	370,357	1,850	50.0	2,516	67.9	5,591	150.9
1891 ...	389,655	2,175	55.7	2,821	72.4	6,418	169.8
1892 ...	406,480	1,830	45.0	2,422	60.0	5,512	135.6
1893 ...	431,710	1,966	47.7	3,161	76.7	6,418	156.8
1894 ...	423,600	1,788	42.1	2,373	53.6	5,961	140.7
1895 ...	423,600	1,331	31.4	2,156	50.9	5,549	130.9
1896 ...	408,500	1,711	41.8	2,232	54.5	5,492	134.4
1897 ...	410,000	1,551	38.0	1,976	48.2	5,231	130.0
1898 ...	417,250	1,934	46.1	2,699	64.6	6,365	151.8

It will be seen that the mortality for the year 1898 shows a considerable increase over that for any year since 1893, and is greater than that for the year 1897 by 1,134 cases. The annual mortality in London, which is one of the healthiest cities in the world, is about 168.0 per 10,000 of the population. Huddersfield, 132.0; Derby, 126.0; Croydon, 132; Liverpool, 220.0; Swansea, 230.0; Sunderland, 230.0; Bolton, 270.0; Edinburgh, 240.5. Taking into consideration, therefore, the effect of climate and the recent epidemic of measles which occurred during the latter half of the year, the Metropolis of Sydney shows as low a death-rate as that of any English town its own size, and a far lower death-rate than some of the Scotch and Irish towns. Of course, it must be admitted that other beneficial results of practical legislation have been at work, but it is worthy of remark that before the installation of the present water supply and sewerage systems the mortality from general causes reached as high as 200 per 10,000 of the population, but has since fallen, and although occasionally an epidemic may cause the death-rate to assume alarming proportions, this does not occur so frequently as it did during former years, and adjusts itself upon the subsidence of the epidemic. The increase in the mortality is made up by 268 cases of measles, 191 cases of whooping cough, 156 cases of bronchitis, 129 cases of pneumonia, 6 cases of diarrhoea, 14 cases of diphtheria, phthisis 90, and 284 from other causes.

## MORTALITY due—Measles and Respiratory Diseases.

	1897.			1898.		
	City.	Suburbs.	Metropolis.	City.	Suburbs.	Metropolis.
Measles ...	...	1	1	87	182	269
Whooping Cough ...	...	2	2	20	173	193
Bronchitis ...	49	113	162	111	207	318
Pneumonia ...	79	169	248	207	285	377
Total ...	128	285	413	310	847	1,157

The mortality due to measles was heavier during the year 1898 than it was during the last epidemic in the year 1893. As in the year 1893 the mortality from respiratory diseases increased greatly during the epidemic of measles, so the same occurred in the year 1898.

The



The zymotic death-rate in the city rose from 1·4 per 10,000 of the population at the end of December, 1897, to 2 at the end of January, 1898; fell to ·9 at the end of February, and remained at the same at the end of March. It fell during April to ·8, and at the end of May to ·6. Owing to the severe epidemic of measles it rose at the end of July to 2·3, and as the whooping cough increased it stood at the end of August at 5. As the epidemic abated the rate fell again at the end of September to 1·5, at the end of October to 1·1, rose slightly at the end of November to 1·9, and stood at the end of December at 1·8. In the suburbs this rate was 1·7 at the end of December, 1897; 1·2 at the end of January, 1898; 1·07 end of February; 1·3 end of March; 1·2 end of April; 1·1 end of May; 1·3 end of June; 1·7 end of July; 2·7 end of August; 3 end of September; 2·2 end of October; 2 end of November, and 2·3 end of December. With the ever-advancing tide of civilisation and for the convenience of trade, towns and villages increased both in size and number. Through the fact that some towns became more famous for trade than others, the population of such towns increased beyond the limits of proper and wholesome accommodation, so that many diseases came into existence which were formerly unknown, and the origin of such diseases without doubt was due to a want of appreciation of that cleanliness which is so important a factor in the welfare of large communities. During the Victorian age, owing to the unceasing efforts of many scientific bodies, the barriers of ignorance and prejudice are fast being broken down, and sanitary laws are more properly appreciated. The hygienic conditions of communities are constantly being raised to a higher standard, and, consequently, the mortality due to preventable diseases is annually decreasing. The experience of all those cities which have engaged in works belonging to a high state of civilisation, viz., the installation of a proper system of sewerage and a properly managed water supply, has been, that, as these systems have been extended, the public health has been raised to a higher standard, and that, although the decrease in the mortality has been very great after the establishment of a proper water supply, it has been still greater after the installation of a proper sewerage system.

The mortality from diarrhœa was slightly in excess of what it was for the year 1897, but not nearly so great as it was in former years. Since the extension of the Board's operations the rate has fallen from 10·9 per 10,000 of the population to 4·9. The summer rise of the mortality from diarrhœa coincided with the rise of the four-foot earth temperature, which reached the height of 67°. A systematic observation of these temperatures has been made during the year by Inspectors McKenzie and Lyons, and very careful readings have been taken in order that the correct temperature might be obtained.

#### MORTALITY from Diarrhœa.

Quarters ending—	1895.			1896.			1897.			1898.		
	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.
31 March ... ..	21	74	95	36	108	144	8	55	63	26	62	88
30 June ... ..	18	46	64	7	35	42	3	18	21	6	25	31
30 September ... ..	3	10	13	1	8	9	2	9	11	6	6	12
31 December ... ..	25	100	125	14	44	58	23	82	105	19	56	75
Total... ..	67	230	297	58	195	253.	36	164	200	57	149	206

Excessive humidity in the atmosphere, more especially during the existence of a high temperature, favours putrefactive change. Irregular removal of house garbage allows festering heaps to exist, and attracts flies and mosquitoes. Recently there has been much inquiry into the matter of dissemination of disease by means of insects, and it has been found that the mosquito is capable of disseminating disease. The subject has yet to be more completely worked out, but with the data at present obtained care should be exercised to prevent these insects from being a cause of disease. The recent action of the city municipal authorities in regulating the display of the dirt-boxes in front of houses is a step in the right direction; but there should be some attempt at regulating that sorting which is evidently necessary in order to prevent these inadequate receptacles of filthy household garbage from being raked and turned over on the public pavements by the itinerant rag and bottle merchants. To attain this desirable state it will be necessary for the municipal authorities to prescribe by a by-law the exact kind of dirt-box to be used by householders. It would be unjust to throw all the blame on the municipal authorities, and not to emphasise the importance of individual action in the prevention of disease, and it is impossible, unless individual responsibility is properly appreciated, to check the dangers arising through those mephitic vapours which come from the putrid exhalations of foul drains, ash-pits, dirt-boxes, and improperly managed pan-closets.

#### COMPARISON of the Rate of Mortality from Diarrhœa.

	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Number of deaths ... ..	384	263	288	297	305	281	297	253	200	206
Rate per 10,000 of population...	10·9	7·1	7·37	8·3	7·4	6·6	7·0	6·1	4·8	4·9

Among the other important factors for checking the spread of disease, especially in a hot climate such as that of this metropolis, street scavenging plays an important part. No municipal authority can afford to neglect street scavenging, and it must be thoroughly carried out by a properly trained staff of assistants if it is to be in any way effectual in coping with the increase of disease. It is now well known that

that many diseases are propagated by aerial convection, consequently every precaution ought to be taken to prevent infective dust from being carried into the atmosphere. No one has ever yet pretended that the inhalation of finely-pulverised horse-dung is a useful application to the respiratory membranes; and yet badly-carried-out street-scavenging allows such an evil to persist, notwithstanding that the researches of Klein have brought to light the fact that there is a bacillus, *enteriditis sporogenes*, largely present in horse-dung which has been pulverised into the dust of streets, as well as in such dung when found in other places. He considers that this bacillus is responsible for a form of diarrhœa which is liable to prevail in epidemics and to cause serious danger to life. This bacillus grows readily and well in milk, and, consequently, may through this medium be accountable for much of the mortality through diarrhœa. This discovery of Klein's is alarming, owing to the present faulty methods of distributing milk, and the evil manner in which householders leave their milk-jugs handy to street dust and prowling domestic animals. Another important cause of diarrhœa is to be found in soil. The organic pollution which renders a soil distinctly favourable to a high diarrhœa mortality need not be of a fœcal or excremental nature, and for this reason dwellings built upon made ground, refuse of towns, reclaimed areas, sites of old market-gardens, and places where the earth beneath is polluted by collections of liquid filth, are very likely to become the seats of a high rate of sickness and diarrhœal mortality, proving the truth of Lord Bacon's statement "that he who buildeth a house on an ill seat committeth himself into a prison." Such ill sites, however, are greatly improved by the laying of sewers; in fact, the tendency of any soil to cause diarrhœa is mitigated through this means.

DIARRHŒA.—Rate of Mortality from Diarrhœa per 10,000 of the Population.

	Before Laying of Sewers.	Since Laying of Sewers.
City of Sydney . . . . .	6·7	3·98
Municipality of Darlington . . . . .	6·6	2·00
Municipality of Glebe . . . . .	10·0	3·00
Municipality of Newtown . . . . .	5·2	2·8
Municipality of Paddington . . . . .	10·5	5·0
Municipality of Redfern . . . . .	15·5	5·0
Municipality of Waterloo . . . . .	27·0	17·0
Municipality of Woollahra . . . . .	9·1	4·0

That sewer air in a properly-ventilated sewer is not extraordinarily harmful is shown by the immunity from disease which is experienced by the men constantly working in sewers. The origin of contagious disease is not to be traced to such sewers, but will be found in some foul house-drain which, through neglect and improper flushing with water, has given rise to those dangerous emanations which cause nausea and lower the general vitality of the individual. Such chronic putrid gas-poisoning leads to attenuation and physical and intellectual weakness. It is now acknowledged that diphtheria is mainly an air-borne disease, and owes infectivity to germs which are carried in the air. As before mentioned, the subject of school attendance has, in the opinion of Sir Richard Thorne Thorne and others, a great bearing upon the increase of this disease. Diphtheria has no connection with sewers or sewer air except in so far as the constant breathing of any foul emanation will bring about a physical change in the system so as to increase its susceptibility, either through the simple vulnerability of the respiratory mucous membranes by which the infection enters, or by lessening the refractoriness of the whole system to infection.

DIPHTHERIA Mortality.

Quarters ending—	1894.			1895.			1896.			1897.			1898.		
	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.		
31 March . . . . .	29	2	23	25	0	10	10	3	12	15	0	11	11		
30 June . . . . .	46	4	25	29	4	39	43	2	14	16	2	30	32		
30 September . . . . .	35	4	17	21	1	18	19	0	16	16	0	23	23		
31 December . . . . .	24	0	13	13	1	12	13	0	8	8	1	2	3		
Total . . . . .	134	10	78	88	6	79	85	5	50	55	3	66	69		

Diphtheria is classed as a preventable disease, but it is difficult to understand its seasonal fluctuations and the causes of its epidemicity. Diphtheria is a filth disease, and the mephitic vapours which arise through the putrefaction of collections of decaying matter cause a physical weakness which renders the human system unable to cope with the virulence of the attack of the disease. A filthy dust-bin does not confine its dangerous attentions solely to its owner, but may give rise to such germs of disease as may be borne by currents of air into the dwelling of a cleanly neighbour, there to disseminate death and disease. This question of the filthy dust-bin applies also to ill-managed municipal rubbish tips, and it is a standing disgrace to any municipality that in this enlightened nineteenth century these filthy tips should exist, sending forth currents of air sewage to surrounding dwellings and even farther afield. The question of dealing with garbage is a difficult one, and cannot be approached without providing for that sorting which is inevitable, and the proper destruction of the remainder either by fire or by something equally destructive.

RATE of Mortality from Diphtheria per 10,000 of the Population in the Metropolis.

	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Number of deaths ... ..	188	149	179	120	128	134	88	85	55	69
Rate per 10,000 of population...	5.2	4.62	4.5	2.9	3.1	3.1	2.7	2.07	1.3	1.6

Phthisis, or more properly tuberculosis, is now acknowledged to be an infectious disease, which may be communicated by aerial convection or by ingestion of food. Sir William Broadbent remarks that "Consumption is no longer to be regarded as a visitation of God: for it is well known to be the result of man's ignorance and carelessness." There is some difference of opinion as to the relative frequency with which infection takes place by means of the lungs and the alimentary canal. It may be and is undoubtedly produced by the inhalation of specially infected dust containing the spores derived from dried and desiccated sputum which has been recklessly thrown out through the filthy, pernicious, and unnecessary habit of expectorating in public thoroughfares and conveyances. The introduction of Dumont's or Chauvette's spittoon may mitigate the danger from aerial convection of this disease, but a more definite result will be obtained by educating the individual to an appreciation of the danger of indiscriminate expectoration. As tuberculosis in infants and young children is very often a disease with lesions of cerebro-spinal membranes, or a disease affecting the intestines and their related lymphatic glands, there is good ground for belief that the infection in childhood at least finds its entry in a very large proportion of cases by way of the alimentary canal. The ingestion of food containing the active infective agent of tuberculosis cannot be regarded as free from danger at any age. Sir Richard Thorne Thorne remarks "that during the last half century sanitary improvements have reduced the death rate from phthisis, at any rate that form which is due to infection through aerial convection; but that form of tuberculosis caused through infection through the alimentary canal has steadily increased its number of victims, and this increase has gone hand-in-hand with the steady increase in the consumption of cow's milk." Brown, of Carlisle, has pointed out that the tuberculous lesions in cattle have the same localisations as in the human subject, and he lays great stress upon the great necessity for the periodical inspection of dairy cattle, because of the undoubted propagation of tuberculosis by milk. The fact that cow's milk enters so largely into the diet of infants and children, taken in conjunction with the special character of the distribution of the lesions in infancy and childhood, is sufficient in itself to draw attention to milk as being the usual vehicle of infection, more especially as it is well known that the milk of a tuberculous cow does contain the tubercle bacillus in an active state. Sir Richard Thorne Thorne has definitely proved that the increase of tuberculosis has not occurred during the meat-eating period of life but rather before it. In our metropolis the deaths from phthisis during the year 1898 comprised 7.7 per cent. of the total number of deaths from all causes, and the decrease during the last ten years has not been in the same ratio, for those tubercular diseases which Sir Richard Thorne Thorne ascribes to ingestion of food, as it has been for phthisis itself. Mr. Francis Fox, in speaking of this disease, states that 70,000 deaths could be avoided in Great Britain if people only understood the value of fresh air. He emphasised the fact that air passed through the human lungs becomes highly poisonous, and that the rebreathing of such air sewage was fraught with the gravest consequences to health. He states that the impurity of air in schools and dwelling-houses is often greater than it is in sewers, and he advocates most strongly that the public should be educated to appreciate the value and merits of fresh air.

MORTALITY from Phthisis.

Quarters ending—	1895.			1896.			1897.			1898.		
	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.
31 March ... ..	56	51	107	41	43	84	31	59	90	32	86	118
30 June ... ..	39	73	112	29	74	103	42	69	111	48	77	125
30 September ... ..	47	83	130	38	79	117	39	56	95	46	107	153
31 December ... ..	38	58	96	42	82	124	47	60	107	44	64	108
Total ... ..	180	265	445	150	278	428	159	244	403	160	334	504

MORTALITY from Phthisis in the Metropolis during the year 1898—According to age.

Under 5 years.	5 years to 10 years.	11 years to 20 years.	21 years to 30 years.	31 years to 40 years.	41 years to 50 years.	51 years to 60 years.	61 years to 70 years.	71 years to 77 years.
9	2	44	134	128	85	50	20	10

This last table tells its own tale of the loss of life during the wage-earning age, and the necessity for some measure to prevent what has happened during the year 1898 from again recurring, for the increase in the number of deaths from phthisis amounts almost to an epidemic. The average of the last ten years shows that the death rate in the city from phthisis has decreased from 15.5 per 10,000 of the population to 9.2, and in the other sewered districts there is an equally great decrease since the laying of deep sewers, showing that drying of the soil by the laying of deep sewers has had a beneficial effect in reducing the mortality from phthisis.

## PHTHISIS Mortality in 1898.

	Deaths reported.	District in which the largest number of Deaths occurred.
January ... ..	47	City, Balmain.
February ... ..	34	Redfern, Glebe, Woollahra.
March ... ..	36	City, Balmain, Redfern, Paddington, Waterloo.
April ... ..	33	City, Ashfield.
May... ..	45	Glebe.
June ... ..	37	Marrickville, Petersham.
July... ..	64	Balmain, Newtown, Waterloo, City.
August ... ..	49	Paddington, Glebe, Marrickville, North Sydney, City.
September ... ..	40	Balmain, Leichhardt, Newtown, Redfern, Glebe, Petersham, Paddington.
October ... ..	38	City, Balmain, Leichhardt, Newtown, Redfern, Petersham, Glebe, Paddington.
November ... ..	39	Balmain, Marrickville.
December ... ..	31	Balmain, Glebe, Willoughby.

During the whole year the greatest mortality from phthisis occurred in the western suburbs, then in order follow the northern suburbs, while the lowest mortality in the west central suburbs. In the individual suburbs, in proportion to their population, Lane Cove reports the highest mortality, and is followed in order by Canterbury, Enfield, Darlington, Marrickville, Waterloo, Glebe, Kogarah, Strathfield, Newtown, Paddington, Leichhardt, city of Sydney, Manly, North Sydney, Petersham, Camperdown, Redfern, Annandale, Willoughby, Waverley, Erskineville, Balmain, Five Dock, Botany, Ashfield, St. Peter's, Burwood, Alexandria, Ryde, North Botany, Woollahra, Hurstville, Concord, Rockdale, Mosman.

The year 1898 marks the new era of registration of cases of infectious disease which came into force at the beginning of this year as a part of the Public Health Act. Previous to this year no such regulation existed, but in the year 1894 a partial voluntary system of notification was instituted by the Board, which was attended with good results, and enabled many existing dangers to health to be abolished or remedied.

## CASES of typhoid fever reported.

Quarters ending—	1894.	1895.	1896.	1897.	1898.	Total.
31 March ... ..	214	186	253	150	334	1,137
30 June ... ..	168	90	216	167	269	910
30 September ... ..	27	36	45	36	75	219
31 December ... ..	133	96	102	118	205	654
Total ... ..	542	408	616	461	883	2,920

To thoroughly understand the disaster accompanying the dire results of epidemics of this disease, and the importance of this matter to statesmen, through the seeming impotence of medicine to effect a remedy, it is necessary to reduce these cases to a money value. As there were 497 fatal cases during this time, each life must be valued at £150, and each case being supposed to continue on an average for ten weeks, each week must be valued at £1.

$$\begin{array}{r} 497 \text{ lives at } \pounds 150 = \pounds 74,550 \\ 2,920 \text{ cases at } \pounds 10 = \pounds 29,200 \end{array} \quad \left. \vphantom{\begin{array}{r} 497 \text{ lives at } \pounds 150 = \pounds 74,550 \\ 2,920 \text{ cases at } \pounds 10 = \pounds 29,200 \end{array}} \right\} = \pounds 103,750$$

as the loss to the State in the Metropolis alone during five years.

## DISTRIBUTION of Cases of Typhoid Fever.

Month.	Cases.	Districts reporting greatest number in order of incidence.
January ... ..	143	Western suburbs, north-western suburbs, northern suburbs, west central suburbs, City of Sydney, east central suburbs, eastern suburbs, southern suburbs.
February ... ..	86	North-western suburbs, northern suburbs, western suburbs, City of Sydney, east central suburbs, west central suburbs, northern suburbs, eastern suburbs, southern suburbs.
March ... ..	105	North-western suburbs, west central suburbs, City of Sydney, east central suburbs, western suburbs, northern suburbs.
April ... ..	116	North-western suburbs, west central suburbs, western suburbs, eastern suburbs, east central suburbs, City of Sydney, northern suburbs, southern suburbs.
May ... ..	119	Western suburbs, north-western suburbs, east central suburbs, eastern suburbs, west central suburbs, City of Sydney, northern suburbs, southern suburbs.
June ... ..	34	East central suburbs, western suburbs, City of Sydney, west central suburbs, north-western suburbs.
July ... ..	41	East central, west central, north-western suburbs.
August ... ..	17	Western and north-western suburbs.
September ... ..	17	" "
October ... ..	23	" "
November ... ..	29	" "
December ... ..	153	Western, north-western suburbs, City of Sydney, northern, eastern, west central, east central, southern suburbs.

For the whole, in proportion to their population the western suburbs reported the greatest number of cases; then in order the west central, north-western, northern, east central, eastern, southern suburbs, and, lowest of all, the City of Sydney.

The subject of typhoid fever has for some years engaged the attention of all sanitary experts, and the question has resolved itself into one of national importance. Every attempt is being made to avoid this pest, and owing to the great strides made in scientific investigation there is every reason to suppose that in the near future the evil will be greatly minimised, if not altogether abolished. In order that the greatest amount of practical good may be obtained through the results of scientific research, it behoves every individual to recognise his true position of responsibility, for the very dog who quests around a post is making abstractions and drawing inferences, and therefore man should use his reasoning powers, for it is through ignorance and indifference that infectious material is scattered broadcast, diminishing the chances of recovery of persons suffering from disease, and imperilling the safety of others. The number of putrescible substances is not great, but they are universally distributed, and are derived from every organised being, and as germ-life is ubiquitous, hordes of anaërobic microbes quickly invade decaying matter with dangerous activity, causing injurious smells. Pathogenic germs, however, are of so delicate a nature that they soon perish in the struggle with swarms of saprophytes which simultaneously come into existence, and all recent investigation has been in the direction of attempting to arrange the surroundings of sewage farms and outfalls so that a still greater number of these saprophytes will be brought into existence and prove the destroyers of the pathogenic germs. Messrs. Dibdin and Thudichum, who have gone thoroughly into this matter, state: "Sewage purification is based upon the advances which have been made in the direction of treatment by natural agencies concentrated and controlled by art. Sewage is a mixture of a most varying and complex character, in which a process of oxidation is always taking place, and this oxidation is being promoted by the life-action of certain micro organisms. The problem, therefore, is how this natural method of oxidation may be best controlled and expedited. The best and most natural system hitherto tried, namely, the application of sewage to land, depends for its success entirely upon the fostering and increase of micro-organisms. But the use of crude sewage upon land leads to great difficulties, and it has not been seen that the same agencies which destroy the dissolved impurities could, if given the necessary conditions, equally deal with those in suspension. With the clear effluent it was possible to deal, although the process, being dependent so much on local conditions and climatic influences, was always uncertain. In the recognition of the fact that all processes of sewage purification must be made subservient to the requirements of the various micro-organisms lies the whole secret of success, and in the process of completely oxidising effete matters two stages are to be recognised in which distinct classes of organisms play their respective parts." Into the relative merits of the aërobian and anaërobian classes of organisms it is not at this present time necessary to inquire; but it is sufficient to state that oxidation constitutes the successful process, and the purifying action of the bacteria depends upon the passage of thin films of fluid over surfaces in the presence of air. When the first elementary ideas as to purification of sewage had passed away, two schools of thought arose; one advocated the treatment of sewage on land and others treatment without land. The first school can show that by downward filtration and irrigation a good and fairly pure effluent could be produced; but in many places land suitable for the treatment of sewage cannot be obtained, and attempts have been made to arrive at some process which will take the place of the sewage farm and prove cheaper in its working. "During the last few years filtration, through artificial media, such as ballast and coke, has been shown to be effective in purifying the sewage of towns. The value of these media has been brought out prominently by the experiments of Mr. Dibdin. Mr. Garfield, the manager of the Wolverhampton sewage works, conceived the idea that fine coal would prove the most efficient filter of sewage yet known, and along with Mr. E. W. T. Jones, the public analyst of Wolverhampton, he carried out a series of experiments, with good results, on the worst form of sewage known, viz., sewage contaminated with brewery refuse. Coal appears to have the special power of removing putrescent organic matter from sewage, and the effluent produced is as good or even better than that which may be obtained from land. It is superior to coke or ballast in that it has at once a chemical action, and its purifying power is marked from the first day it is used, although a still better

better result is obtained after a period of two or three months' use. The medium is cheap and easily obtained, and the death-knell of the costly sewage farm has been rung, and what is of far more importance from an economic and sanitary sense, the problem of sewage disposal has been at last solved." (Professor Bostock Hill.) By the labours of such men as Adeney, Dibdin, Thudichum, Garfield, and Jones, a flood of light has been thrown upon the whole subject of bacterial action in treating polluted waters, and the value of any system of sewage purification can be tested by the touchstone of well-established and fully-proved scientific truths. Out of the total number of cases of typhoid fever reported to the Board during the year 1898, more than 6 per cent. were under the age of 5 years, 40 per cent., or one-third of the total number, under 10 years of age, 70 per cent. under the age of 20 years, and 90 per cent. under the age of 30 years.

## DISTRIBUTION of Reported Cases according to Age.

Age.	Number of Cases Reported.
Under 5 years ... ..	55
5 years to 10 years ... ..	208
11 years to 19 years ... ..	256
20 years to 29 years ... ..	180
30 years to 39 years ... ..	110
40 years to 49 years ... ..	52
50 years to 59 years ... ..	13
62 years to 66 years ... ..	6
70 years ... ..	1
71 years ... ..	2
Total ... ..	883

A careful inquiry was made into the environment of these cases, with the following result:—

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
No sewers were available ... ..	120	60	67	69	88	18	23	6	9	12	17	119	604
Houses were in an insanitary state ... ..	19	18	20	19	19	8	11	5	5	8	7	30	169
Regulations had been complied with... ..	7	11	12	26	10	7	7	4	3	3	5	1	87
No fixed abode... ..	0	0	4	5	1	1	0	2	0	0	0	0	15
Came into port suffering fever ... ..	0	5	2	2	1	0	0	0	0	0	0	0	10
Total ... ..	146	94	105	116	119	34	41	17	17	23	29	151	883

In sanitary science the chief aim is to prevent putrefactive change. It is not germ-life itself which is dangerous to mankind, but the poisonous products of putrefactive change; and in order to limit and avoid the action of such products there is every need to secure those two great essentials of all sanitation, viz., pure air and pure water. The science of public health is not founded upon fads and fancies; it is founded upon solid facts, and all true hygiene is based upon the true principles of common sense and scientific research. The huge strides made by the advances in chemical science during the Victorian era have given rise to more correct data than those formerly in acceptance, and although it seems a pity to upset those notions of sanitation which have taken deep root in men's mind, and to demolish suddenly pet theories, still the truth must be told, in order to restore comfort, to avoid unnecessary alarm, and to place those very notions and theories on a firm basis. As before mentioned, putrefaction is a process of vast importance, as its results do not always remain in the locality in which it takes place, but are carried away by the power of diffusion and are distributed in atmospheric space. Such air sewage, loaded with morbid matter, may be carried by air currents beyond its own district into a healthier zone, consequently, each and every individual is responsible both to himself and his fellows to preserve both his person and his dwelling in a cleanly state so that all refuse shall be quickly removed from the neighbourhood of his habitation or shall be so guarded that it shall not become subject to putrefaction. Of the 883 cases of typhoid fever reported to the Board during the year 1898, 87 cases, or 9.8 per cent., of the total number reported, came from the dwellings the sanitary fittings of which were in accordance with the Board's regulations, and of these 87 cases, 42 cases, or 48 per cent., were school children. That so large a number of cases should occur among young children points to the fact which I have before emphasised, that parental control is not sufficient to prevent these children from playing about stinking places and thrusting the major part of their bodies into gully shafts and other dangerous holes. In addition to this parental control there is also the individual responsibility in keeping dwellings and their surroundings clean, and the necessity for this is more marked in those districts as yet unprovided with a proper system of sewerage, and still having to be content with the pit or pan closets, for it is to be noted that more than two-thirds of the total number of the cases of typhoid fever reported came from the unsewered districts. There is a marked degree of difference in the incidence of typhoid fever upon houses having different types of closets, and it is greatest upon those provided with the pail closet and common privy. The difficulty experienced with these two kinds of closets is that of keeping them clean, and although the pail closet is much to be preferred to the other, still there is the danger of some of the contents being spilled upon the surrounding earth or floor; being allowed to dry in that position, and being diffused as dust into the atmosphere, and carried through air to contaminate both it and water. "Happy is the man who neither breathes the one nor drinks the other when so contaminated." The responsibility for the health of the citizens in any town mainly rests upon its municipal body, and there is no necessity to allow unsightly and inadequate receptacles of house garbage to be displayed along the public thoroughfares, nor is there any need for those pestilence breeding heaps called "municipal tips." The proper disposal of street refuse and house garbage is to be arrived at by carrying out the inevitable sorting, and destroying the remainder by fire. The present arrangement encourages the itinerant rag and bottle merchant to ply their necessary trade without restriction, and thus very probably to disseminate disease. Such tips render the surrounding neighbourhood unhealthy, and afford a nidus for disease and other germs which are often highly inimical to human life. Of the 883 cases of typhoid fever reported to the Board, 73, or 8.1 per cent., proved fatal. Of these 73 cases, 49 died at the various metropolitan and suburban hospitals, and 24 at their own homes.

MORTALITY

## MORTALITY from Typhoid Fever.

Quarters ending—	1894.	1895.			1896.			1897.			1898.		
	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.	City.	Sub.	Met.
31 March ... ..	50	6	26	32	18	39	57	5	13	18	5	24	29
30 June ... ..	26	2	17	19	13	32	45	5	22	27	3	23	26
30 September ... ..	14	2	4	6	4	12	16	1	4	5	2	5	7
31 December ... ..	30	10	14	24	7	18	25	5	22	27	3	8	11
Total ... ..	120	20	61	81	42	101	143	16	61	77	13	60	73

Of these 73 cases, 49 died at the various hospitals.

Treated at—	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Sydney Hospital ... ..	1	1	1	3	0	0	0	1	0	0	1	0	8
Prince Alfred Hospital ... ..	0	1	3	1	1	0	1	0	0	0	0	1	8
Children's Hospital ... ..	1	0	0	0	0	1	0	0	1	0	0	0	3
St. Vincent's Hospital ... ..	1	0	0	0	0	0	0	0	0	0	0	0	1
Western Suburbs Hospital ... ..	0	0	1	0	1	1	0	0	0	0	0	0	3
North Shore Hospital ... ..	1	2	1	0	1	0	0	0	0	0	0	0	5
St. George's Hospital ... ..	0	0	0	1	0	0	0	0	0	0	0	1	2
Manly Hospital ... ..	0	0	0	0	0	0	0	0	0	0	0	1	1
Coast Hospital ... ..	2	5	3	2	2	2	2	0	0	0	0	0	18
Own Homes ... ..	4	1	0	3	5	2	0	1	1	4	0	3	24
Total ... ..	10	10	9	10	10	6	3	2	2	4	1	3	73

The districts from which the fatal cases came were: City of Sydney, Annandale, Leichhardt, Newtown, Redfern, Waterloo, Alexandria, Kogarah, Burwood, North Sydney, Manly, Ashfield, Paddington, Marrickville, Petersham, Randwick, Balmain, Hunter's Hill, Canterbury, Lane Cove, and from ships coming into port.

A careful inquiry was made into the environment of these cases, with the following result:—

	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
No sewers were available ... ..	5	5	5	6	7	5	3	1	0	2	0	6	46
Houses were in an insanitary state ... ..	4	3	2	4	3	0	0	1	2	2	1	0	22
Regulations had been complied with ... ..	0	0	0	0	0	1	0	0	0	0	0	0	1
No fixed abode ... ..	1	1	1	0	0	0	0	0	0	0	0	0	3
Came into port suffering from fever..	0	1	1	0	0	0	0	0	0	0	0	0	2
Total ... ..	10	10	9	10	10	6	3	2	2	4	1	6	73

Only 1 fatal case, or 1·3 per cent. of the total number, came from a dwelling the sanitary fittings of which were in accordance with the Board's regulations, and this case was proved to have come from a country district. Of these fatal cases, 5·2 per cent. of the total occurred under the age of 5 years, 16·4 per cent. under the age of 10 years, 38·3 per cent. under the age of 17 years, 47 per cent. under the age of 20 years, and 74 per cent. under the age of 30 years. Since the extension of the Board's operations there has been a very marked decrease in the mortality from typhoid fever.

## MORTALITY from Typhoid Fever.

	Before Laying of Sewers.	Since Laying of Sewers.
City of Sydney ... ..	5·07	1·3
Glebe ... ..	2·5	1·1
Darlington ... ..	4·0	·4
Newtown ... ..	6·6	2·5
Redfern ... ..	3·6	1·0
Waterloo ... ..	1·2	·9
Paddington... ..	2·7	1·5
Woollahra ... ..	2·1	·9

At the present time the most pressing work of the sanitary reformer is not to legislate, but to educate. The masses of the people must be taught to participate in the knowledge of the causes of preventable disease, for it is through ignorance and prejudice that people fail to appreciate the immeasurable results of sanitation.

I have, &c.,

THEO. MAILLER KENDALL,

Medical Adviser.

DISTRIBUTION



## DISTRIBUTION of Reported Cases of Typhoid Fever.

	No. of Cases Reported.	Rate per 10,000 of the Population.
City of Sydney ... ..	101	10·3
Suburbs—		
North-western—		
Balmain ... ..	44	15·7
Leichhardt ... ..	65	46·1
Annandale ... ..	38	51·4
Glebe ... ..	24	14·3
West Central—		
Newtown ... ..	32	11·0
Camperdown ... ..	7	10·0
Erskineville... ..	17	33·0
St. Peters ... ..	41	78·0
East Central—		
Redfern ... ..	36	15·3
Darlington ... ..	1	3·
Waterloo ... ..	19	22·
Alexandria ... ..	18	23·
Botany ... ..	8	23·1
North Botany ... ..	3	10·7
Eastern—		
Paddington ... ..	17	9·0
Waverley ... ..	7	7·0
Randwick ... ..	17	22·1
Woollahra ... ..	10	10·0
Western—		
Ashfield ... ..	45	36·5
Burwood ... ..	40	59·6
Enfield ... ..	12	49·6
Concord ... ..	11	48·0
Strathfield ... ..	4	15·0
Five Dock ... ..	5	38·4
Drummoyne... ..	6	28·3
Marrickville... ..	38	22·5
Petersham ... ..	42	33·4
Southern—		
Canterbury ... ..	22	64·2
Hurstville ... ..	4	8·0
Kogarah ... ..	5	15·5
Rockdale ... ..	7	11·2
Northern—		
North Sydney ... ..	39	21·2
Mosman ... ..	3	11·1
Willoughby ... ..	2	5·3
Manly ... ..	14	36·9
Ryde... ..	7	30·1
Hunter's Hill ... ..	11	27·5
Lane Cove ... ..	8	66·6

## COMPARISON of Mortality from Typhoid Fever in the Cities of Sydney, Melbourne, Adelaide, Brisbane, Perth, and Hobart.

City.	Area of City excluding Suburbs.	Population.	Density per Acre.	Deaths from Typhoid Fever.			
				Excluding Hospitals.		Including Hospitals.	
				Number.	Rate per 10,000.	Number.	Rate per 10,000.
Sydney... ..	acres. 2,226	97,500	46·1	4	·4	13	1·3
Melbourne ... ..	6,000	.....	.....	.....	.....	.....	.....
Adelaide ... ..	3,632	.....	.....	.....	.....	.....	.....
Brisbane ... ..	6,400	63,739	9·9	3	·4	17	2·5
Perth ... ..	2,657	.....	.....	.....	.....	.....	.....
Hobart... ..	1,270	29,643	23·3	5	1·9	24	8·1

## Medical Adviser's Report for Quarter ending 31 March, 1899.

To the Secretary, for presentation to the President and Members of the Board,—

Sir,

I have the honor to submit my report for the first quarter of the year 1899. The population of the metropolis shows a decided increase since the corresponding quarter of the previous year, and this increase is to be noted both in the city and the suburbs.

	1895.	1896.	1897.	1898.	1899.
City ... ..	103,870	100,000	95,850	95,250	97,875
Suburbs... ..	319,730	308,000	314,150	315,050	324,225
Metropolis ... ..	423,600	408,000	410,000	410,300	422,100
Density per acre in city ... ..	48·7	42·9	43·0	42·7	43·9

The temperature was subject to much variation, although the extremes approached were not so high as in former years, but the humidity was very great.

	1896.		1897.		1898.		1899.	
	Date.	Temperature.	Date.	Temperature.	Date.	Temperature.	Date.	Temperature.
January ... ..	13	108·5	18	57·6	19	98·1	2	88·7
"  ... ..	16	105·2	22	90·3	22	58·3	3	88·7
"  ... ..	30	63·0	...	.....	...	.....	31	54·2
February... ..	1	98·0	6	61·3	9	94·8	2	56·6
"  ... ..	4	58·0	24	90·5	20	59·8	27	83·1
March ... ..	5	80·0	11	57·8	2	83·8	21	56·8
"  ... ..	31	52·6	14	92·9	16	55·6	23	90·4

The highest temperature, 90·4, for the whole quarter just ended was registered 23rd March; the lowest, 54·2, 31st January; and the greatest range, 32·0, occurred 23rd March, 1899.

The rainfall was distributed over 41 days, or 5 days more than during the corresponding quarter of last year. The amount registered was 4·83 inches, or 6·78 inches less than fell during the corresponding quarter of last year. The quarter, therefore, has been remarkably dry.

### RAINFALL for the quarter ending 31st March.

1894.		1895.		1896.		1897.		1898.		1899.	
Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.
17·25	61	16·20	43	9·97	43	5·95	37	11·61	36	4·83	41

The total number of deaths from all causes was greater than the total for the corresponding quarter of last year, and the increase is to be noted in such diseases as whooping-cough, measles, typhoid fever, and phthisis.

### DEATHS from all Causes for the quarter ending 31st March.

	1894.	1895.	1896.	1897.	1898.	1899.
City ... ..	377	448	474	341	401	429
Suburbs ... ..	1,049	825	1,141	872	955	944
Metropolis ... ..	1,466	1,373	1,615	1,213	1,356	1,373

The zymotic death-rate in the city rose from 1·8 per 10,000 of the population at the end of December, 1898, to 2·5 at the end of January, 1899, the rise being due to the prevalence of whooping-cough. It fell at the end of February to 1·1, and at the end of March it stood at 1·0. For the suburbs this rate fell from 2·3 at the end of December, 1898, to 2·0 at the end of January, 1899, 1·3 at the end of February, and stood at 1·2 at the end of March.

MORTALITY from Diarrhœa, quarter ending 31 March.

	1895.	1896.	1897.	1898.	1899.
City ... ..	21	36	8	26	11
Suburbs ... ..	74	108	55	62	26
Metropolis... ..	95	144	63	88	37

The effect of insanitary conditions is seen in the miserable physique of the masses, their dirt and immorality, and the appalling sacrifice of infant life. It cannot be expected that the less educated masses will improve in physique and appreciate the value of cleanliness, both of person and dwelling, as long as they are provided with jerry-built houses flung together on building sites of made soil. Dr. Robertson, of Sheffield, has found, after a long course of experiments, that surface soils contain micro-organisms of different species, and that the number of these organisms is greater in made soils. Some of these micro-organisms, especially those found in made soils, are pathogenic in character, and as there is a tendency to upward diffusion, especially when accompanied by heat, these pathogenic micro-organisms while they lie dormant during the winter months, sally forth in the warmer months and become a menace to the general health. All made ground, therefore, especially that composed of household garbage and street refuse, ought to be avoided as sites for building purposes or public parks. It is not reasonable to suppose that street sweepings containing dried horsedung and other abominations can be at all healthy to use either for building sites or public parks. If diarrhœa, which is essentially a disease of the soil, is to be avoided, proper measures must be taken for preserving the soil itself free from germs of an evil nature.

MORTALITY from Diphtheria, quarter ending 31 March.

	1895.	1896.	1897.	1898.	1899.
City ... ..	2	0	3	0	0
Suburbs ... ..	23	10	12	11	2
Metropolis ... ..	25	10	15	11	2

Diphtheria is a disease which bears little if any direct relation to sewerage systems. Until late years it was a rural rather than an urban disease, but owing to the exigencies of advanced civilisation and the compulsory system of education more children are now thrown together than formerly, and this disease has therefore made greater progress. The disease itself is chiefly transmitted by air convection, and its relation to school attendance is well shown by what is called the holiday drop—that is, the disease is less frequently met with during the cessation of school attendance. Of course it must be remembered that individual carelessness contributes to the spread of this disease, and that through uncleanness and ignorance, innocent persons who appreciate the value of hygienic precautions may suffer infection and death.

MORTALITY from Phthisis, quarter ending 31 March.

	1895.	1896.	1897.	1898.	1899.
City ... ..	56	41	31	31	49
Suburbs ... ..	107	43	59	87	74
Metropolis ... ..	163	84	90	118	123

The bacillus of tuberculosis is a saprophyte as well as a parasite, and can grow in the organic matter contained in expired air, or in the vapour arising from the soil. To remedy this, overcrowding of rooms must be avoided; there should be free ventilation; or, in the words of Dr. Manson, swilling and flushing with fresh air; every facility for a plentiful supply of sunlight, and measures ought to be taken to free the soil from vapour by drying it. Ransome observes that free ventilation plus sunshine mitigates the peril from tuberculous sputum and disinfects it. The clearance of crowded sites and the reconstruction of insanitary house property is a matter of great importance in dealing with the spread of tuberculosis; and Broadbent states that "by the effects of subsoil drainage, improved hygiene, the raising of the general standard of cleanliness, and a greater attention to ventilation, the mortality from tuberculosis has been greatly reduced." Tuberculous people become a source of danger to others partly through the pernicious and unnecessary habit of expectoration which causes the dust of our streets to become laden with the bacillus of tubercle so that it becomes a source of danger through inhalation, and street sweepings become useless for other purposes and must be destroyed by fire unless the habit of expectoration can be in some way checked. It has been observed by Sir Richard Thorne and other eminent authorities that the mortality from tuberculosis in early childhood—that is, during the milk-feeding age,

age, has not decreased in the same ratio as it has during the meat-feeding age. The extension of bovine tuberculosis constitutes a serious economic loss and a new source of danger to man. Professor Delepine says although boiling of milk protects the consumer by being effective in killing the tubercle bacillus, there should be no need to practise it if proper supervision were exercised over the milking cows, and it only serves to cover up the sins of the owner of diseased cattle. Praussnitz has been making experiments in order to ascertain how far the contagion of tubercle may be traced to public vehicles and dwellings. He finds that not only the bacillus of tubercle is to be found in railway carriages, but also many other germs of a pathogenic nature among which were the bacillus of typhoid and septicaemia. Such being the case, it is little wonder that this disease thrives apace, and that the mortality due to it has been so great during the past quarter, which has been such a dry one.

The fatal cases of phthisis came from the following districts, which are arranged in the order of the greatest incidence of mortality:—Darlington, Five Dock, Waterloo, Concord, Willoughby, Botany, Redfern, Kogarah, North Botany, Burwood, Newtown, Manly, Paddington, Glebe, Marrickville, City of Sydney, Hurstville, Erskineville, St. Peters, Woollahra, Rockdale, Balmain, Ashfield, Randwick, Camperdown, North Sydney, Annandale, Alexandria, Waverley, Petersham.

DISTRIBUTION of Mortality from Phthisis, according to age, quarter ending 31 March.

1 year to 3 years.	10 years.	11 years.	18 years.	20 years to 29 years.	30 years to 39 years.	40 years to 49 years.	50 years to 59 years.	60 years to 66 years.	70 years.	77 years.
3	1	1	3	39	30	26	12	5	1	1

During the quarter just ended a fewer number of cases of typhoid fever was reported than during the quarter of last year. It must be remembered that during the years 1894, 1895, 1896, 1897, notification was not compulsory, so that all the cases occurring during these years were not reported.

CASES of Typhoid Fever reported, quarter ending 31 March.

1894.	1895.	1896.	1897.	1898.	1899.
214	186	253	150	339	306

Typhoid or enteric fever may be communicated either directly from one individual to the other, or by means of some vehicle, such as food, water, air, milk containing the microbe of the disease. Sir Charles Cameron looks upon typhoid as a semi-miasmatic disease which may cling to individual houses and thus infect succeeding tenants. The bacillus of typhoid fever is capable of living and multiplying in ordinary soil, and thrives even more readily in soil which has been polluted through badly arranged pavements, careless disposal of slop waters, and neglect of filth around privies and drains. Typhoid excreta should never be buried, as there is a tendency for the bacillus to work its way upward to the surface of the soil, and in the town of Nice the source of a typhoid epidemic was traced to the polluted subsoil which had been washed away by heavy rains. Typhoid excreta, therefore, ought always to be destroyed by fire.

DISTRIBUTION of Cases of Typhoid Fever during the quarter ending 31 March, showing the rate per 10,000 of the Population.

District.	Density of population per acre.	Rate per 10,000 of the population.		District.	Density of population per acre.	Rate per 10,000 of the population.	
		1899.	1898.			1899.	1898.
1 Botany ...	1.20	73.4	20	21 Balmain ...	32.94	5.6	7.7
2 Canterbury ...	.50	37.1	6	22 Alexandria ...	8.13	4.9	8.8
3 Annandale ...	22.82	33.0	29.1	23 Hunter's Hill ...	3.28	4.9	18.1
4 North Botany ...	1.47	25.0	0	24 City of Sydney	43.65	4.4	4.8
5 Burwood ...	6.28	17.9	1.5	25 Manly ...	1.60	4.2	30.3
6 Enfield ...	1.41	17.0	9.0	26 Rockdale ...	1.56	4.0	3.2
7 Concord ...	.97	17.0	8.7	27 Mosman ...	1.67	3.7	4.1
8 St. Peters ...	6.22	12.7	23.4	28 Paddington ...	49.49	3.6	1.0
9 Petersham ...	10.80	12.0	11.1	29 Kogarah ...	.91	3.3	3.3
10 Randwick ...	1.22	10.1	6.6	30 Erskineville ...	34.02	2.9	14.4
11 Leichhardt ...	13.72	9.0	17.7	31 Darlington ...	92.10	2.9	2.9
12 Ashfield ...	6.17	8.9	19.2	32 Willoughby ...	.79	2.4	0
13 Newtown ...	45.30	8.0	6.4	33 Waterloo ...	10.89	2.3	8.8
14 Lane Cove ...	.59	7.0	52.1	34 Waverley ...	5.79	.9	3.8
15 Redfern ...	55.79	6.9	4.7	35 Vaucluse ...	1.32	0	0
16 Woollahra ...	5.97	6.2	2.9	36 Strathfield ...	1.49	0	7.7
17 Glebe ...	36.50	5.9	6.5	37 Five Dock ...	1.01	0	0
18 Camperdown ...	17.75	5.9	2.8	38 Drummoyne ...	4.15	0	13.4
19 Marrickville ...	8.62	5.8	10.9	39 Hurstville ...	.72	0	4.0
20 North Sydney ...	9.78	5.7	19.9	40 Ryde ...	.32	0	0

The greatest incidence of typhoid fever occurred in the east central group of suburbs, which reported 10 cases per 10,000 of their population; next in the western suburbs, 9.5 cases; north-western suburbs, 9.4 cases; southern suburbs, 8.7 cases; west central suburbs, 7.3 cases; eastern suburbs, 4.5 cases; northern suburbs, 4.5 cases; city of Sydney, 4.4 cases. It is most interesting to note the decrease which has taken place in the number of cases of typhoid fever occurring in many of the suburbs. For instance, Erskineville, which was formerly noted for its great unhealthiness, is now to be pointed out for being practically free from typhoid fever, which was formerly its great curse. The scare which was recently raised about the great amount of typhoid fever in North Sydney, has proved a fabrication, as this suburb has never been more free from typhoid fever than it is at present, and it has only reported about half the number of cases of typhoid fever it reported for the corresponding quarter of last year. It is useless to provide any district with a proper system of sewerage and a good water supply, unless there is displayed some amount of care by the individual to keep these systems in good order, so that broken portions shall be renewed and every means taken to prevent chokage. No system, however perfect, will work successfully unless there is a careful supervision on the part of the householder; and if such supervision were only exercised even in a moderate degree there would be fewer cases of typhoid fever to report. In man and also in the lower animals during perfect health, there is a certain microbe, *Bacillus coli communis*, common bacillus of the intestine, which infects the intestines. It has been discovered that this bacillus is an adjuvant factor of typhoid fever, and that it may remain a perfectly harmless saprophyte or may rapidly alter its character and become possessed of intense pathogenic activity. Its virulence is subject to extraordinary variability, and the exaltation of its virulence may be due to an association with other organisms, pathogenic or non-pathogenic. Professor Ray Lankester looks upon this bacillus as perfectly innocent while it remains alone in the intestines of man or animals; but should this bacillus pass by any means from the intestine of animals and be conveyed into the intestine of man, it there meets the same bacillus of an equally saprophytic nature, and stirs it up by some means into activity and exalts its virulence so that it produces the symptoms of typhoid fever. This, then, emphasises the necessity of keeping all animals away from watersheds and reservoirs, for the presence of *Bacillus coli communis* in any water supply is a sign of contamination through animal excreta. Doctors Lorrain Smith and Tennant, while searching for the cause of the typhoid epidemic at Belfast, Ireland, discovered that the bacillus, *Coli communis*, has a special relation to typhoid fever, and that although it differs in its properties while in the healthy human intestine, symbiosis there with other bacilli even of its own kind increases its pathogenic power. Sanarelli states that when the typhoid process is set up, this bacillus acquires virulence and takes an active part in the disease through auto-intoxication. If then there is such an opportunity through which danger may arise, each individual should appreciate personal cleanliness, and hesitate before they recklessly and unnecessarily foul the soil around their dwellings or in the environment of any water supply. The experience of all eminent authorities, therefore, points to the exclusion of sheep, cattle, dogs, pigs, and horses from the gathering grounds of any water supply, and from the land surrounding reservoirs, and to ensure the public safety each and every water authority should own its gathering ground, so that it may be able to provide a large and growing population with pure water free from contamination, collected far above the haunts of man and delivered in a constant and abundant supply. There is danger to be feared through the existence of cultivated and manured land close to any source of water supply, for in Glasgow an epidemic of typhoid fever was traced to the drainings of such land. The larger towns of England have all purchased outright, and laid waste, their various catchment areas, and the city of Melbourne has followed the same practice for ensuring the purity of the water supply.

An inquiry was made into the environment of the 306 cases of typhoid fever reported to the Board with the following result:—

	January.	February.	March.	Total.
Sewers not laid ... ..	35	42	78	155
Sewers laid, houses not connected...	4	9	29	42
Dwellings insanitary ... ..	22	32	34	88
Regulations complied with ... ..	8	7	4	19
No fixed abode ... ..	0	1	0	1
Came into port suffering from disease ... ..	0	0	1	1
Total ... ..	69	91	146	306

It might reasonably have been supposed that in those dwellings which had been provided with a proper system of sewerage some effort would have been made to keep such fittings in good order, but the Inspectors' reports reveal that the gully traps were found broken, bath wastes choked, and in many places all things kept in a state of supreme dirtiness, so that it is little wonder that although fewer cases of typhoid fever were reported, the attacks were of greater virulence than during the corresponding quarter of last year, and more cases proved fatal. If, suddenly, through some unknown cause, a few people were removed and murdered, there would be a general outcry of inefficiency if the police were unable to unravel the fatal cause, but when hundreds are removed by death through disease which could have been prevented, supreme indifference is exhibited, and the finger of God is held responsible. The mortality from typhoid fever was greater during the past quarter than it has been for some years past. It is quite possible that the prolonged dry weather, with a close and humid atmosphere, has had something to do with this excessive rate of mortality; but the fact remains that ill-advised retrenchment on the part of municipal bodies, carelessness and uncleanness on the part of the individual, and, last of all, "tips of garbage," and those evil notices of "Rubbish may be shot here," have also aided the spread and virulence of the disease.

## MORTALITY from typhoid fever, quarter ending 31st March.

	1894.	1895.	1896.	1897.	1898.	1899.
City ... ..	.....	6	18	5	5	13
Suburbs ... ..	.....	26	39	13	24	28
Metropolis ... ..	50	32	57	18	29	41

The fatal cases came from the following districts, which reported the greatest number of deaths per 10,000 of their population in the order given:—Botany, Canterbury, Lane Cove, Enfield, Burwood, Randwick, Petersham, Newtown, Redfern, Balmain, Leichhardt, Waterloo, Ashfield, Woollahra, City of Sydney, Paddington.

A careful inquiry was made into the surroundings of these forty-one cases, with the following result:—

	January.	February.	March.	Total.
Sewers had not been laid ... ..	6	5	10	21
Sewers laid, houses not connected... ..	1	0	1	2
Dwellings insanitary ... ..	3	7	7	17
Regulations complied with... ..	0	0	0	0
Came into port suffering from disease ... ..	0	0	1	1
Total ... ..	10	12	19	41

More than half the cases, therefore, came from districts where sewers do not exist, and the greater part of the remaining cases came from dwellings in which sanitation was regarded with supreme indifference. Of the thirteen fatal cases reported for the city, eight came from unsewered districts for treatment. It is agreeable to again report that no fatal cases came from dwellings provided with proper sanitary systems, but it is well to remind the general public that such systems are not automatic, and that they require attention if they are to be kept in good working order, and to act as safeguards against disease.

I have, &c.,

THEO. MAILLER KENDALL,  
Medical Adviser.

## Medical Adviser's Report on the Health of the Metropolis for the Quarter ending 30 June, 1899.

To the Secretary, for presentation to the President and Members of the Board,—

Sir,

I have the honor to submit my report for the second quarter of the year 1899.

The population of the Metropolis has greatly increased since the corresponding quarter of last year; and the increase is to be noted both in the City and the Suburbs.

### POPULATION.

	1895.	1896.	1897.	1898.	1899.
City ... ..	103,870	100,000	95,850	95,250	98,250
Suburbs ... ..	319,730	308,000	314,150	315,050	328,700
Metropolis ... ..	423,600	408,000	410,000	410,300	426,950
Density per acre in city ... ..	46·7	44·9	43·1	44·1	44·1

The mean temperature was higher than it was during the corresponding quarter of last year. The extremes of heat and cold reached, however, were not so great. The highest temperature, 81°, was registered on 7 April, 1899; the lowest, 43·3°, on 29th June; and the greatest range, 19°, occurred on 8th April.

### TEMPERATURE.

	1896.		1897.		1898.		1899.	
	Date.	Temperature.	Date.	Temperature.	Date.	Temperature.	Date.	Temperature.
		° F.		° F.		° F.		° F.
April ... ..	8	83·9	12	88·0	3	83·0	7	81·1
" ... ..	15	51·0	22	50·0	22	48·5	29	51·6
May ... ..	3	81·0	9	44·0	22	66·8	3	72·0
" ... ..	13	45·2	17	78·8	25	42·4	24	44·3
June ... ..	22	42·5	10	68·0	11	65·8	23	68·3
" ... ..	28	67·0	30	44·8	28	41·5	29	43·3

The rainfall was distributed over forty-seven days, or two days more than during the corresponding quarter of last year. The amount registered equalled 20·74 inches, or 3·21 inches more than fell during the corresponding quarter of the year 1898.

### RAINFALL, quarter ending 30 June.

1895.		1896.		1897.		1898.		1899.	
Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.
5·12	41	18·70	34	17·70	33	17·53	45	20·74	47

The general death rate was lower during the last quarter than it was during the corresponding quarter of last year, in the Metropolis, but it was higher in the City proper, owing to the increase in the mortality from whooping cough, cancer, phthisis, and typhoid fever.

### DEATHS from all causes, quarter ending 30 June.

	1895.	1896.	1897.	1898.	1899.
City ... ..	358	361	444	429	477
Suburbs ... ..	962	840	954	980	926
Metropolis ... ..	1,320	1,201	1,398	1,409	1,403



The zymotic death-rate in the city stood at 1 per 10,000 of the population at the end of March, rose to 1·7 at the end of April, fell to ·6 at the end of May, and to ·2 at the end of June. For the suburbs this rate stood at 1·2 at the end of March, at ·9 at the end of April, fell to ·8 at the end of May, and remained at the same point at the end of June.

The mortality from diarrhœa shows a slight increase over that of the corresponding quarter of last year. Dr. F. W. Andrews has found that the anærobic bacillus described by Klein, and mentioned by me, was commonly met with in the many different forms of diarrhœa which he investigated. As this bacillus is found in the dung of horses and cows, it is necessary to use every precaution against the dust of this excrement being blown about the streets and inhaled by human beings. Since the inception of the Board's operations there has been a very marked decrease in the mortality from diarrhœa.

DIARRHŒA Mortality, Quarter ending 30 June.

	1895.	1896.	1897.	1898.	1899.
City ... ..	18	7	7	6	7
Suburbs ... ..	46	35	25	25	26
Metropolis ... ..	64	42	32	31	32

Recent investigations in the subject of diphtheria show that school attendance is an important though not sole factor in the spread of this disease. Dr. Newsholme contends that diphtheria is a disease which creeps slowly from place to place, and that months or even years may elapse before it takes root and begins actively to propagate itself. He also states further that besides personal infection there is another factor concerned in the spread of this disease and that that factor is "essentially protracted drought." Diphtheria is a disease beyond the scope and influence of the Board; it is a filth disease, and I have before drawn attention to the danger arising from dirty ash-bins through air sewage carrying the germs of disease to a healthy zone.

DIPHTHERIA Mortality, Quarter ending 30 June.

	1894.	1895.	1896.	1897.	1898.	1899.
City ... ..	.....	4	4	2	2	0
Suburbs ... ..	.....	25	39	14	30	7
Metropolis ... ..	75	29	43	16	32	7

The mortality from pulmonary phthisis shows a decrease as compared with that for the corresponding quarter of last year, but the mortality from other forms of tuberculosis shows a decided increase. Ransome shows that in England during the last thirty years there has been a steady decrease in the mortality from pulmonary tuberculosis in direct proportion to the improvement in general hygiene, but he makes it clear that there has been no such diminution in tuberculous disease of other organs, and he also agrees as to the evil influence of damp soils. According to most observers dried sputum is the ordinary vehicle of infection, and consequently every effort should be made to render this vehicle harmless. Professor Nocard considers it the duty of every medical practitioner to preach that "tuberculosis is a preventable disease, arising, in the majority of cases, from a contagion which can be easily guarded against," and Sims Woodhead states:—"The children of tuberculous parents may be placed under such conditions that they will never contract the disease. They do not inherit tuberculosis from their parents, though they may inherit those weaknesses of tissue and constitution which renders them peculiarly liable to succumb to the attacks of the parasites that in their parents are doing such damage. If the child is placed under such conditions that the tubercle bacillus can gain no access to it, by-and-by there will come a time at which the attacks of the bacillus are as futile as they are against the child who inherits from his parents all those protective agencies with which healthy individuals are endowed for the warding off of the onslaught of pathogenic micro-organisms." I have before drawn attention to the so-called pasteurisation of milk in large quantities, and I have expressed myself as doubtful of its value. As milk forms a very important portion of the diet of children it is highly necessary that it should be subject to proper hygienic control, as it is exceedingly difficult to preserve milk on account of its being particularly liable to infection by any hardy germs. Martin, Schroeder, Flügge, Lane-Notter and others agree that "there is at present no practicable and certain way for freeing milk, on a large scale, from germs, without at the same time seriously prejudicing its flavour and nutritive value." Truly sterile milk is very difficult of digestion.

PHTHISIS Mortality, Quarter ending 30 June.

	1895.	1896.	1897.	1898.	1899.
City ... ..	39	29	43	38	46
Suburbs ... ..	73	74	69	77	63
Metropolis ... ..	112	103	112	115	109

## DISTRIBUTION according to Age, quarter ending 30 June, 1899.

4 years.	14 years.	18 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	53 to 59 years.	62 to 69 years.
1	1	3	31	32	27	8	10

On the whole the mortality from phthisis shows a decrease for the past quarter in the metropolis. The greatest incidence of this mortality occurred in the western suburbs, next in the north-western suburbs, then in order, the eastern suburbs, the city of Sydney, the west-central suburbs, the east-central suburbs, and the southern suburbs. Of the individual suburbs Five Dock reported the greatest mortality, then in order Drummoyne, Canterbury, Enfield, Ashfield, Botany, Glebe, city of Sydney, Paddington, Newtown, Randwick, Willoughby, Balmain, Hurstville, Leichhardt, Marrickville, Petersham, North Sydney, Rockdale, Annandale, Camperdown, Redfern, Alexandria, Waterloo.

## TYPHOID Fever, Cases reported quarter ending 30 June.

Voluntary Notification.		Compulsory Notification.	
1896.	1897.	1898.	1899.
216	165	252	257

There is a slight increase in the number of cases of typhoid fever reported during the past quarter when compared with the corresponding quarter of past years. An inquiry was made into the environment of each of these 257 cases with the following result:—

	April.	May.	June.	Total.
Sewers not laid ... ..	63	63	26	152
Sewers laid, houses not connected ... ..	6	6	1	13
Dwellings insanitary ... ..	29	24	18	71
Regulations complied with ... ..	7	5	7	19
No fixed abode ... ..	1	0	0	1
Came into port suffering from the disease ... ..	1	0	0	1
Total ... ..	107	98	52	257

Of the different causes of typhoid fever none need be emphasised more strongly than human indifference. The recent investigations of the treatment of sewage through bacterial action, leads us to hope that in the near future the dangers arising from sewage will be reduced to a minimum; but it is useless to hope unless the whole individual members of the community assist in furthering the aims of those sanitary systems which have been provided. Human indifference is exhibited in neglect of making use of these systems and in regarding them as automatic, and unless activity is shown and apathy shaken off, nature will exact the penalty and disaster will befall us. The revelations of the inspectors' reports are truly awful—many places are provided with proper sanitary systems, but householders have failed to connect with them—cisterns broken and not provided with water—broken water connections—cracked pans—choked drains—deficient ventilation—and dirty houses, all contribute to swell the list of the causes of the virulence of the present epidemic of typhoid fever. More power is required to deal with these evils and prevent the repeated reporting of certain dwellings as hot-beds of typhoid fever. Proper house to house inspection is needed so that people may be kept healthy, and more inquiry should be made by would-be tenants. If would-be tenants insisted on the production by a landlord of an authorised certificate showing that the sanitary systems of the dwelling are in good order and in accordance with the regulations of the Board, the present powers of the Board would be extended, and material assistance could then be given to carry out necessary reforms and to make landlords understand that their first duty is the preservation of the health of the tenant. In this way the standard of national health would be raised and the national wealth increased. The scientific investigations of Dr. Sidney Martin go to prove that soil plays an important part in the propagation of typhoid fever and it is not always a water-borne disease. These results are supported by those obtained by Dr. Robertson, who has shown that the typhoid bacillus can persist in soils through the winter months, and can take on new growth during the warm season. Sir Charles Cameron has repeatedly insisted that typhoid fever is a soil disease, and Sir Richard Thorne has emphasised that soil may be highly favourable to the vitality and propagation of the typhoid bacillus. Instances of soil infection have presented themselves during the present epidemic, and every effort should be made to secure the best weapon of defence, by keeping the soil dry, and free from organic matter, so that the organisms will be deprived of the essential conditions for existence. It is in the privy or midden that the danger arises, for it is impossible to ensure the disinfection of a midden once polluted by typhoid dejecta, and as these receptacles are seldom impervious, the surrounding soil soon becomes saturated with infective faecal matter. One of the strongest objections to earth closets is the fact that bacilli may remain alive for an almost indefinite period in mould or ashes, and as Robertson has shown that there is a tendency on the part of disease germs to upward diffusion through soil, it is not unlikely that the buried contents of such closets may prove detrimental to health. There can be no doubt that typhoid dejecta ought to be destroyed by fire, and ought never to be allowed to pass into a sewer or be buried in the soil.

## TYPHOID FEVER, Cases reported Half-year ending 30 June.

District.	Density of Population per acre.	Rate per 10 000 of the population.		District.	Density of Population per acre.	Rate per 10,000 of the population.	
		1898.	1899.			1898.	1899.
1 Botany ...	1.20	32.2	112.6	21 Manly ...	1.60	30.3	9.9
2 Canterbury ...	.50	3.1	51.4	22 Camperdown...	17.75	7.0	9.8
3 Annandale ...	22.82	30.7	44.8	23 City of Sydney	44.1	6.2	9.6
4 Burwood ...	6.28	45.4	38.8	24 Marrickville ..	8.62	15.2	8.7
5 North Botany..	1.47	7.0	37.5	25 Waterloo ...	10.89	15.0	8.0
6 Concord ...	.97	34.7	34.0	26 Strathfield ...	1.49	7.7	7.7
7 St. Peters ...	6.22	54.0	29.0	27 Paddington ...	49.49	4.6	6.7
8 Randwick ..	1.22	14.6	22.7	28 Woollahra ...	5.97	6.8	6.2
9 Petersham ...	10.80	20.6	22.3	29 Alexandria ...	8.13	14.8	6.1
10 Leichhardt ...	13.72	34.4	17.4	30 Kogarah ...	.91	9.0	6.0
11 Enfield ...	1.41	25.0	17.0	31 Rockdale ...	1.56	6.4	6.0
12 Ashfield ...	6.17	26.0	16.0	32 Hunter's Hill..	3.28	23.0	5.6
13 Balmain ...	32.94	11.2	16.6	33 Erskineville ...	34.02	24.7	5.5
14 Mosman ...	1.62	4.3	15.1	34 Darlington ..	92.10	2.9	2.9
15 Five Dock ...	1.01	29.5	14.2	35 Hurstville ...	.72	4.0	2.0
16 Redfern ...	55.79	13.0	13.1	36 Willoughby ...	.79	0	2.0
17 Lane Cove ...	0.59	60.8	13.1	37 Waverley ...	5.79	5.8	9.
18 Newtown ...	45.30	12.9	12.4	38 Drummoyne...	4.15	25.2	0
19 Glebe ...	36.50	10.0	10.7	39 Ryde ...	.32	30.1	0
20 North Sydney	9.78	17.0	10.0				

The greatest incidence of typhoid fever during the past quarter occurred in the north-western suburbs, and then in order in the western suburbs, the west-central suburbs, the east-central suburbs, the city of Sydney, the northern suburbs, the southern suburbs and the eastern suburbs. As compared with the first half of last year there was an increase in the number of cases reported from Botany, Canterbury, Annandale, North Botany, St. Peters, Randwick, Petersham, Balmain, Mosman, Redfern, Newtown, Glebe, Camperdown, city of Sydney, Woollahra, Strathfield, Paddington, Hurstville and Willoughby. Typhoid fever has proved more virulent during the past quarter than during the corresponding quarter of last year and more fatal cases have been reported.

## TYPHOID FEVER MORTALITY, quarter ending 30 June.

	1894.	1895.	1896.	1897.	1898.	1899.
City ... ..	...	2	13	4	23	12
Suburbs ... ..	...	17	32	22	3	16
Metropolis ... ..	27	19	45	26	26	28

Died at.	April.	May.	June.	Total.
Sydney Hospital ... ..	3	2	1	6
Prince Alfred Hospital ... ..	1	3	1	5
Coast Hospital ... ..	2	0	0	2
St. Vincent's Hospital ... ..	3	1	0	4
Children's Hospital ..	1	0	0	1
Western Suburbs Hospital ... ..	0	1	1	2
Own Home ... ..	1	4	3	8

A careful inquiry was made into the environment of these 28 cases.

	April.	May.	June.	Total.
Sewers had not been laid ... ..	3	5	4	12
Sewers laid, houses not connected ... ..	1	2	0	3
Dwellings insanitary ... ..	7	4	2	13
Regulations complied with ... ..	0	0	0	0
Total ... ..	11	11	6	28

Six of these fatal cases came from the City of Sydney, three from Redfern, two from Balmain, two from Burwood, two from Glebe, one from Woollahra, one from Canterbury, one from Ashfield, one from Annandale, one from Paddington, one from St. Peters, one from North Sydney, one from Waterloo, one from Newtown, one from Strathfield, one from Mosman, and one from Katoomba. Eight cases died at their own homes and twenty at the various hospitals.

I have, &c.,

THEO. MAILLER KENDALL,

Medical Adviser.

Annual

## Annual Report of Assessor's Branch.

Sir,

Sydney, 28 August, 1899.

I have the honor to submit the following report on the working of this Branch during the year ending 30 June, 1899.

### Rate Notices.

During the year 309,541 notices were served, which includes those for new mains, new sewers, and finals for payment of overdue rates, being an excess of 19,523 over the preceding year.

### New Mains, New Sewers, and Stormwater Drains.

690 properties became liable for rates from new mains, 9,271 from new sewers, and 533 from new stormwater drains, making a total of 10,494 properties liable for new works. This is an increase over the previous year of 5,092, chiefly due to the extension of the Western Suburbs and North Sydney Sewerage Schemes.

### New Assessments.

The new buildings assessed and rated by the Department during the year numbered 1,434, and the fees for the use of water for building purposes amounted to £2,402 9s. 11d.

On the 17 March the Board sanctioned the use of meters for residential buildings in cases where builders elected to take the water in that way instead of by payment of the special fee. This concession is being largely availed of.

### Recovery of Rates.

During the year the rates and meter accounts received amounted to £277,200 4s. 1d., being £18,306 13s. 8d. in excess of the amount received in the preceding year. The arrears outstanding on the 30 June compared with the previous year are as shown in the following table:—

Comparative Return of Arrears carried forward.	1897-98.			1898-99.		
	£	s.	d.	£	s.	d.
House property—						
Water Rates ... ..	2,713	9	8	2,355	11	9
Sewerage Rates ... ..	2,440	19	2	1,507	12	7
Drainage „ ... ..	128	15	10	133	9	11
Vacant Land—						
Water Rates ... ..	5,150	19	0	4,502	18	11
Sewerage Rates ... ..	1,161	1	6	1,105	16	9
Drainage „ ... ..	344	7	2	309	7	9
Churches and Charities—						
Water Rates ... ..	4,643	8	6	5,233	17	6
Sewerage Rates ... ..	4,084	5	0	4,264	2	11
Drainage „ ... ..	100	12	11	137	15	6
Stock Fees ... ..	314	17	7	6	17	2
Garden „ ... ..	131	3	8	.....		
Special „ trade purposes ... ..	134	11	7	2	1	3
Meter Accounts ... ..	16,252	14	4	20,375	15	4

### Special Fees.

The fees received for stock, gardens, and water for trade purposes, show satisfactory increases.

From stock £2,642 8s. 2d. was received, being an increase of £102 3s. 2d.; from gardens, £2,429 8s. 5d., or an increase of £418 16s. 7d.; water for trade purposes, £678 6s. 11d., an excess of £120 11s.

The resolution of the Board to have meters fixed on all gardens where the area to be watered exceeds 1,000 square feet, affects 1,318 gardens, and while reducing the revenue under this head for the ensuing year, will augment the meter revenue.

Summons

## Summons Work.

The operations of the year have resulted in a decrease in the amount of arrears to be carried forward on house property and vacant land, and in view of the fact that it has been possible to attain this result with the issue of fewer summonses than last year, cannot be regarded as other than satisfactory.

40,884 final notices were served, and 4,049 summonses issued (5,976 summonses served in the preceding year). The following table shows the issue from each court, viz.:—

Balmain Court	...	...	...	...	...	256
Campbelltown Court...	...	...	...	...	...	6
Central Court	...	...	...	...	...	446
District Court	...	...	...	...	...	48
Glebe Court ...	...	...	...	...	...	496
Hunter's Hill Court...	...	...	...	...	...	36
Liverpool Court	...	...	...	...	...	21
Newtown Court	...	...	...	...	...	1,147
North Sydney Court...	...	...	...	...	...	250
Paddington Court	...	...	...	...	...	259
Parramatta Court	...	...	...	...	...	99
Redfern Court	...	...	...	...	...	330
Richmond Court	...	...	...	...	...	.....
Ryde Court ...	...	...	...	...	...	15
Water Police Court ...	...	...	...	...	...	640
Total	...	...	...	...	...	4,049

Includes 112 summonses for breaches of by-laws.

## Properties rated to 30 June, 1899.—City of Sydney and Suburbs.

	Houses.	Vacant land.	Total.	Supplied with water.
<i>Water.</i>				
City and Suburbs ... ..	91,698	21,489	113,187	91,216
Campbelltown ... ..	204	16	220	212
Liverpool ... ..	422	77	499	251
Richmond ... ..	230	.....	230	230
Smithfield and Fairfield ... ..	92	9	101	69
Parish of Gordon ... ..	1,030	519	1,549	622
Total ... ..	93,676	22,110	115,786	92,600
<i>Sewerage.</i>				
City of Sydney and Suburbs ... ..	63,569	5,313	68,882	53,720

The assessment made by the suburban councils, and also by the City Council, on which the Board's rates are based, have shown a declining tendency since the year 1892, and have in some measure affected the revenue for the year under review. It is satisfactory, however, to note that the assessments made by the municipal councils in February last—taken as a whole—show no appreciable decrease.

It is, therefore, anticipated that the Board will receive the full benefit of all new revenue derived from the various extensions of the water mains and sewers, instead of the amount being absorbed in the general decline, as has been the case for some years past.

The Secretary.

THOMAS ROSEBY,  
Assessor.

No. 1.—SUMMARY of Properties Liable and Notices Delivered during 1898-9.

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Ward or Borough.	No. of Properties liable.									No. of Notices delivered during year ending 30 June, 1899.													Totals.		
	No. of Properties liable 1 July, 1898.			New Properties on Old Mans becoming liable during the year.			Properties becoming liable through New Mans, New Sewers, and New Drains.			Total No. of Properties liable on 30 June, 1899.			Water, Sewerage, and Drainage Rates.	New Properties on Old Mans and Sewers including Notices to connect.	New Mans, including Notices to connect.	New Sewers, including Notices to connect.	New Drains.	Second Notices to connect to Sewers.	Demand Notices for payment of Sewerage Expenses.	Stock Notices.	Garden Notices.	Special Fee Notices.		Final Notices, including Special Fees.	Distress Notices.
	Water.	Sewerage.	Drainage	Water.	Sewerage.	Drainage.	Water.	Sewerage.	Drainage.	Water.	Sewerage	Drainage.													
Bourke Ward	1,170	1,015	.	4	4	..	..	1	..	1,174	1,050	..	2,365	52	..	1	..	..	..	27	10	91	473	5	3,024
Brisbane Ward	1,290	1,207	..	3	1	..	..	..	..	1,293	1,208	..	2,656	38	..	..	..	..	..	67	2	88	609	19	3,479
Cook Ward	6,221	6,213	..	8	8	..	..	..	..	6,229	6,221	..	12,407	106	..	..	..	..	..	423	42	51	1,529	49	14,607
Denison Ward	4,280	4,056	..	10	10	..	..	1	..	4,290	4,067	..	8,789	89	..	1	..	..	258	9	47	1,122	28	10,344	
Fitzroy Ward	3,671	3,639	4	5	4	..	..	6	..	3,676	3,649	..	7,394	41	..	..	..	..	143	95	27	1,020	22	8,742	
Cipps Ward	1,906	1,735	..	12	10	..	..	..	..	1,918	1,745	..	3,758	71	..	..	..	..	44	8	89	640	31	4,591	
Macquarie Ward	2,044	2,044	..	1	1	..	..	..	..	2,045	2,045	..	4,108	7	..	..	..	..	97	5	89	1,053	10	5,369	
Phillip Ward	2,539	2,549	..	14	14	..	..	..	..	2,553	2,563	..	5,177	86	..	..	..	..	146	8	53	878	27	6,375	
Alexandria	2,432	1,808	19	9	5	1	..	3	..	2,441	1,816	20	5,272	50	..	5	..	79	159	16	7	1,008	15	6,642	
Annandale	1,979	1,489	..	23	19	..	9	1,224	..	2,011	2,732	..	4,225	99	9	1,270	..	242	196	56	23	830	9	6,990	
Appin	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	..	21	
Ashfield	3,498	..	3,005	12	..	11	1	..	..	3,511	..	3,016	7,883	64	..	..	..	..	230	248	25	1,308	36	9,794	
Auburn	671	..	..	6	..	..	70	..	..	747	..	..	2,023	12	..	60	..	..	33	6	1	202	8	2,345	
Balmain	7,007	234	1,944	34	..	17	..	3	..	7,041	237	1,961	14,692	119	..	3	..	..	332	196	38	2,543	46	17,969	
Bankstown	15	..	..	1	..	..	..	..	..	16	..	..	39	1	..	..	..	..	..	..	..	12	..	12	
Botany	619	..	..	13	..	..	34	..	..	666	..	..	1,324	14	..	..	..	..	48	14	6	195	1	1,656	
Burwood	1,831	..	968	4	..	3	11	..	..	1,846	..	971	3,902	34	11	..	..	..	118	117	13	692	19	4,906	
Campbelltown	218	..	..	2	..	..	..	..	..	220	..	..	494	2	..	..	..	..	14	9	1	148	..	668	
Camperdown	1,661	1,314	..	7	4	..	..	..	..	1,668	1,318	..	3,443	25	..	..	..	..	171	18	9	671	26	4,363	
Canterbury	911	..	69	15	..	..	37	..	..	963	..	60	1,928	24	18	..	..	..	54	13	2	336	7	2,382	
Concord	655	..	..	9	..	..	5	..	..	669	..	..	1,591	10	6	..	..	..	46	14	1	209	7	1,584	
Darlington	762	763	..	2	2	..	..	..	..	764	765	..	1,538	8	..	..	..	..	52	2	2	243	2	1,347	
Drumoyne	1,070	..	..	2	..	..	5	..	..	1,097	..	..	2,249	44	5	..	..	..	59	35	5	289	3	2,689	
Enfield	674	187	..	1	..	1	18	..	..	693	..	188	1,477	10	..	..	..	45	18	4	257	6	1,819		
Erskineville	1,396	1,368	19	3	..	..	3	1	..	1,399	1,369	19	2,854	8	3	1	..	10	104	8	19	383	3	3,453	
Five Dock	416	..	..	3	..	..	..	..	..	419	..	..	989	5	..	..	..	..	39	4	..	139	5	1,181	
Glebe	4,008	3,230	245	13	..	10	5	21	..	4,026	3,251	255	8,175	80	5	33	..	242	296	181	25	1,314	41	10,397	
Gordon	1,432	..	..	67	..	..	50	..	..	1,549	..	..	3,185	121	44	..	..	..	44	12	..	624	5	3,985	
Glanville	1,503	..	..	8	..	..	4	..	..	1,515	..	..	3,410	17	2	..	..	..	65	33	3	430	12	3,972	
Guildford	43	..	..	2	..	..	..	..	..	45	..	..	92	2	..	..	..	..	2	..	..	17	..	113	
Homebush	320	..	..	3	..	..	..	..	..	323	..	..	675	3	..	..	..	..	12	4	..	75	..	769	
Hoxton Park	1	..	..	..	..	..	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	2
Hunter's Hill	758	..	..	14	..	..	2	..	..	774	..	..	1,551	20	..	..	..	..	56	40	6	363	10	2,046	
Hurstville	1,629	..	..	30	..	..	33	..	..	1,692	..	..	4,290	45	6	..	..	..	116	58	4	607	7	5,133	
Islands	24	..	..	..	..	..	..	..	..	24	..	..	50	..	..	..	..	..	..	..	..	..	..	..	50
Kogarah	1,416	..	..	11	..	..	15	..	..	1,442	..	..	2,798	19	2	..	..	..	77	36	5	381	11	3,329	
Lane Cove	574	..	..	9	..	..	10	..	..	593	..	..	1,159	13	12	..	..	..	21	16	1	137	8	1,367	
Leichhardt	4,070	1,348	1,046	38	13	3	22	776	..	4,130	2,137	1,049	8,940	152	23	1,097	..	7	337	143	34	1,731	64	12,528	
Liverpool	486	..	..	6	..	..	7	..	..	499	..	..	1,165	6	4	..	..	..	27	11	4	397	10	1,624	
Marrickville	4,289	1,358	..	205	94	..	38	1,711	..	4,532	3,163	..	9,764	385	31	1,850	..	..	459	332	52	1,744	24	14,691	
Mosman	1,836	..	..	77	..	..	60	..	..	1,973	..	..	3,340	152	60	..	..	..	40	180	3	529	9	4,313	
Newtown	5,030	4,321	20	30	24	..	1	1,428	..	5,061	5,773	20	10,217	121	2	2,520	..	125	409	73	60	1,921	40	15,571	
North Botany	732	9	..	11	..	..	59	..	..	802	9	..	1,986	18	92	..	..	..	108	15	4	205	1	2,429	
North Sydney	6,340	2,637	508	60	37	..	60	2,891	22	6,460	5,565	537	11,182	261	70	2,638	22	..	280	417	39	2,208	25	17,143	
Paddington	4,552	4,378	..	195	6	1	..	201	..	4,747	4,585	172	9,191	330	..	258	..	..	284	102	23	1,521	32	11,743	
Parramatta	12	..	..	..	..	..	..	..	..	12	..	..	42	..	..	..	..	..	2	3	..	11	2	60	
Petersham	3,386	1,205	1,805	73	24	..	12	628	..	3,471	1,857	1,805	6,840	220	14	617	..	137	229	316	41	1,528	23	9,965	
Prospect and Sherwood	218	..	..	6	..	..	7	..	..	231	..	..	511	7	3	..	..	..	10	1	..	143	11	686	
Randwick	2,225	859	..	39	15	..	28	2	..	2,292	876	..	4,751	102	4	4	..	..	138	119	12	910	26	6,076	
Redfern	4,764	4,765	..	25	13	..	..	..	..	4,789	4,783	..	9,710	91	..	..	..	..	343	36	55	1,478	34	11,747	
Rockdale	2,370	..	..	42	..	..	..	..	..	2,429	..	..	5,218	64	19	..	..	..	174	131	8	931	8	6,553	
Rookwood	484	..	..	5	..	..	7	..	..	496	..	..	1,141	6	9	..	..	..	14	3	..	177	7	1,357	
Ryde	436	..	..	7	..	..	..	..	..	443	..	..	931	9	..	..	..	..	42	8	..	203	..	1,194	
Silver Water	128	..	..	9	..	..	..	..	..	137	..	..	299	9	..	..	..	..	7	..	..	35	..	350	
Smithfield and Fairfield	98	..	..	..	..	..	3	..	..	101	..	..	290	1	2	..	..	..	6	..	1	111	1	352	
St. Peters	1,688	..	..	4	..	..	..	..	..	1,692	..	..	3,422	15	..	..	..	..	166	20	15	432	7	4,077	
Strathfield	739	..	82	10	..	3	14	..	274	763	..	359	1,624	27	14	..	..	..	30	65	3	357	3	2,397	
Vaucluse	233	..	..	6	..	..	1	..	..	240	..	..	492	6	..	..	..	..	13	18	3	63	3	598	
Waterloo	2,244	2,161	24	8	6	..	..	123	..	2,252	2,290	24	4,619	20	..	101	..	..	208	19	17	827	15	5,336	
Waverley	2,276	1,291	..	72	45	..	17	5	..	2,365	1,341	..	6,490	191	..	..	..	..	217	280	33	1,158	24	8,427	
Willoughby	1,538	..	..	62	..	..	24	..	..	1,624	..	..	2,957	96	22	..	..	..	71	56	4	598	17	3,821	
Woollahra	2,614	2,194	186	67	27	..	1	246	237	2,682	2,467	423	5,445	107	..	457	237	..	189	242	26	929	15	7,648	
Totals	113,432	59,220	10,305	1,434	391	57	690	9,271	533	115,556	68,882	10,895	238,421	3,735	632	10,861	533	862	160	7,427	4,003	1,144	40,884	879	309,541

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No 2.—SUMMARY of Stock, Gardens, and Special Fees.

Ward or Borough.	Stock.						Gardens.						Special Fees.					
	1897-8.			1898-9.			1897-8.			1898-9.			1897-8.			1898-9.		
	No. of Stock Registered.	Amount of Fees Paid during the year.	Balance Unpaid on 30 June, 1898.	No. of Stock Registered.	Amount of Fees Paid during the year.	Balance Unpaid on 30 June, 1899.	No. of Gardens Registered.	Amount of Fees Paid during the year.	Balance Unpaid on 30 June, 1898.	No. of Gardens Registered.	Amount of Fees Paid during the year.	Balance Unpaid on 30 June, 1899.	No. of Special Fees Registered.	Amount of Fees Paid during the year.	Balance Unpaid on 30 June, 1898.	No. of Special Fees Registered.	Amount of Fees Paid during the year.	Balance Unpaid on 30 June, 1899.
Bourke Ward	41	9 15 0	...	44	9 5 0	.....	9	5 17 6	1 2 6	10	9 0 8	.....	81	55 10 10	36 2 6	91	113 9 1	0 10 0
Burbaue Ward	121	27 2 6	3 5 0	117	28 12 6	.....	3	1 0 0	.....	2	1 0 0	.....	81	42 6 3	1 2 6	88	45 19 7	.....
Cook Ward	674	143 9 6	19 10 0	622	151 1 3	0 10 0	35	18 11 3	.....	42	19 18 4	.....	48	25 7 6	3 15 0	51	30 7 6	.....
Denison Ward	413	88 7 6	27 0 6	379	100 10 0	0 10 0	8	3 10 0	.....	9	3 17 6	.....	42	22 13 9	32 0 0	47	59 18 9	.....
Fitzroy Ward	115	58 1 3	0 5 0	256	53 18 9	.....	80	48 12 0	1 10 0	95	55 12 11	.....	22	14 15 0	0 7 6	27	13 10 0	.....
Gipps Ward	59	14 0 0	2 17 6	60	15 17 6	.....	6	3 7 6	0 10 0	8	3 7 6	.....	31	26 15 0	1 10 0	39	30 7 6	.....
Macquarie Ward	151	32 5 0	5 17 6	137	35 7 6	.....	5	2 5 8	0 10 0	5	4 2 6	.....	74	62 7 6	20 7 6	89	75 10 10	.....
Phillip Ward	235	54 0 0	5 17 6	229	54 0 0	.....	6	3 7 6	.....	8	4 10 0	.....	44	17 19 5	2 13 9	53	21 16 0	.....
Alexandria	290	65 12 0	13 7 6	288	69 15 0	.....	12	6 0 0	.....	16	7 1 3	.....	11	4 0 0	3 15 0	7	4 5 0	.....
Annandale	256	59 10 0	1 12 6	265	62 10 6	.....	69	34 16 4	2 6 3	86	41 4 3	.....	18	7 2 6	.....	23	7 6 7	.....
Appin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashfield	309	64 0 0	9 7 6	312	74 15 0	0 10 0	210	128 2 7	8 2 0	248	148 19 5	.....	22	5 10 0	2 15 0	25	8 17 6	.....
Auburn	36	8 12 6	0 5 0	43	8 12 6	.....	5	2 16 3	.....	6	3 10 0	.....	2	0 5 0	0 5 0	1	.....	.....
Bahman	499	120 2 6	2 0 0	489	120 17 6	.....	170	98 12 7	1 7 6	196	109 6 4	.....	32	17 3 3	1 12 6	38	15 10 0	.....
Bankstown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Botany	66	16 2 6	1 12 6	70	16 0 0	.....	12	7 5 0	.....	14	6 18 1	.....	5	2 7 6	0 2 6	6	3 0 0	.....
Burwood	119	43 0 0	6 2 6	131	42 7 4	.....	112	64 13 6	5 4 4	117	72 19 3	.....	12	5 2 6	0 5 0	13	5 12 6	.....
Campbelltown	10	3 10 0	1 0 0	19	4 5 10	.....	6	2 10 0	0 10 0	9	4 14 2	.....	.....	.....	0 5 0	.....	.....	.....
Camperdown	256	58 12 0	12 8 6	244	58 10 6	.....	14	8 17 6	.....	18	9 17 2	.....	9	3 7 6	0 10 0	9	3 15 0	.....
Canterbury	68	14 15 0	.....	80	17 17 6	.....	11	6 0 0	.....	13	7 0 0	.....	.....	.....	0 10 0	2	0 5 0	.....
Concord	56	11 15 0	4 6 3	57	12 8 3	0 5 0	11	8 9 5	1 7 6	14	11 17 9	.....	1	0 5 0	.....	1	0 5 0	.....
Darlington	102	24 10 0	1 12 6	96	23 5 0	.....	2	1 2 6	.....	2	1 2 6	.....	1	0 5 0	0 5 0	2	1 5 0	.....
Dummoque	71	16 0 0	1 18 9	76	16 11 3	.....	33	22 7 7	.....	35	22 6 9	.....	3	0 15 0	.....	5	11 11 11	.....
Enfield	75	12 17 6	5 2 6	77	17 8 6	.....	14	7 8 10	0 10 0	18	10 0 8	.....	3	0 15 0	.....	4	2 0 0	0 10 0
Eiskmeville	132	29 10 0	5 15 0	134	32 10 0	.....	8	4 0 0	0 15 0	8	4 10 0	.....	17	5 17 6	0 10 0	19	6 5 0	.....
Five Dock	48	8 12 6	0 17 6	61	11 12 6	0 10 0	2	1 5 0	.....	4	2 9 0	.....	.....	.....	.....	.....	.....	.....
Glebe	497	113 16 3	3 7 6	470	113 5 0	.....	159	90 3 2	8 0 0	181	104 17 0	.....	25	20 17 6	0 10 0	25	10 5 0	.....
Gordon	21	6 17 6	.....	57	17 12 6	.....	9	9 18 5	.....	12	11 18 7	.....	1	0 7 6	.....	.....	.....	.....
Granville	82	19 2 4	1 1 0	74	17 1 0	.....	20	11 8 4	1 5 0	33	16 17 1	.....	1	.....	0 5 0	3	1 0 0	.....
Gulldford	3	0 15 0	.....	3	0 15 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Homebush	9	2 2 6	1 0 0	17	4 0 0	.....	4	1 10 0	.....	4	1 3 9	.....	.....	.....	.....	.....	.....	.....
Hoxton Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunter's Hill	90	20 2 6	1 17 6	77	18 0 0	0 10 0	34	31 3 7	4 0 0	40	22 6 1	.....	6	12 15 0	5 0 0	6	13 10 0	.....
Hurstville	169	35 12 11	3 5 0	156	34 5 8	.....	44	29 11 5	0 10 0	58	37 5 10	.....	1	0 5 0	.....	4	1 0 0	.....
Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kogarah	113	24 7 6	0 10 0	115	24 9 2	0 5 0	25	13 5 8	0 7 6	36	18 15 8	.....	5	1 15 0	.....	5	1 7 6	.....
Lane Cove	24	5 0 0	1 2 6	44	10 5 0	.....	12	6 3 10	0 12 6	16	6 1 9	.....	.....	.....	.....	1	0 10 0	.....
Leichhardt	388	95 10 0	6 7 6	458	108 15 0	.....	124	66 12 7	2 2 6	143	77 14 8	.....	33	10 15 0	1 17 4	34	13 15 0	.....
Liverpool	10	2 17 0	1 7 6	36	8 7 6	.....	10	4 15 0	0 10 0	11	5 10 0	.....	4	2 5 0	0 2 6	4	7 10 0	.....
Marrickville	639	153 0 0	11 1 0	636	143 7 11	1 0 0	324	197 4 2	5 11 3	382	227 17 8	.....	40	31 5 5	0 15 0	52	14 15 0	0 3 9
Mosman	54	13 5 0	0 15 0	74	14 13 3	.....	129	78 11 0	6 7 6	180	119 3 7	.....	3	1 10 0	.....	3	1 10 0	.....
New town	581	135 12 6	17 5 0	558	131 15 10	.....	64	34 13 4	0 15 6	73	38 8 0	.....	58	21 10 9	6 13 0	60	22 1 9	0 5 0
North Botany	127	28 7 6	1 12 6	130	27 13 4	.....	15	9 2 6	0 5 0	15	8 5 0	.....	3	2 2 6	.....	4	1 2 6	.....
North Sydney	412	96 0 0	2 10 0	396	90 10 5	.....	330	194 3 5	3 13 9	417	231 0 8	.....	34	19 16 3	.....	39	18 13 3	.....
Paddington	467	105 14 6	15 15 6	442	104 3 2	.....	91	55 17 7	5 8 1	102	58 6 0	.....	19	9 7 6	2 10 0	23	11 18 9	.....
Parramatta	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Petersham	264	57 2 1	9 13 0	291	66 8 9	0 2 6	267	157 0 2	8 12 6	316	184 9 3	.....	38	12 2 6	0 10 0	41	14 17 6	.....
Prospect and Sherwood	6	1 17 5	0 15 1	10	1 12 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Randwick	249	52 18 8	17 2 6	270	62 16 1	.....	174	39 16 6	14 2 6	119	135 10 2	.....	12	3 15 0	1 7 6	12	6 15 0	.....
Redfern	571	129 5 0	21 5 0	567	132 10 0	0 15 0	83	17 16 11	0 15 0	36	17 13 10	.....	46	22 17 6	2 0 0	55	23 4 2	0 12 6
Rockdale	305	68 5 6	2 0 0	287	59 8 6	.....	115	72 7 1	1 2 6	131	71 0 1	.....	7	2 7 6	0 10 0	8	3 16 0	.....
Rookwood	74	38 2 6	14 15 0	72	31 5 0	.....	3	30 1 3	11 5 0	3	23 4 2	.....	.....	.....	.....	.....	.....	.....
Ryde	65	12 17 11	1 2 6	60	13 8 7	.....	7	4 2 6	2 10 0	8	6 4 5	.....	1	0 10 0	.....	1	0 10 0	.....
Silver Water	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Smithfield and Fairfield	7	0 15 0	0 10 0	7	1 15 0	0 5 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Peters	37	86 0 0	1 0 0	342	80 2 6	.....	17	9 3 0	0 6 3	20	7 19 5	.....	15	4 10 0	0 5 0	15	3 10 0	.....
Stathfield	30	8 2 6	2 2 6	40	9 2 6	.....	51	47 7 8	2 7 6	65	55 7 7	.....	2	10 15 0	.....	3	8 3 9	.....
Yaucluse	14	2 2 6	1 5 0	19	5 0 0	.....	15	7 10 0	3 15 0	18	11 3 9	.....	2	1 12 6	.....	3	1 17 6	.....
Waterloo	303	77 0 6	15 7 6	325	74 18 9	.....	19	9 10 0	1 5 0	19	10 12 6	.....	14	7 10 0	0 5 0	17	6 5 0	.....
Waxley	346	63 12 2	10 13 0	338	91 10 6	0 19 8	218	133 2 8	13 18 1	230	165 7 11	.....	20	9 10 0	0 12 6	33	11 13 2	.....
Willoughby	93	18 17 6	1 7 6	102	20 5 0	0 10 0	43	26 0 2	2 8 2	56	40 0 10	.....	3	0 5 0	0 10 0	4	0 12 6	.....
Woollahra	315	78 12 6	5 12 6	362	83 5 0	.....	206	130 17 0	5 12 6	242	147 4 2	.....	24	19 10 0	2 2 6	26	20 5 10	.....
TOTAL	10,576	2,540 5 0	314 17 7	11,226	2,642 8 2	6 17 2	3,407	2,010 11 10	131 3 8	4,003	2,429 8 5	.....	1,004	557 15 11	134 11 7	1,144	678 6 11	2 1 3



No 3.—SUMMARY of Rates, Fees, &c., for Water.

Ward or Borough	No of Properties habit	Water Rates	Meter Accounts, including Meter Rents	New Mains—broken periods	New Properties—broken periods	Stock	Gardens	Special Fees	Building Fees	Revenue for the year ending 30 June 1899	Less Rates cancelled or removed	Net Revenue	Arrears brought forward on 1 July, 1898	Total Water Rates receivable to 30 June, 1899
		£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
Bourke Ward	1,170	9,497 10 8	3,548 15 1		58 4 9	10 1 0	8 8 2	90 7 6	26 6 0	13,240 7 2	174 9 3	13,065 17 11	1,443 18 6	14,509 16 5
Brisbane Ward	1,290	6,199 6 4	2,478 0 7		114 17 3	28 15 0	1 0 0	45 2 1	12 12 10	8,879 14 1	182 2 1	8,697 12 0	1,430 4 2	10,127 16 2
Cook Ward	6,221	7,273 15 6	1,650 7 11		27 13 2	153 12 6	22 13 4	30 16 5	45 15 2	9,204 13 10	189 5 7	9,015 8 3	995 0 10	10,010 9 1
Demson Ward	4,280	6,461 8 7	6,682 15 7		39 0 9	94 5 0	3 17 6	38 8 9	26 18 0	13,346 14 2	89 18 9	13,256 15 5	2,407 10 7	15,664 6 0
Fitzroy Ward	3,671	5,953 2 7	1,073 19 0		12 8 2	64 1 0	57 12 11	17 12 6	30 9 0	7,209 19 2	110 1 8	7,099 17 6	790 7 2	7,890 4 8
Gipps Ward	1,906	3,733 4 6	2,176 5 0		7 18 9	14 12 6	3 7 6	30 15 0	38 10 1	6,004 13 4	39 2 6	5,965 10 10	1,238 0 5	7,203 11 3
Macquarie Ward	2,044	7,300 14 2	1,478 18 5		8 18 3	34 2 6	3 12 6	63 0 0	3 19 6	8,893 5 4	35 16 4	8,857 9 0	1,198 18 8	10,056 7 8
Phillip Ward	2,539	3,854 6 10	1,919 10 2		50 9 3	55 10 0	4 10 0	24 1 0	16 2 10	5,924 10 1	81 17 5	5,842 12 8	1,602 16 8	7,445 9 4
Alexandria	2,432	1,340 19 8	792 16 5		5 13 5	71 7 6	7 1 3	2 10 0	16 13 10	2,237 2 1	22 6 2	2,214 15 11	393 18 7	2,608 14 6
Annamdale	1,979	1,385 19 5	254 10 10	1 1 3		22 8 10	64 12 6	44 2 2	9 5 0	1,873 16 5	18 4 9	1,855 11 8	220 0 8	2,075 12 4
Appin								6 7 6		6 7 6	1 5 0	3 6 1	0 2 6	3 8 7
Ashfield	3,498	3,338 12 4	820 10 10	0 0 7	13 8 3	74 7 6	151 2 3	8 15 0	52 17 2	4,461 13 11	35 17 2	4,425 16 9	803 16 3	5,229 13 0
Auburn	671	321 12 0	60 14 9	2 18 7	3 6 5	10 0 0	3 10 0	0 5 0	5 8 0	407 14 9	3 18 6	403 16 3	107 16 4	511 12 7
Balmain	7,007	5,240 3 3	1,787 13 1	0 8 5	41 2 1	120 7 6	112 18 5	15 10 0	136 8 6	7,454 11 3	40 17 6	7,413 13 9	1,033 1 5	8,446 15 2
Bankstown	15	62 1 10	29 3 10		0 3 6				3 8 1	94 17 3	0 18 2	94 4 1	21 5 9	115 9 10
Botany	619	392 8 8	507 10 3	1 9 10	5 2 3	17 5 0	8 15 0	3 0 0	7 7 7	942 18 7	5 13 0	937 5 7	133 9 9	1,121 4 7
Burwood	1,831	2,126 9 1	600 7 11	0 6 4	20 0 8	43 12 6	79 15 1	5 12 6	30 19 2	2,907 3 3	45 19 8	2,861 3 7	494 19 11	3,356 3 6
Campbelltown	213	278 7 6	25 10 6		0 14 6	4 10 0	4 17 6	0 10 0	1 16 7	316 6 7	13 17 1	302 9 6	123 11 10	426 1 4
Campeidown	1,661	1,200 2 9	210 15 11		4 14 6	59 15 0	9 17 2	3 15 0	15 5 7	1,594 5 11	16 18 10	1,577 7 1	189 19 11	1,767 7 0
Cantebury	911	413 4 7	143 5 7	6 10 3	10 17 5	18 5 0	7 0 0	0 5 0	12 19 11	612 7 9	32 8 10	579 18 11	203 12 7	783 11 6
Concord	655	523 19 6	595 10 5	0 9 1	4 16 0	13 10 0	11 17 9	0 5 0	4 5 6	1,154 13 3	32 19 8	1,121 13 7	227 13 8	1,349 7 3
Dulington	762	697 7 1	181 10 4		1 15 2	23 15 0	1 2 6	1 5 0	5 6 1	862 1 2	14 10 8	847 10 6	60 12 7	908 3 1
Drummoyne	1,070	542 15 0	136 15 11	0 5 10	13 13 7	17 2 6	24 19 10	2 5 8	60 2 7	798 0 11	19 18 7	773 2 4	167 9 4	940 2 8
Enfield	674	414 2 6	174 6 1	2 8 3	3 18 6	16 17 6	10 10 8	2 10 0	4 17 8	629 11 2	7 14 10	621 16 4	163 9 3	785 5 7
Fiskmeville	1,396	858 16 3	139 12 10	0 9 10	1 2 5	53 0 0	4 0 0	6 10 0	5 18 0	1,049 9 4	8 13 11	1,040 15 5	86 19 5	1,127 14 10
Five Dock	416	262 3 3	166 19 6	0 2 11	1 6 8	12 2 6	2 9 0		4 5 0	449 8 10	1 8 0	448 0 10	127 12 0	575 12 10
Glebe	4,038	3,953 18 4	553 13 6	0 1 3	12 3 6	114 12 6	104 3 10	10 15 0	67 19 7	4,817 7 6	38 13 9	4,778 13 9	502 16 1	5,281 9 10
Gordon	1,432	1,916 6 3	627 12 4	5 17 0	89 2 10	18 10 0	13 0 4		89 6 5	2,750 15 2	171 11 7	2,578 3 7	487 4 7	3,077 8 2
Granville	1,503	812 1 3	328 10 7	0 4 2	7 10 4	17 7 6	17 7 1	0 1 0	5 14 1	1,189 10 3	20 10 1	1,169 0 2	316 15 5	1,485 15 7
Clarendon	43	43 5 10	17 10 7		4 19 8	0 15 0			0 16 0	66 19 2	6 7 1	66 12 5	77 4 5	144 3 7
Homebush	320	183 0 0	48 2 3		5 7 8	4 0 0	2 10 0		0 2 6	243 2 3	6 8 10	236 13 7	105 0 4	341 13 11
Hoxton Park	1	0 15 0								0 15 0		0 15 0	2 2 6	2 17 6
Hunter's Hill	758	842 1 7	403 9 10	0 14 2	3 7 7	18 2 6	25 4 5	8 10 0	4 18 5	1,306 8 6	22 7 9	1,284 0 9	277 9 3	1,561 10 0
Hurstville	1,020	825 19 7	177 9 7	3 11 7	11 9 2	36 10 0	38 2 1	1 0 0	24 13 8	1,118 15 8	12 8 4	1,106 7 4	269 11 2	1,375 18 6
Islands	24	396 7 4			36 19 0					433 6 4		433 6 4		433 6 4
Kogarah	1,416	623 13 0	195 13 6	1 2 7	10 12 11	27 2 6	20 12 4	1 7 6	21 18 6	902 2 10	32 15 3	869 7 7	211 5 7	1,080 16 2
Lane Cove	574	354 19 4	257 19 3	2 2 0	4 16 2	10 15 0	9 0 1	0 10 0	4 17 4	644 19 2	8 9 0	636 10 2	210 5 4	846 15 6
Leichhardt	4,070	2,537 6 1	278 1 9	2 17 10	22 7 5	107 12 6	76 14 8	14 10 0	30 2 3	3,119 12 6	30 7 10	3,089 4 8	482 13 0	3,571 17 8
Liverpool	486	571 5 0	29 16 2	0 11 4	1 12 1	8 17 6	5 10 0	8 0 0	0 17 6	626 9 7	71 0 2	555 9 5	186 3 6	741 12 11
Marionville	4,289	3,490 16 4	648 9 3	6 2 5	63 0 8	151 17 6	244 18 3	16 7 11	160 11 1	4,782 3 5	71 15 2	4,710 8 3	9 14 4	5,662 2 7
Mosman	1,836	1,227 13 6	227 15 5	7 2 10	42 5 8	16 2 6	120 9 7	1 10 0	211 11 4	1,854 10 10	26 10 5	1,828 0 2	210 7 11	2,038 8 1
Newtown	5,030	4,378 13 6	499 11 3	0 2 3	23 19 1	135 7 6	39 7 6	22 12 6	67 1 7	5,166 15 2	46 15 10	5,119 19 4	598 2 2	5,718 2 3
North Sydney	732	378 0 6	107 12 3	9 17 1	2 19 1	29 2 6	9 2 6	1 2 6	0 11 0	538 7 5	10 16 5	527 11 0	111 8 8	638 19 2
North Sydney	6,340	5,106 5 11	1,229 10 1	5 12 1	55 1 8	94 12 6	252 4 5	26 17 6	182 3 10	6,902 8 0	120 1 9	6,832 6 3	929 16 7	7,762 2 10
Paddington	4,552	4,625 13 0	443 15 2		30 1 6	108 5 0	59 19 2	12 8 9	91 14 4	5,371 16 11	57 8 9	5,314 8 2	466 8 6	5,780 16 8
Parramatta	12	11 10 8	764 11 8			0 10 0	2 0 0			778 12 4		778 12 4		778 12 4
Petersham	3,386	3,165 13 6	343 11 11	1 7 11	40 1 8	69 13 9	187 1 9	15 2 6	127 18 10	3,950 11 10	41 11 7	3,909 0 3	514 9 4	4,423 9 7
Prospect and Sherwood	218	152 3 4	264 7 10	1 3 0	1 11 9	2 0 0	0 7 6		0 5 0	421 18 5	3 16 8	418 0 9	85 12 0	503 13 9
Randwick	2,225	2,595 14 8	927 0 3	1 16 3	76 5 6	67 0 0	140 6 8	5 10 0	79 14 0	3,893 8 2	610 3 0	3,283 5 2	1,392 9 4	4,675 14 6
Pedern	4,764	4,486 2 11	830 14 3		3 18 6	137 2 6	17 18 2	25 11 8	59 6 0	5,592 14 0	56 19 1	5,535 14 11	781 19 6	6,317 14 5
Rockdale	2,370	1,249 17 7	498 0 7	2 12 3	31 5 4	64 5 0	76 2 7	3 16 0	30 16 0	1,916 16 4	23 5 11	1,893 10 3	433 17 6	2,327 7 11
Rockwood	484	379 6 1	833 11 7	0 10 11	1 19 7	17 12 6	13 0 0		5 8 0	1,251 8 8	5 12 8	1,245 16 0	354 19 5	1,599 15 5
Ryde	436	383 19 5	153 18 6		4 13 1	13 10 0	7 16 11	0 10 0	7 19 4	572 7 3	22 9 7	549 17 8	173 16 1	723 13 9
Silver Water	123	72 3 6	54 9 11		1 11 11	1 15 0				130 0 4	0 16 2	129 4 2	30 18 1	160 2 3
Smithfield and Fairfield	98	80 11 8	35 8 9	0 7 4	0 11 6	1 10 0		0 5 0		118 14 3	0 9 0	118 5 3	33 8 4	151 13 7
St Peters	1,688	812 16 10	66 7 7		4 3 10	83 15 0	10 14 5	3 15 0	9 17 4	991 10 0	11 3 2	980 6 10	166 11 10	1,146 18 8
Stathfield	739	1,014 11 3	413 4 6	1 9 11	14 6 6	9 12 6	56 12 7	11 0 0	38 17 1	1,599 14 4	16 3 8	1,583 10 8	271 0 3	1,854 10 11
Vaucluse	233	285 12 8	48 7 2	0 2 6	0 7 1	4 0 0	13 5 9	1 17 6	3 6 8	360 2 4	1 1 6	359 0 4	91 13 2	440 14 0
Waterloo	2,244	1,560 8 1	715 8 7		3 6 5	81 2 6	10 12 6	6 17 6	26 10 0	2,434 11 7	31 1 0	2,393 10 7	399 5 10	2,792 16 5
Waverley	2,276	2,698 16 9	524 8 9	0 13 10	33 6 3	92 10 0	172 18 11	12 2 6	109 16 5	3,644 13 5	191 0 8	3,453 12 9	698 15 2	4,152 7 11
Willoughby	1,588	985 13 5	710 16 6	2 18 5	25 13 7	20 16 3	39 15 2	1 0 0	102 12 8	1,889 11 0	52 9 7	1,837 1 5	394 19 8	2,232 1 1
Woolahra	2,614	3,469 11 1	972 19 11	0 3 2	62 15 0	88 19 2	153 17 5	22 16 8	124 6 6	4,895 8 11	74 9 6	4,820 19 5	693 1 4	5,514 0 6
Government meters			13,950 5 4							13,950 5 4		13,950 5 4	1,976 7 4	15,926 17 4

No. 4.—SUMMARY of Rates for Sewerage and Drainage.

No. 5 —GENERAL SUMMARY of Rates Fees, &c , for Water, Sewerage, and Drainage for the year ending 30 June, 1899.

Ward or Borough	No of Properties liable		Sewerage Rates	New sewers (broken periods)	New Properties (broken periods)		Drainage Rates	Revenue for year ending 30th June, 1899	Less rates cancelled or removed	Net Revenue	Arrears brought forward on 1st July, 1898	Total Sewerage and Drainage Rates receivable to 30th June, 1899	Total Water, Sewerage, and Drainage Rates receivable to 30th June, 1899	No of Summonses Issued	Amount paid for which Summonses were issued	Amount paid without Summonses	Total amount paid during the year ending 30th June, 1899	Arrears carried forward at 30th June, 1899	
	Sewerage	Drainage			Sewerage	Drainage													
Bourke Ward	1,045		£ 12,163 s 11 d	£ 1 s 4 d	£ 35 s 9 d			£ 12,200 s 16 d	£ 39 s 2 d	£ 12,211 s 13 d	£ 355 s 13 d	£ 12,567 s 6 d	£ 27,077 s 10 d	40	£ 172 s 2 d	£ 25,031 s 10 d	£ 25,203 s 12 d	£ 1,873 s 10 d	
Brisbane Ward	1,207		6,912 s 6 d		237 s 3 d			7,149 s 9 d	67 s 3 d	7,032 s 6 d	457 s 5 d	7,539 s 11 s	17,667 s 7 d	55	160 s 2 d	15,473 s 11 d	15,633 s 13 d	2,033 s 14 s	
Cook Ward	6,213		7,211 s 7 d		23 s 15 d			7,271 s 2 d	22 s 2 d	7,249 s 0 d	563 s 17 s	7,817 s 18 s	17,828 s 7 d	196	361 s 15 d	15,612 s 19 d	15,974 s 14 d	1,893 s 12 s	
Denison Ward	4,056	4	6,857 s 16 d	0 18 s	55 s 2 d		8 13 10	6,922 s 11 d	43 s 11 d	6,879 s 9 s	515 s 1 s	7,394 s 11 d	23,058 s 17 d	153	363 s 2 s	20,136 s 14 d	20,499 s 16 s	2,559 s 0 s	
Litzroy Ward	3,639	3	5,928 s 13 d		12 s 16 d		18 9 8	5,959 s 19 d	11 s 19 d	5,948 s 0 d	421 s 9 s	6,369 s 10 d	14,259 s 15 d	158	270 s 2 s	12,315 s 10 d	13,090 s 6 d	1,169 s 6 d	
Gipps Ward	1,735		3,135 s 2 d		9 s 8 d			3,144 s 11 d	36 s 13 s	3,107 s 15 d	437 s 7 d	3,545 s 2 s	10,748 s 13 d	79	142 s 10 d	9,150 s 2 d	9,292 s 12 s	1,456 s 1 d	
Vacquarie Ward	2,044		8,284 s 13 d		15 s 2 d			8,299 s 16 d	19 s 3 s	8,280 s 8 d	666 s 12 d	8,947 s 1 s	19,003 s 8 s	88	269 s 11 d	16,769 s 13 d	17,039 s 5 d	1,064 s 3 d	
Phillip Ward	2,549		4,798 s 4 d		50 s 17 d			4,849 s 1 d	43 s 15 s	4,805 s 2 s	761 s 8 d	5,566 s 11 d	13,012 s 0 d	110	223 s 8 s	10,369 s 12 d	10,598 s 0 s	2,414 s 0 s	
Alexandra	1,808	10	1,186 s 4 d	0 2 10	4 s 11 d	0 6 8	21 6 8	1,212 s 12 d	1 s 19 d	1,210 s 13 d	80 s 13 d	1,291 s 7 d	3,900 s 1 s	74	38 s 15 d	3,415 s 13 d	3,454 s 8 d	445 s 13 d	
Annandale	1,489		1,648 s 9 s	59 1 7	30 s 16 d			1,738 s 7 s	100 s 16 d	1,637 s 11 d	12 s 2 d	1,649 s 13 d	3,720 s 6 d	63	70 s 17 d	3,228 s 10 d	3,299 s 7 d	425 s 18 s	
Appin																			
Ashfield		3,005				9 4 8	1,638 s 10	1,677 s 13 d	4 s 11 d	1,673 s 2 s	182 s 5 d	1,855 s 7 s	7,085 s 0 s	163	169 s 2 s	5,936 s 17 d	6,106 s 0 s	979 s 0 s	
Auburn																			
Balmun	234	1,944	113 s 5 d	0 14 11	1 18 7	2 10 8	373 s 19 d	492 s 8 d	2 s 14 d	489 s 14 d	41 s 15 d	531 s 9 s	8,978 s 4 d	202	150 s 18 d	7,753 s 1 s	7,904 s 0 s	1,074 s 4 d	
Bankstown																			
Botany																			
Burwood		963				4 19 4	1,117 s 2 d	1,122 s 10 d	2 s 10 d	1,119 s 11 d	70 s 10 d	1,190 s 1 d	4,546 s 0 d	87	102 s 5 d	3,790 s 15 s	3,895 s 1 s	648 s 3 d	
Campbelltown																			
Camperdown	1,314	69	1,191 s 17 d		2 14 8	0 12 5	12 18 8	1,194 s 11 d	2 s 18 d	1,191 s 13 s	1,097 s 13 s	2,289 s 7 d	4,056 s 14 d	63	79 s 12 d	2,638 s 4 d	2,717 s 17 d	1,338 s 17 d	
Concord																			
Darlington	763		726 s 1 d		1 17 1			727 s 18 d	0 s 8 d	727 s 10 d	86 s 1 d	813 s 12 d	1,721 s 15 d	37	31 s 10 d	1,569 s 7 s	1,601 s 3 d	120 s 12 d	
Drummoyne																			
Enfield	187					0 4 0	114 s 14 d	114 s 18 d	0 s 0 d	114 s 18 d	36 s 0 d	150 s 18 d	936 s 4 d	27	31 s 18 d	707 s 2 s	739 s 0 d	197 s 8 d	
Erskineville	1,368	19	864 s 9 d		1 2 11		5 s 10 d	871 s 1 d	1 s 3 s	869 s 18 d	30 s 11 d	905 s 10 d	2,033 s 4 d	27	33 s 17 d	1,845 s 18 s	1,879 s 11 d	153 s 13 d	
Five Dock																			
Glebe	3,230	240	3,343 s 2 d	4 0 6	11 10 7	1 5 7	130 s 0 d	3,489 s 19 d	6 s 2 d	3,483 s 17 d	132 s 16 d	3,616 s 13 s	570 s 12 d	30	19 s 10 d	417 s 12 d	437 s 2 d	138 s 10 d	
Gordon																			
Granville																			
Guildford																			
Homebush																			
Hoxton Park																			
Hunter's Hill																			
Hurstville																			
Islands																			
Kogarah																			
Lane Cove																			
Leichhardt	1,348	1,046	952 s 7 d	164 s 13 d	9 16 5	0 5 10	110 s 11 d	1,237 s 14 d	18 s 17 s	1,218 s 16 d	77 s 6 d	1,296 s 3 d	4,863 s 0 d	210	139 s 14 d	4,738 s 15 s	4,878 s 9 d	489 s 10 d	
Liverpool	1,353		2,203 s 17 d	248 s 19 d	58 s 0 d			2,510 s 16 s	109 s 17 d	2,400 s 19 d	3 s 7 d	2,404 s 6 s	8,066 s 9 d	109	47 s 2 d	6,962 s 8 d	7,000 s 10 d	1,056 s 18 d	
Marickville																			
Mosman																			
Newtown	4,321	20	4,782 s 0 d	0 9 8	28 s 9 d		23 s 5 d	4,834 s 4 d	24 s 13 d	4,809 s 10 d	176 s 18 d	4,986 s 0 d	10,704 s 11 d	202	248 s 3 s	9,660 s 0 s	9,908 s 4 d	796 s 7 s	
North Botany	9		6 s 7 d					6 s 7 d		6 s 7 d	1 s 18 d	8 s 6 d	4 s 12 d	15	4 s 12 d	520 s 11 s	525 s 4 s	122 s 1 s	
North Sydney	2,637	508	4,934 s 16 d	78 s 11 d	59 s 6 d	67 s 8 d	278 s 3 d	5,418 s 9 s	297 s 11 d	5,120 s 18 d	66 s 12 d	5,187 s 10 d	12,949 s 13 d	109	266 s 18 s	11,372 s 11 d	11,639 s 16 d	1,309 s 16 d	
Paddington	4,378	171	4,732 s 19 d	16 s 19 d	17 s 12 d	0 2 11	63 s 8 s	4,831 s 2 d	7 s 14 d	4,823 s 7 d	227 s 16 d	5,051 s 3 d	10,831 s 19 d	180	225 s 16 d	10,011 s 10 d	10,237 s 7 d	594 s 12 s	
Parumatta																			
Petersham	1,205	1,800	1,924 s 4 d	20 s 13 d	29 s 0 d	6 s 3 s	597 s 18 d	2,578 s 0 s	22 s 14 d	2,556 s 6 s	112 s 17 d	2,668 s 4 d	7,091 s 13 d	156	173 s 11 d	6,209 s 6 d	6,332 s 18 d	708 s 14 d	
Prospect and Sherwood																			
Randwick	809		1,056 s 10 d	0 5 0	10 s 5 d			1,067 s 1 d	42 s 9 s	1,024 s 11 d	189 s 3 d	1,213 s 14 d	5,889 s 0 s	131	193 s 0 s	4,652 s 3 d	4,845 s 4 d	1,044 s 4 d	
Redfern	4,765		4,701 s 5 d		38 s 13 d			4,739 s 19 d	20 s 3 d	4,719 s 16 d	225 s 9 s	4,945 s 5 d	11,262 s 19 d	134	170 s 1 d	10,224 s 17 d	10,394 s 18 s	868 s 1 s	
Rockdale																			
Rockwood																			
Ryde																			
Silver Water																			
Smithfield																			
Fairfield																			
St. Peters																			
St. Matthews		82				4 10 6	297 s 7 d	301 s 18 s	0 s 3 d	301 s 15 d	8 s 5 d	310 s 0 d	1,146 s 18 s	50	33 s 0 s	970 s 17 d	1,003 s 17 d	143 s 0 d	
Vaughan																			
Waterloo	2,161	24	1,487 s 12 s	0 14 9	2 12 4	0 10 2	13 s 11 d	1,504 s 11 d	1 s 19 d	1,502 s 12 s	110 s 13 s	1,613 s 5 d	4,411 s 2 d	42	36 s 5 d	3,842 s 17 d	3,842 s 17 d	568 s 4 s	
Warley	1,291		1,542 s 18 d		17 s 9 d			1,560 s 7 d	9 s 4 d	1,551 s 3 s	128 s 0 s	1,679 s 4 d	5,831 s 12 d	88	116 s 18 s	4,955 s 11 d	5,072 s 14 s	758 s 17 d	
Willoughby					0 6 10			0 6 10		0 6 10									
Woollahra	2,194	186	2,712 s 14 d	130 s 12 d	22 s 17 d			2,943 s 7 d	132 s 7 s	2,811 s 0 d	236 s 15 d	3,047 s 16 d	8,561 s 17 d	72	111 s 13 s	7,306 s 7 d	7,418 s 0 d	1,143 s 16 s	
Government Meters																			
	50,220	10,305	90,427 s 10 d	728 s 7 d	850 s 15 d	98 s 4 d	4,932 s 3 d	102,037 s 1 s	1,094 s 11 s	100,942 s 9 d	7,529 s 15 d	103,472 s 1 d	326,634 s 18 d	3,937	5,149 s 16 d	281,083 s 0 s	286,232 s 17 s	40,402 s 1 s	

THOMAS ROSEBY, Assessor.

No. 6.—SUMMARY OF ARREARS to 30th June, 1899.

Ward or Borough	House Properties			Vacant Land			Churches and Charities			Government			Municipal			Meters		Total			Increase on Previous Year's Arrears			Decrease on Previous Year's Arrears			
	Water	Sewerage	Drainage	Water	Sewerage	Drainage	Water	Sewerage	Drainage	Water	Sewerage	Drainage	Water	Sewerage	Drainage	Witer	Water	Water	Sewerage	Drainage	Water	Sewerage	Drainage	Water	Sewerage	Drainage	
																Accounts	Rents										
Bourke Ward	128 18 8	143 19 6		109 3 1	128 10 5		39 7 6	44 0 6		96 17 6	4 7 1					1,176 0 0	1 16 6	1,552 3 3	320 17 6		145 9 9						
Brisbane Ward	49 5 1	59 5 8		74 10 0	69 14 0		234 0 9	241 3 7								1,272 12 1	0 15 6	1,663 11 2	370 3 3		237 14 6						
Cook Ward	151 16 11	149 2 1		55 8 9	61 18 8		308 2 2	363 14 2		16 0 10						747 12 4	1 6 6	1,278 7 6	574 14 11		306 11 8	5 17 4					
Denison Ward	73 4 1	71 12 2		75 7 7	52 11 6		189 12 3	258 15 9		56 8 4	66 18 9					1,712 19 0	1 1 0	2,108 12 3	449 18 2								
Fitzroy Ward	94 2 1	97 15 6		16 15 7	16 6 9		234 11 5	234 18 2								472 10 0	2 7 0	820 6 1	349 0 5		32 1 5						
Gipps Ward	30 4 10	31 1 9		216 6 11	89 11 6		153 5 9	208 1 8								726 8 1		1,127 6 7	328 14 11								
Macquarie Ward	107 5 2	119 8 5		10 5 8	10 5 8		472 14 7	501 13 7								740 15 3	1 15 0	1,332 15 8	631 7 8		160 12 0						
Phillip Ward	181 10 10	239 3 2		65 11 7	69 18 1		224 16 1	462 0 11								1,165 14 1	2 1 9	1,639 14 4	774 5 11		45 8 11	12 17 0					
Alexandria	17 8 0	12 0 4		37 5 6	24 13 10	4 7 10	30 16 9	23 0 8		0 8 6	0 8 6					294 16 6	0 7 0	381 2 3	60 2 11	4 7 10	4 6 2						
Annandale	71 7 3	98 18 5		47 14 7	27 1 11		58 14 3	11 12 6								106 12 8	0 11 3	288 4 2	137 14 6		72 2 3	125 11 8					
Appin																											
Ashfield	39 14 5		23 11 6	97 5 5		70 3 7	208 13 4				57 1 6					480 1 1	1 19 0	827 13 7		150 16 7	44 1 10						
Auburn	10 14 6			72 0 0			13 2 1									23 10 0	0 7 0	124 16 7									
Balmann	60 5 0	0 18 10	4 9 7	170 4 0	1 9 1	15 6 6	210 2 5				3 0 6					607 6 0	1 1 9	1,048 19 7	2 7 11	22 16 7	17 10 3						
Bankstown	0 5 0			11 1 1												13 8 6		24 14 7									
Botany	24 17 0			21 16 3			27 17 8									157 3 1	0 3 6	232 0 0									
Burwood	34 8 8		16 2 11	91 1 8		49 8 9	92 2 4				13 18 4	1 2 6				0 2 6		232 0 0									
Campbelltown	8 14 9			2 8 6			73 17 1					0 15 11		2 4		347 15 2	1 5 3	568 11 6		79 12 4	85 3 5						
Campdown	16 2 10	6 14 10		48 12 1	26 15 10		44 1 6	1,065 12 0				12 16 7				12 16 0	0 14 0	132 18 8			11 1 10						
Canterbury	37 15 2		0 2 3	61 19 3		5 2 5	47 2 10									130 18 3		239 14 8	1,009 2 8		62 13 3						
Concord	14 10 6			47 19 0			34 18 2									67 6 10	0 3 6	214 7 7		5 4 8	10 15 0						
Darlington	2 18 9	2 19 2		2 12 8	2 12 8		7 17 0	36 15 6				0 16 8				266 9 4	0 1 0	364 14 8			142 14 9						
Drummoyne	30 17 6			93 11 3			12 18 9									64 16 4		78 4 9	42 7 4								
Enfield	19 12 8		2 15 1	49 8 1		16 18 2	17 12 7				14 1 3					56 18 3	1 1 0	195 6 9			30 5 2						
Eskineville	2 17 5	3 1 11	0 3 6	16 1 2	11 0 4	4 13 6	18 1 0	5 2 1	4 19 2							75 6 6	0 19 0	162 18 10		33 14 6	5 2 1						
Five Dock	2 2 1			41 17 10			7 10 9									87 10 4	0 3 6	124 13 5	19 4 4	9 16 2	44 14 0						
Glebe	27 3 11	13 18 10	0 14 6	13 14 7	7 4 3	6 8 4	173 13 8	79 12 5	11 3 2							55 14 9	0 17 0	138 0 0			11 5 6						
Gordon	183 15 8			169 8 6			27 13 9									288 0 10	1 2 6	505 15 6	100 15 6	18 6 0	17 16 11						
Granville	21 3 9			134 6 5			73 19 8									292 9 10	12 4 2	63 11 11			148 7 4						
Guildford	11 12 0			66 2 0												167 10 1	0 7 1	397 7 0			83 2 7						
Homebush	2 14 2			84 3 11												15 5 6	0 7 0	93 6 6			16 2 1						
Hoxton Park																24 0 11	0 10 6	111 9 6									
Hunter's Hill	5 14 2			37 12 9			59 7 6									240 3 2	1 2 0	343 19 7			77 7 10						
Hurstville	100 12 2			112 16 6			19 0 11									90 18 9	1 18 6	325 6 10			59 10 8						
Islands																		23 1 0									
Kogarah	15 4 1			86 7 6			39 11 2									74 7 3	2 0 0	23 1 0			23 1 0						
Lane Cove	20 17 1			109 1 7			12 1 3									108 15 7	0 17 6	251 13 0			7 9 11						
Leichhardt	51 1 7	30 16 10	2 0 4	139 9 1	12 6 11	23 16 4	91 8 3	3 14 4		0 5 0	0 1 4					129 10 8		411 14 9	51 19 5	2 16 8	43 2 8						
Liverpool	35 9 10			17 8 4			62 13 10									129 10 8		411 14 9									
Marickville	33 6 11	63 0 8		321 4 2	73 10 5		205 14 5	23 8 3								17 15 10	0 11 6	139 2 4			45 1 2						
Mosman	16 17 3			91 12 1			22 3 8									281 19 6	3 10 0	895 15 0	159 19 4		156 12 3						
Newtown	58 10 3	33 12 5		86 19 6	84 16 4	8 5 1	227 19 5	78 4 2	14 10 0							140 14 2	1 9 9	284 5 9			81 0 4						
North Botany	19 17 8	213 4 0		43 1 5	0 3 4		8 5 0									207 6 1	0 19 0	576 14 3	196 12 11	22 15 1	3 4 10	33 18 4	3 10 9				
North Sydney	103 16 3	137 0 5	4 19 0	267 5 5	48 7 6	33 3 2	148 6 3	6 10 0								46 12 11	1 3 0	119 5 0	2 16 8		9 14 4	0 17 9					
Paddington	51 18 2	50 13 9	1 1 1	32 15 2	115 15 11	4 1 2	123 15 11	26 16 0								557 19 1	2 9 9	1,079 16 9	191 17 11	38 2 2	156 3 11	191 17 11					
Parramatta	29 14 9	32 0 1	2 5 2	136 2 0	30 16 4	41 6 3	193 12 6	19 16 2	17 3 6							187 5 0	0 10 6	396 4 9	193 5 8	5 2 3							
Petersham	14 4 5			8 11 5												764 11 8		771 9 8			763 18 2						
Prospect and Sherwood																191 0 4	1 8 9	556 18 2	90 19 3	60 14 11	61 4 4	48 8 5					
Randwick	27 8 2	7 17 10		231 13 8	57 15 3		127 7 5	68 13 4								74 19 1		97 14 11			12 18 0						
Redfern	36 1 10	29 3 10		12 19 3	11 14 10		163 5 10	144 7 2								460 9 4	1 8 9	905 11 8	138 13 3								
Rockdale	30 19 8			177 10 5			41 15 11									464 1 0		681 7 11	185 5 10								
Rookwood	15 3 1			31 8 7			13 16 0									335 17 2	1 8 0	592 11 2			162 6 2						
Ride	6 5 10			40 14 1			42 13 7									143 15 8	0 11 3	204 14 7									
Silver Water	0 5 3			11 16 10			0 15 0									83 4 1	1 5 9	179 3 4			8 19 9						
Smithfield and Fairfield	2 0 2			0 9 1			14 5 0									18 19											

## Annual Report of Stores and Pay Branch.

### Stores.

Sir,

9 August, 1899.

The introduction, some years ago, of a system of biennial contracts for supplies other than those subject to wide fluctuations in price, like pig-lead, or subject to disturbance by labour disputes, like coal, has proved such an advantage over the annual limit that formerly obtained—both as regards clerical economy and cheaper rates—that we have a tendency to still further extend the time limit where the contract involves a heavy outlay for plant. Apart from the five biennial contracts for stores and services, we have now a three-year contract for supply of water-meters, a four-year contract for valves, one of like period for hydrants, and two five-year contracts for cast-iron work.

Following is a statement showing the extent of the contracts dealt with by this Branch during the past year:—

Article.	Contractor.	Rate.	Amount.
			£   s.   d.
General stores .....	Keep and Son .....	5¼% below Schedule .....	1,922 19 6
Uniforms .....	Hatfield Bros. ....	Schedule Rates .....	175 8 7
Pig-lead .....	Briscoe, Drysdale, & Co. ....	£13 5s. per ton .....	966 15 0
Do .....	Sydney Lead Works .....	£12 19s. do .....	329 8 4
Iron pipes .....	Pope, Maher, & Co. ....	£6 9s. do .....	4,963 18 6
Pipes and castings* .....	G. and C. Hoskins .....	Schedule Rates .....	29,687 1 6
Valves .....	do .....	5¼% below Schedule .....	1,115 13 10
Hydrants .....	Pope, Maher, & Co. ....	4¾% over Schedule .....	410 5 3
Cement .....	Goodlet and Saith .....	9s. 10½d. per cask .....	264 6 4
Road material .....	S. Wales .....	10½% below Schedule .....	77 2 2
Cartage .....	Various .....	.....	205 3 3
		Total.....£	40,118 2 3

\* A further large quantity was charged direct to the works, without operating on the Stock Account.

### Fettling old Water-mains.

Two hundred and forty-four tons only were lifted this year, as against the 1,400 tons treated the previous year. This 244 tons, consisting chiefly of 3-in. and 4-in. pipes, was, at a cost of £227, cleaned for re-issue; the 4-in. for reticulation and the 3-in. for private services only, as it was long since decided to lay no more 3-in. mains in the streets.

### Stock Balance.

	£	s.	d.		£	s.	d.
Stock in hand, 30th June, 1898 ... ..	16,325	1	9	Issues ... ..	24,701	8	7
Receipts ... ..	22,219	10	8	Balance on hand, 30th June, 1899 ... ..	13,843	3	10
	£38,544	12	5		£38,544	12	5

### Stock-taking.

The biennial stock-taking was effected in September last—the actual material sighted by the officers represented £15,387 9s. 4d., whereas the balance in the stock-books was £14,422 4s. 11d.—the surplus, £965 4s. 5d., was shown to be chiefly savings of scrap-iron and lead melted from joints of old mains recovered from the ground.

### Sales.

Sales of old stores were conducted as usual by public advertisement. The scrap-iron fell invariably to the one buyer, at £2 16s. per ton.

## Pay, &c.

### Contracts.

Three hundred and forty-two tenders were received during the year on account of sixty-eight advertised contracts. A valuable, in preference to a personal, security is held in each contract, and at the close of the year these securities amounted to £10,435, as against £6,710 held the previous year. As the amount of security bears a fixed percentage to the contract sum, it is apparent the contract work this year has been of much greater magnitude.

### Mail.

Out of a total of 32,390 official letters received by post, and opened in this office, 14,226 were found to contain remittances to the value of £67,445; by far the greater bulk of this sum was represented by cheques, the balance by postal notes, stamps, money orders, and currency in that order; in a few instances bank notes and cash were sent under cover without the precaution of post registration. This heavy mail transaction was effected during the twelve months without report of a single case of monetary loss, though complaints were received of two cheques having gone astray.

Library.

## Library.

Thirty books on progressive sanitary science and engineering have been added to the Library, making a total of 470 instructive volumes available for the free use of those of the staff who desire to keep abreast of the times, or who may be actuated by scientific research in their profession.

## Clerical Examination.

The annual examination of candidates for junior clerkships was conducted in June; out of twenty-five nominees twenty attended, and of these thirteen gained the necessary 75 per cent. of marks to qualify for appointment, in order of merit, to any clerical vacancies that may arise during the ensuing year.

## Disbursements.

The total sum paid in this office during the year was £95,837 15s. 1d., made up as follow:—

	£	s.	d.
Board Fees ... ..	2,085	0	0
Salaries ... ..	22,266	17	6
Wages ... ..	67,266	12	6
Petty Cash ... ..	1,256	11	3
Refunds of Over-payments ... ..	170	4	2
Compensation ... ..	1,910	9	1
Sundries ... ..	882	0	7
	<u>£95,837</u>	<u>15</u>	<u>1</u>

A. ELLICE FLINT,  
Paymaster and Comptroller of Stores.

## Engineer's Report.

Sir,

Engineer's Office, 24 August, 1899.

I have the honor to submit, for the information of the Board, the annual report of the working of the Engineer's Department for year ending 30th June, 1899.

### 1. WATER SUPPLY BRANCH.

#### Catchment Area and Head Works.

The extreme dryness of the season necessitated special supervision on the part of the Rangers to prevent pollution of the watershed, through settlers using the swamp areas for depasturing cattle on, many of which were in such enfeebled condition that they never recovered. Where cattle died the Rangers had same removed, or if owners could not be found, the carcasses were burnt.

There is a marked improvement in the sanitary conditions of settlers' holdings on the watershed, the pan system replacing the old cesspits formerly existing. The drainage from stockyards, piggeries, &c., have been diverted from direct access to watercourses, and made to pass over cultivated ground.

These precautions can, however, only be considered as palliative, as the wisest course would be to resume the whole of the areas when the revenue of the Board admit of such addition to the capital account.

The health of the residents on the watershed has been good on the whole. Any cases that occurred were inquired into and reported on by the Rangers.

The boundaries of the catchment area have been conspicuously marked by substantial boundary posts and blazing of trees along the lines.

The rainfall returns, kindly furnished by private observers at Sherbrooke and Cordeaux, show that the quantity which fell at their respective stations was 40.15 and 42.53 inches respectively. The returns from the official rain-gauge at Cataract River was only 24.6 inches.

The only work carried out at offtake works, at Nepean and Cataract, consisted of constructing a covered way from outlet of Nepean tunnel, to prevent the accumulation of sand and debris, which occurred at every flood, and was a source of expense to remove same. The debris now passes away over the weir. The Nepean weir was rendered in cement mortar, as the faces hitherto not rendered showed signs of wear by abrasion. The cliff at valve-house at Cataract River was also underpinned and access to the valves made safer for the attendant in time of flood.

#### Upper Canal and Prospect Reservoir.

The principal work carried out on upper canal was strengthening and relining a portion of the canal at section No. 10. The length dealt with was 3,393 lineal feet, at a cost of £4,700. Included in this amount is the cost of 2,000 cubic yards of broken metal and 1,500 cubic yards of sand for continuing the work, which, for reasons connected with the dryness of the season and depletion of Prospect Reservoir, had to be suspended. When a favourable opportunity occurs the work will be pushed on.

During the year a slip occurred at 29 $\frac{1}{4}$  miles, which was taken in hand and repaired without interfering with supply to any extent.

The fencing has been renewed for a length of 3 $\frac{1}{2}$  miles, the type of fence adopted being a top rail with four wires.

The outside of aqueducts over Simpson's, Elledale, Ousedale, and Mullaly Creeks have been cleaned and painted. Other minor works—consisting of painting maintenance men's cottages, fixing new gauge at Cataract River, and general repairs—have been carried out by day labour.

The telephone line between Cataract and Prospect has been duplicated, so as to provide against contingencies.

Other portions of the canal nearer Prospect have been examined and marked out for improvements.

#### Prospect Reservoir.

With regard to the water impounded, the conditions were very favorable at the opening of the year, the water overflowing at the bywash, the level of which was 195.16 R.L., with an abundant supply of water in the rivers. The level of water at corresponding period of previous year was 193.04 R.L.

Advantage was taken of the good supply to shut off the incoming water and push on works in No. 10 section of canal, which was very defective. The work of relining was continued until 15th September, when level of water in reservoir stood at 192.00 R.L.; water was then turned on, and top water-level reached 195.00 R.L. on 17th November; at this date the total available supply from the rivers was only 12 million gallons per day, and daily diminishing. The water was then cut off, and the urgent work in connection with canal pushed on until 7th December, the water-level in reservoir then standing at 193.3 R.L. From this date it was decided to take the whole of the available supply during the summer months; but no rain fell, and the flow into reservoir gradually diminished, until, in March for several days, the combined flow of the rivers did not aggregate more than 339,000 gallons per day, and on 31st May the water-level in reservoir was reduced to 182.75 R.L. Rain then fell, and by 30th June the level stood at 188.50 R.L., and at end of July the water rose to 195.50. Comparing the above levels with preceding year, it will be seen that, although the observations for 1897-8 showed a dry season, the returns for last year showed that the drought was accentuated. The lowest level touched in the period of 1897-8 was 183.85 R.L.

During last season no water was lost through interruptions in canal, except a total quantity of 140 million gallons, between November and December, yet the water in reservoir touched a level which raised doubts as to whether the available supply by gravitation would be equal to the demand; in which

case pumping into lower canal would have to be resorted to. Fortunately, however, this limit has not yet been reached; but it necessitated active measures having to be taken by the Department in limiting free supplies and checking waste.

The experience gained during the past years of drought must not be overlooked in connection with the storage capacity at the disposal of the Board, and the gradual increase in consumption of water in the area supplied. There is every indication that the latter will increase considerably beyond the present daily quantity, and storage capacity should be provided in the same ratio.

To amplify the existing impounding area the top water-level has been raised 1 ft. 6 in., which considerably increases the storage capacity, as mentioned in last year's report.

That this will be insufficient in the near future there is no doubt, and provision should be made to store up the surplus water in abundant seasons for regulating the supply in seasons of drought.

The work of raising the puddle-wall and bywash has been completed.

When reservoir was depleted, the inner slope of embankment settled again at T.S. 44. After inspection and reporting to the Board, the place was inspected by the President and members of the Board, and it was decided, before restoring the bank to its proper level, to flatten the slope and weight the toe, by depositing a mass of stone to prevent any forward movement into the reservoir. This work is nearly completed.

While the water was at a low level the rendering of inlet tower was renewed.

The outlet pipes from reservoir have been cleaned and recoated where required, as well as other minor works of repairs.

On the flat below reservoir about 20 acres of the old excavation have been soiled, and 80 acres planted with good pasture grasses. This will increase the agistment area outside the watershed of the reservoir.

The Board having decided to discontinue the agistment of horses on land draining into the reservoir, the paddocks lying outside the drainage area were improved to the extent of clearing 130 acres, and ringbarking and ground-clearing 200 acres. Much of the ringbarked timber will find ready sale for firewood.

Notwithstanding the decrease in agistment area and dry season, the receipts for the year amounted to £348, as against the receipts for last year of £415 18s. 3d.

The purchase of a steam launch for the weighting of toe of bank will provide means for keeping reservoir clear of weeds with less labour than heretofore.

The sanitary arrangements of the Resident Engineer's quarters have been thoroughly overhauled, and new drains laid from the premises.

#### Supply from Prospect Reservoir.

The quantity of water supplied to the various districts under the Board's control for past year is recorded at 6,860,146,000 gallons, or an increase of 186,632,000 gallons. The increase last year over the preceding one was 228,000,000 gallons, so that in two years the aggregate increase reaches 414,632,000 gallons.

The average daily supply is equal to 18,794,920 gallons, or an increase of 511,920 gallons on preceding year.

The supply per head is equal to 41.72 gallons per diem on estimated population of 450,483.

#### Lower Canal and Works below Prospect Reservoir.

During the year the lower canal has been emptied and cleared of weeds and deposit; the aqueduct has also been repaired, and some bad leaks stopped. A concrete pier has been built under 72-inch main at Duck Creek, together with other ordinary maintenance work. The existing pipe-line throughout is in good condition externally. When the duplicate line, which is now approaching completion, is available, the existing line will be emptied and thoroughly examined. It will be necessary to clean the pipe from incrustation, and coat the inside. As this will be a work of some magnitude, it would be an expensive matter to do the cleaning by hand labour, and with view of economy, the question of dealing with it by compressed air in the form of a sand blast is under consideration. I do not anticipate that the work can be undertaken before next winter.

#### Potts' Hill Reservoir.

This reservoir is in good condition, and no further slips have taken place.

The spindles in connection with sluices in screening chamber are being renewed as occasion requires in gun-metal, and damaged screen frames and gauze-wire are also being renewed.

Some of the wattle-trees are being thinned out, and bark of same will be disposed of. The bloom from the whole plantation has been disposed of to a leading florist, a ready sale for same being found in the city.

#### Trunk Mains.

The two trunk mains to the city and that to Ryde are in good order. During the year blown joints were reported on two occasions; these caused considerable expense to repair. On the arterial mains the following bursts took place:—In Crown-street, on the old 30-inch main; Oatley-road, 36-inch main; Albion-street, old 30-inch main; in Cleveland-street tunnel the 42-inch main was fractured through the carelessness of contractor in laying the new 36 arterial main for Western Suburbs; in Moore Park a fractured pipe occurred on new main. At Ryde the 24 $\frac{3}{4}$ -inch steel main was found to be blown at the joints—this is the pumping main to Chatswood. Five other bursts occurred in mains of smaller diameter, 24-inch to 18-inch.

The above were attended to at once, and supply kept up during the progress of the work.

#### General Reticulation.

The condition of the whole of the reticulating system is good.

The work done during the year consists of laying 36 miles 655 yards of mains, varying in size from 42 inches to 3 inches in diameter; cleaning and general fettling of 17 miles 744 yards of mains of various sizes; lowering 1,424 yards of pipes to suit new street-levels; removing 3 miles 1,397 yards of mains; raising



raising 278 yards, and relaying 1,503 yards. Included in mileage of new mains is part of the new arterial main to Western Suburbs, viz., 4,869 yards of 36-inch pipes and 780 yards of 30-inch pipes. It is anticipated that this new main will be available by the next summer, and the supply to the high levels of Glebe, Balmain, Petersham, &c., be materially improved.

Within the city boundary the following improvements have been carried out, viz. :—Darlinghurst heights, an 18-inch main has been laid in Bourke and Forbes streets, and a 15-inch main along Darlinghurst-road ; in Princes-street, an 8-inch main was laid.

For improving the supply to Auburn and adjoining districts, a 12-inch main was laid.

Six-inch mains have been laid in the city, Mosman, Canterbury, North Sydney, Beecroft, Auburn, Randwick, &c., the aggregate length being 5 miles. With 4-inch mains almost every district has benefited, the length laid being about 23 miles. [See Appendix I.]

The number of blown joints, bursts, &c., on smaller mains attended to during the year was 143. The number of hydrants fixed was 519 ball hydrants and 35 screw-down. The number of service pipes shut off to prevent waste through defects were—City, 386 ; Suburbs, 405 ; total, 791.

### Fires.

The number of fires attended to by the Board's staff was 70, none of which require special mention.

### Analysis of Water.

Monthly analyses have been made by the Government Analyst of samples of water drawn from different points supplied by the reticulation, and the reports have been satisfactory.

The complaints as to dirty water have been comparatively few ; the cause has been found on investigation to be local.

The coupling of dead ends is being carried on gradually, the important sections being dealt with first. To this cause can be attributed the decrease in number of complaints *re* dirty condition of water.

To prevent ingress of organic or other matter to the mains, the Board approved of a spring hydrant valve being fixed in lieu of ball hydrants, and on summits, spring dirt-caps. This system has met with the approval of the Board of Health. A contract for supply of same is now in progress.

### House Services.

The number of private services connected to the mains during the year was 2,862, or a decrease of 71 on last year. The number of permits was 12,736, or an increase of 2,628 over last year. The number of inspections made was 1,370.

In the working of this branch it is found that action is retarded by the absence of legislative power to enter premises for the purpose of shutting off water for nonpayment of rates. In carrying out this duty the officers run the risk of being prosecuted for trespass, unless covered by an authority under seal from the owner to enter. It is to be hoped that this and other necessary powers will shortly be obtained, as I question whether an agreement signed by one owner can bind his successor.

### Meter Sub-Branch.

The operations of this sub-branch show an improvement over previous year's business, and results are satisfactory.

*Meter Clerks.*—During the year 1,523 meters were fixed. Of these, 139 were attached to services for building purposes, 569 were renewed, showing a net increase of 954 ; the total now in operation being 8,498.

This large increase is due to the abolition of garden fees over the minimum fee, and payment of water for gardens by meter.

Of the 1,523 meters fixed, 1,439 are on the "hire system" at annual rentals ; the number under this system now in operation is 4,138, as against 2,788 last year, showing an increase of 1,350 for the year.

During the year 378 meters were found to be inoperative, or recording incorrectly. These were promptly repaired or replaced with new meters.

On the 1st July, 1898, a reduction in meter rents was made, equal to 22 per cent. ; but in view of the rise in cost of meters, and a general tendency of rise in metals connected with manufacture, no further reduction can be made, at any rate, for the present.

The financial result, as shown by the books, cannot be considered other than highly satisfactory, viz. :—

- (a) Revenue in excess of assessment, June, 1898, to June, 1899, £54,797 17s. 1d., as against £47,006 1s. 3d. for 1898 ; increase, £7,791 15s. 10d.
- (b) Amount earned by Board's meters, included in above, £13,020 4s. 6d., as against £7,822 4s. 1d. in 1898 ; an increase of £5,198 0s. 5d.
- (c) Revenue from rents of hired meters for year, £1,299 3s. 5d., as against £977 14s. 11d. for 1898 ; an increase of £321 8s. 6d.

The quantity of water supplied free under meterage to charitable institutions and public parks was 92,907,000 gallons, or value of £4,645 7s. 0d.

*Meter and tap-testing shops.*—The number of water fittings submitted for test and examination during the year was 72,102. Of this number 69,160 were passed and stamped, 2,860 were returned for alteration, and only 82 were rejected. This result speaks well for the quality of the goods imported or locally manufactured. Meters owned by consumers within the Metropolitan district, 80 were tested, and 217 repaired. Meters hired out to consumers, 800 have been overhauled and cleaned in position.

Meters for use in connection with country towns' water supply, not under the Board's jurisdiction, 398 were examined and tested, and 51 repaired.

The number of meters supplied by Board's contractor was 1,155 of all sizes.

The number of meters condemned as unreliable was 120, the majority being replaced by Board's meters.

The new system in connection with meters being fixed on existing services by the Board's staff came into operation on 3rd February, and since then 413 services have been prepared and meters fixed.

The



## Reservoirs and Service Tanks.

The different reservoirs and service tanks are in good condition and have received the annual cleaning out.

The new tank erected at Wabroonga, on the Milson's Point and Hornsby Line, at an elevation of 720 feet above high-water mark, and of 1,000,000-gallon capacity, was satisfactorily completed and brought into use during the year. A residence has also been built for the local Turncock and the grounds planted with shrubs, &c. The tank and cottage with surroundings present a neat appearance.

An intermediate tank will be built at Pymble to augment the supply of the district and reduce the pressure on the lower levels.

The new Reservoir at Centennial Park, constructed by the Public Works Department, and handed over to the Board, was immediately brought into service. The capacity is about 17 million gallons, which makes it the largest covered Reservoir in Australia. The top water-level is 245 feet above high-water mark, and commands a very large and thickly populated area.

With the dwarf wall, ornamental railing, and bandstand it presents a handsome appearance. The Reservoir being erected within the Park area, arrangements are being made for the Controller of Park to take charge of the surface.

Manholes are being fixed in the service tanks at Chatswood and Ryde Village, and in an examination of the interior face it has been decided to repaint same—the tanks have not been painted for thirteen years.

## New Districts.

A special Act having been passed by the Legislatures empowering the Board to supply water to the town of Camden, and an appropriation having been obtained the works were commenced and are well in hand, so that water will be available by coming summer.

The works consist of a circular tank having a capacity of 100,000 gallons, built close to the upper canal, at Kenny Hill.

The tank and canal is connected by a 15-inch pipe, the inlet to tank and outlet therefrom are protected by screens to prevent the ingress of any foreign matter into the mains. A drop-bar weir is built below the outlet from canal, so that a head of water can always be maintained. From the tank to Camden, *via* Narellan, an 8-inch steel-riveted main is laid along the main Camden-road, crossing the Nepean River into Camden. Here the main will be reduced to 6 inches diameter, and branch mains, 4 inches diameter, will be reticulated therefrom.

The aggregate length of mains will be about  $6\frac{1}{4}$  miles, and, when laid, it is anticipated that a fair revenue will be obtained.

## Country Towns Water Supply.

The various works in the towns of Campbelltown, Liverpool, Smithfield, and Richmond, are in good order. With exception of laying 274 yards of 4-inch main in Liverpool, no works beyond ordinary maintenance have been carried out. The abolition of dead ends in Liverpool has resulted in an absence of complaints.

The water supplied to each town is analysed in conjunction with the metropolitan supply, and in each case has been favourably reported upon by the Government Analyst.

## Botany Reserves.

The Board has leased two more allotments for wool-scouring purposes on favourable terms. The first one, which includes the old engine and boiler houses, was leased to Mr. Swinbourne; the second, which is located between Messrs. Johnstone and Vicar's lease and Botany-road, is leased to Messrs. Sykes, Holt, & Co.

There are now six leaseholds which are used for wool-scouring, &c.

Many of the lessees during the summer months were working day and night and, notwithstanding the excessive dryness of the season, the water in dams was sufficient to keep them in full swing.

The lessees have effected several improvements to their machinery and additions to the buildings.

The Board's works are, as far as possible, kept in good order, but the timber sheeting at the Blackwater Creek is becoming so rotten that steps will have to be taken to renew it or protect the banks by some other method.

According to the records which have been kept by the local officers for years past, the season has been the driest on record. The records show that for the first ten months of the year 24.98 inches fell, but the total rainfall for the twelve months totalled 40.19 inches.

The storage capacity of the dams is estimated at 286,000,000 gallons.

## Contracts let during the year.

The contracts let, or in progress, during the year were:—Contracts completed: Supply of submarine pipes for Goat Island; tank at Wabroonga; new pumps and boiler, Chatswood; extension of buildings, Chatswood; supply of 42-in. and 36-in. pipes for main from Centennial Park Reservoir; laying ditto, ditto; overhauling Blake pumps, Carlton; fencing upper canal; erection of cottages at Penshurst and Wabroonga; supply of wrought-iron clips for Ryde pumping main, &c. Contracts let: Supply of 36-in., 30-in., and 24-in. pipes and laying same from Oatley-road, Paddington, to Petersham; supply of coal, cement, timber, water meters, lead, spring-hydrant fittings; ball and screw-down hydrants, stop-valves; pipe laying, fencing upper canal; supply of steel pipes for Camden waterworks; renewing screens, Pott's Hill; renewing sluice spindles for Pott's Hill screening tank; cartage service for Meter Branch.

A considerable amount of work has also been carried out by day-labour, *viz.*:—Main-laying within the city limits; repairs to cottages; reservoirs; boundary fencing; raising puddle wall, Prospect Dam; relining upper canal; erection of smithy and storeroom, Chatswood; re-erection of dynamo, Crown-street; connecting high and low level tanks, Wabroonga; iron gate at Paddington; wrought-iron grating for guarding entrance to Cecil Hills tunnel, &c., besides general maintenance work.

The

The expenditure on Loan Vote for new works, &c., amounted to £71,609 Os. 1d., viz. :—

	£	s.	d.
New mains, including arterial mains ... ..	50,264	5	9
Buildings and machinery ... ..	1,581	16	11
Strengthening and relining upper canal ... ..	6,131	0	8
Raising puddle wall, Prospect Dam ... ..	1,833	12	2
Weighting toe of inner slope, Prospect Dam ... ..	1,365	5	11
Improvements to canal—restoring bank, Sec. No. 44—land resumption, Prospect ... ..	4,000	0	0
Sundry works, including completion of Wahroonga tank and portion of Camden water supply, including Richmond, £66 16s. ... ..	6,432	18	8
	£71,609	0	1

### Expenditure on Revenue Vote.

The expenditure on the Revenue Vote for the year was £30,129 12s. 5d., showing a decrease of £330 14s. 11d. as compared with the expenditure of previous year.

The reports of the Chief Mechanical Engineer and Resident Engineer, Prospect, with summary of mains laid and diagrams, are submitted herewith.

### Chief Mechanical Engineer's Report.

Sir,

Engineers' Department, 10 July, 1899.

I have the honor to submit the following report upon the working of pumping engines, &c., and water supplied for the year ended 30 June, 1899. The work during the year was of the usual routine character, consistent with keeping the machinery in working order, that of any moment was the general overhaul to No. 2 engine in July last, after two years' running—being the period allotted for each set of engines, the others taking up the work of supply during the general overhaul, making the overhaul for each set of engines every alternate year.

The overhaul was of the usual routine consistent with two years' running, viz. :—Everything was opened up; steam pistons drawn, rings adjusted, steam valve chest casings rejointed, valves and valve-gear adjusted; main pumps cleaned and painted throughout; new valves and springs where required; air pumps drawn; new valves throughout, and all connections let together and adjusted; lower compensator pots bored out, pistons and glands bushed to fit, new bolts, &c.; compensator pistons throughout rebushed; new gland bolts fitted; two new junk-ring bucket ends fitted; compensator cross-head gudgeons turned up, and connecting bearings lined to fit; water and air compensator pumps, and feed pumps, were all done up, rebushed, and pins fitted throughout; jacketing steam pipes and valves done up throughout; boiler safety-valves, &c., have been attended to as required. Nos. 1 and 3 engines are now about to have a general overhaul, otherwise all the machinery is in good working order.

The hydrant connections for safety in case of fire, have been periodically tested in order to maintain their efficiency.

The electric power and lighting machinery was re-located to obviate objectionable noise to neighbourhood in March last, with desired result. Water pumped during the year ended, and for the quarter, is given in tabulated form herewith attached, and as under, viz. :—Water pumped by Crown-street pumps during the year to Centennial reservoir was 2,067,636,000 gallons, being 207·89 million gallons more than the year previous; and for the quarter, 470,152,000 gallons, being 17·399 million gallons more than the corresponding quarter of the year previous. The quantity of water pumped to Woollahra reservoir during the year was 440,803,600 gallons, being 10·317 million gallons more than the year previous; and for the quarter 102,640,600 gallons, being 6·937 million gallons more than the corresponding quarter of the year previous. The quantity of water pumped to Waverley reservoir during the year was 378,223,610 gallons, being an increase on the previous year of 49·764 million gallons; and for the quarter 81,155,880 gallons, being 752,630 gallons more than corresponding quarter of year previous. The quantity of water pumped at Ryde works for the year to Ryde Hill was 121,041,000 gallons, being 9·666 million gallons more than the year previous; and for the quarter was 26,811,000 gallons, being 2·754 million gallons more than the corresponding quarter of the year previous. To Chatswood for the year was 509,712,000 gallons, being an increase on the year previous of 117·504 million gallons; and for the quarter was 120,816,000 gallons, being 26·304 million gallons increase on corresponding quarter of year previous.

The quantity of water pumped at Carlton for the year was 100,961,860 gallons, being an increase of 34·096 million gallons on the year previous; and for the quarter 19,372,180 gallons, being 330,100 gallons more than corresponding quarter of year previous.

The Worthington pumps at Carlton had a general overhaul in June last; brass liners were fitted in air pumps, and Donkey feed, piston buckets, renewed to fit; everything relined and adjusted, new valves where required, main pumps thoroughly cleaned internally and painted; they are now running well; boiler was also cleaned and requirements attended to.

The Chatswood pumping for the year was 108,522,710 gallons, being an increase of 48·08 million gallons on that of the year previous; and for the quarter 28,519,840 gallons, being an increase of 13·188 million gallons on corresponding quarter of year previous.

The machinery has been running satisfactorily throughout the year, nothing further than little requirements having to be attended to. The pumping plant at all the works are now in fair working order.

J. FYFE,

The Engineer-in-Chief.

Chief Mechanical Engineer.

RETURN

## RETURN of water pumped and coal consumed for year ending 30 June, 1899.

From—	To Reservoirs.	Water Pumped.	Coal Consumed.
		gallons.	tons cwt. qr.
Crown-street Works .....	Centennial .....	2,067,636,000	1,928 6 1
" " .....	Woollahra .....	440,803,600	593 17 1
" " .....	Waverley .....	378,223,610	864 12 1
Ryde Works .....	Ryde Hill .....	121,041,000 }	
" " .....	Chatswood .....	509,712,000 }	1,711 8 3
Carlton Works .....	Penshurst, &c. ....	100,961,860	355 5 0
Chatswood Works .....	Wahroongah, &c. ....	108,522,710	601 14 2
	For heating up slowly in changing boilers, Crown-street .....		12 0 0
	For engineer's quarters .....		8 0 0
	For dynamo power .....		297 0 0

## RETURN for quarter ending 30 June, 1899.

From—	To Reservoirs.	Water Pumped.	Coal Consumed.
		gallons.	tons cwt. qr.
Crown-street Works .....	Centennial .....	470,152,000	532 6 1
" " .....	Woollahra .....	102,640,600	145 19 0
" " .....	Waverley .....	81,155,880	194 10 0
Ryde Works .....	Ryde Hill .....	26,811,000 }	
" " .....	Chatswood .....	120,816,000 }	409 5 1
Carlton Works .....	Penshurst, &c. ....	19,372,180	88 2 0
Chatswood Works .....	Wahroongah, &c. ....	28,519,840	158 4 0
	For heating up slowly in changing boilers, Crown-street .....		3 0 0
	For engineer's quarters .....		2 0 0
	For dynamo power .....		68 0 0

## Resident Engineer's Annual Report, Prospect Reservoir and Conduit from Nepean River to Potts' Hill, July 1, 1898, to June 30, 1899.

Prospect, 29 July, 1899.

The most important consideration in this Annual Report is the actual available supply of water at the catchment area during the period under review, and the extent to which it has been availed of to maintain the best storage at Prospect; together with reasons, if any, for not taking the fullest advantage of it. My last annual report, in speaking of the low level which had been touched here, drew attention to the interruptions due to work in progress on the Upper Canal, and care was taken to avoid their recurrence, but a still lower level was reached this year, due entirely to the dry season and consequent scarcity of water in the rivers.

The year began (July 1, 1898) with the reservoir overflowing and an abundant supply of water. (Note:—The Byewash here was then still at its original R.L. 195·00, but was shortly after raised to 196·50.) Advantage was taken of this to push on with re-lining of canal till September 15th when water was at R.L. 192·00. Water was then turned on and again reached 195·00 on November 17th, when—the total available supply from the rivers being only 12,000,000 gallons per day and dropping off—it was again cut off and re-lining resumed till December 7th, when water level was at 193·30. It was then decided to take all available water during the summer months, but no rain came, and the supply diminished till, in March, for several days, the whole available water was 339,000 gallons per day, and on May 31st, 1899, the R.L. here was 182·75. Rains then fell and by June 30th R.L. 183·50 was reached, and at date of writing is 195·50

Thus it may be said that no water was lost by interruption of the inflow, excepting an average of 8,000,000 gall. per day from November 17th till December 7th, or a total of 140,000,000 galls.; yet a level was reached so low as to cause some doubt as to the supply by gravitation holding out.

The result of the year's experience seems to point to the advisability of exploring (as agreed to by you) the catchment area for possible sites for regulating reservoirs to impound the surplus of abundant seasons as a stand-by during periods of excessive drought.

It having been decided to discontinue the practice of grazing horses on land draining into the reservoir, attention was given to improving the paddocks outside the drainage area. About 130 acres have been cleared, and useless timber on some 200 acres more ringbarked. Much of the ringbarked timber will later find ready sale for firewood. Some 20 acres of the excavations below the bank have been soiled, and about 80 acres sown with good pasture grasses.

In spite of the loss of grazing area above referred to, and the extremely bad season, the year's receipts for agistment amounted to £348.

With the low level of water in reservoir, the embankment at T.S. 44 again settled over a length of 450 feet. It was decided before restoring it to extend and flatten the inner slope at the spot, and at the same time to weight the toe by depositing a mass of stone there. This is almost finished and the restoration of puddle wall is in progress.

Though not under the directions of the Board, it may be mentioned that the pipes forming the duplicate 72-inch main from Pipe Head to Pott's Hill have been laid, but not yet connected at either end. Its completion will be a great relief, as the single pipe has been taxed to the utmost to maintain a full level in Pott's Hill Reservoir during extreme hot spells in summer.

Among

Among minor works may be mentioned the following:—

July, 1898.—Erection of iron gates along upper canal; also of duplicate telephone line; tree planting at Prospect, Liverpool dam, and along canal.

August, 1898.—Slip in canal at 29¼ miles being dealt with.

September, 1898.—Lower canal emptied and cleaned; overflow weir, Prospect Reservoir, raised 1 foot 6 inches.

November, 1898.—Soiling excavations below embankment.

December, 1898.—Scour valve fixed in Cataract Dam; underpinning cliff at Cataract proceeding; concrete pier built under 72-inch main at Duck Creek.

January, 1899.—Painting aqueducts over Simpson's, Ellerdale, Ousedale, and Mullally Creeks—outside work.

February, 1899.—Painting maintenance men's cottages; new gauge in Cataract River; telephone, via Parramatta, connected; repairs to rendering of tower; and repairs to 30-inch main.

March, 1899.—Cleaning pipes in tunnel; leak in canal at Sugarloaf Inlet stopped.

April, 1899.—Heavy rains; extra maintenance work due to choked flumes, culverts, and drains; covered way, Nepean outlet, finished.

May, 1899.—Weighting bank at T.S. 44 started; preparing ground for further tree-planting.

June, 1899.—Repairs to Jones' cottage; water cut off from lower canal; some repairs to aqueduct carried out.

A. F. JACOB,  
Resident Engineer.

The Engineer.

SUMMARY showing the Length in yards of each sized Main laid in each Municipality or District from 1st July, 1898, to 30th June, 1899.

Municipality or District.	3"	4"	6"	8"	8½"	9"	10"	12"	15"	18"	20"	24"	30"	36"	36½"	42"	Total.
	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.	yds.
Alexandria.....	...	609	110	...	...	...	...	...	...	...	...	...	...	...	...	...	719
Annandale.....	...	131	...	...	...	...	...	...	...	...	...	...	...	...	...	...	131
Ashfield.....	...	1,037	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,037
Auburn.....	...	365	145	...	...	...	...	1,872	...	...	...	...	...	...	...	...	2,332
Balmain.....	...	1,521	8	...	...	...	...	...	...	...	...	...	...	...	...	...	1,529
Becroft.....	...	264	171	...	...	...	...	...	...	...	...	...	...	...	...	...	435
Botany.....	...	741	...	...	...	...	...	...	...	...	...	...	...	...	...	...	741
Burwood.....	...	959	...	...	...	...	...	...	...	...	...	...	...	...	...	...	959
Camden.....	...	...	16	...	1,187	...	...	...	...	...	...	...	...	...	...	...	1,203
Camperdown.....	...	218	...	...	...	...	2	6	17	...	4	...	780	619	...	...	1,646
Canterbury.....	...	1,113	989	...	...	...	...	...	...	...	...	...	...	...	...	...	2,102
City of Sydney... 24	...	1,430	2,113	373	...	15	84	26	475	772	5	40	...	4,250	...	26	9,633
Concord.....	...	2,237	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,237
Darlington.....	...	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
Drummoyne.....	...	380	...	...	...	...	...	...	...	...	...	...	...	...	...	...	380
Enfield.....	...	749	...	...	...	...	...	...	...	...	...	...	...	...	...	...	749
Glebe.....	...	198	...	...	...	...	...	...	...	...	...	...	...	...	...	...	198
Gordon.....	...	3,851	150	35	...	4	14	...	479	...	...	...	...	...	...	...	4,533
Granville.....	...	576	...	...	...	...	...	...	...	...	...	...	...	...	...	...	576
Hunter's Hill ...	...	135	...	...	...	...	...	...	...	...	...	...	...	...	...	...	135
Hurstville.....	...	1,266	116	...	...	...	...	...	...	...	...	...	...	...	...	...	1,382
Kogarah.....	...	565	51	...	...	...	...	...	...	...	...	...	...	...	...	...	616
Lane Cove.....	...	245	...	...	...	...	...	...	...	...	...	...	...	...	...	...	245
Liverpool.....	...	274	...	...	...	...	...	...	...	...	...	...	...	...	...	...	274
Marrickville....	...	2,455	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2,457
Mosman.....	...	3,462	1,128	...	...	...	...	...	...	...	...	...	...	...	...	...	4,590
Newington.....	...	141	...	...	...	...	...	...	...	...	...	...	...	...	...	...	141
Newtown.....	...	428	...	...	...	...	...	...	...	...	...	...	...	...	...	...	428
North Botany ...	...	1,472	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,472
North Sydney ... 142	...	2,381	305	...	...	...	1	...	...	...	...	...	...	...	...	...	2,829
Paddington.....	...	1,407	3	...	...	...	...	...	...	...	...	...	...	...	...	103	1,513
Petersham.....	...	2,177	26	...	...	...	1,731	...	...	...	...	...	...	...	...	...	3,934
Prospect and Sherwood.	...	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
Randwick.....	...	1,073	3,361	...	...	...	...	...	...	...	...	...	...	...	...	...	4,434
Redfern.....	...	809	...	14	...	1	26	...	...	...	...	...	...	...	...	...	850
Rockdale.....	...	624	111	...	...	...	...	...	...	...	...	...	...	...	...	...	735
Rookwood.....	65	857	...	...	...	...	...	38	...	...	...	...	...	...	...	...	960
Ryde.....	...	355	...	...	...	...	...	...	...	...	...	...	...	...	...	...	355
Smithfield.....	...	101	...	...	...	...	...	...	...	...	...	...	...	...	...	...	101
St. Peters.....	...	148	...	...	...	...	...	...	...	...	...	...	...	...	...	...	148
Strathfield.....	...	1,227	236	...	...	...	...	...	...	...	...	...	...	...	...	...	1,463
Waverley.....	...	1,535	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,535
Willoughby.....	11	1,268	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1,281
Woollahra.....	...	899	1	...	...	1	...	...	...	...	...	...	...	...	...	...	901
Totals.....	242	41,729	9,044	422	1,187	21	1,858	1,942	971	772	9	40	780	4,869	103	26	64,015 or 36 miles 655 yds.

## II.—SEWERAGE BRANCH.

During the year the following stormwater drains, constructed by the Government Sewerage Branch, have been transferred to the control of the Board under the provisions of the Amending Act of 1894, viz. :—

Euroka Creek stormwater channel.  
Careening Cove „ „

During the same period the following main sewers, constructed by the Government Sewerage Branch, have been transferred to the Board under the provisions of the Amending Act of 1889 (Western Suburbs Sewerage Act), viz. :—

Western Suburbs System.—Main Northern branch, 3rd division.  
Long Cove sub-branch.  
Homebush Creek low-level branch.  
Northern System.—Double Bay low-level sewerage.  
Balmain south-eastern slopes branch.  
Weston and Victoria Streets branch.  
Reynolds-street branch.  
Rosser-street branch.  
Palmer-street branch.  
Curtis-road branch.

The following municipal stormwater drains have been transferred to the Board under the provisions of the Amending Act of 1894, viz. :—

Leichhardt.—O'Neill-street stormwater channel.  
Ashfield.—Smith-street main trunk drain.  
Carrington-street branch.  
Croydon main drain, 1st and 2nd sections.  
Thomas-street branch.

The length of sewers and stormwater ducts transferred to the Board during the year were, viz. :—

Sewers—8·80 miles. (*Vide Appendix A. Table 1.*)  
Stormwater Ducts—1·637 miles. (*Vide Appendix A. Tables 2 and 4.*)

### Surveys, &c.

Surveys have been carried out to determine the position and level of side inlets for the Government Sewerage Department in connection with the reticulation sewerage for the following sewers :—

Kensington sewer.  
Balmain low-level sewers.  
Mossman's Bay sewer.

Surveys have been made for stormwater drains at Ashfield, Pyrmont, and Burwood, and for reticulating sewers in Ashfield, Annandale, Balmain, Camperdown, City, Leichhardt, Paddington, Petersham, North Sydney, Marrickville, Randwick, Waterloo, Waverley, Willoughby, and Woollahra. Surveys are also in progress for dealing with the reticulation of low-level areas in Newtown, St. Peters and Marrickville, and Burwood, Woollahra, Waverley, and Neutral Bay.

### New Sewers.

The new sewers and stormwater ducts constructed by the Board during the year was 59·96 miles as against 50·85 miles in the preceding year. Stormwater ducts '08 miles, as against '15 miles previous year. (*Vide Appendix B.*)

The aggregate length of sewers and stormwater ducts now under the control of the Board is—

Sewers	...	...	...	...	...	...	389·01 miles.
Stormwater ducts	...	...	...	...	...	...	22·30 „
Total	...	...	...	...	...	...	411·31 „

The usual procedure is followed in giving the ratepayers the benefits of the new system when the Government sewers are available without awaiting the formal transfer of the latter. This arrangement of the Board is much appreciated by the public, as to debar them from having improved sanitation pending the formal transfer would be a fruitful source of dissatisfaction. While, however, the Board meets the public convenience in this respect they cannot legally charge rates until such transfer takes place, and in some instances this has resulted in a loss of revenue.

### Contracts in Progress.

During the year the work of constructing new sewers has been vigorously pushed on—as many as sixty contracts were in progress during the year as against three hundred and sixty-one in the preceding year, the contracts comprised a total length of 654,584 lineal feet of various sizes in different formations, the length for preceding year totalled 445,000 lineal feet. Contract was let for erecting of ventilating shafts attached to buildings and detached pillar shafts in vacant land.

Brick shafts of neat design have been erected in main outfall sewers at Premier-street in Western suburbs system, and at North Sydney Park in main sewer of that system. The shafts are effective and fulfil the purpose for which they were erected.

Flushing-gates have been erected in the Beattie-street stormwater sewer, and have acted satisfactorily since erection.

A considerable amount of work has been done by contract in constructing subsidiary carriers at the Rockdale Sewage Farm, and contracts are in progress for subsoil draining the southern section of the farm, and constructing an additional stormwater outlet from main carrier.



New cottages have been erected at the ventilating shaft at Premier-street which will be occupied by the district maintenance men under rent.

Additions have also been made to manager's house and maintenance mens' cottages at Botany Sewage Farm.

Contract will shortly be let for a group of cottages on the Rockdale Sewage Farm for the labourers. These will be under rent, and while being convenient for the men, will not be a tax on the Board's revenue.

### Stormwater Sewers.

The loss on the stormwater sewers continues to be a drag on the sewerage revenue. The cost of maintenance is kept as low as possible, consistent with efficiency. In the case of North Sydney and Double Bay the drainage rate will merge into the sewerage rate, and the latter must bear the charge for interest and maintenance. It is evident that the statutory limit is not sufficient in some cases to cover the cost of the annual charges.

### Outfall Sewers.

The outfall sewers are generally in good order. In the northern and southern a partial silting up occurs on some sections; this is due in a great measure to the long spell of dry weather and absence of flushing which the large sewers receive during rain-storms. The opening up of sections of reticulating sewers necessitated spreading the available men out, and funds did not admit of increasing the staff. The repairs at Bondi and Botany sewers will be put in hand on first favourable opportunity. The penstocks and valves are in good working order, but will shortly require scraping down and repainting.

The automatic recorders continue to give satisfaction.

### Reticulation Sewers.

The whole of the reticulating sewers in city and suburbs are in good working order. Very few complaints were received of premises being flooded. Where surcharging occurred, relief was given by diverting some of the flow into other channels not working up to full capacity.

The additional sewers, transferred by the Government and constructed by the Board, tax the existing staff, and, to cope with same, provision has been made on Estimates for additional labour.

In some cases, where the ground has proved unstable, the sewer-pipes have sunk, and water-charged sand found its way into pipes through the joints, causing a partial block. The work will be taken in hand when subsoil water decreases.

The ventilation of the sewers is effective in preventing the formation of sewer gas, and makes the maintenance of the sewers safe to the workmen. The flushing tanks at terminal points of slow grades are working satisfactorily.

The different pipe aqueducts are sound and in good order, except in a few cases where repainting is necessary.

In connection with the cleaning and painting of iron structures generally under the Board's control, the scraping down and cleaning off of rust, &c., becomes expensive when done by hand, and the saving in labour, by using a sand-blast plant, would in time fully cover the first cost of such plant. I have previously referred to this matter in connection with the Water Branch, and such a plant might serve the requirements of both services.

### Removal of Silt, &c.

The quantity of silt removed during the year from the old system and stormwater ducts in Metropolitan district was viz. :—Sewers, 2,900 tons, as against 1,450 tons previous year; Rushcutters' Bay S.W. duct, 875 tons; Neutral Bay and Careening Cove, 520 tons; Balmain S.W. duct, 850 tons. The quantity removed from the main outfalls new system was—Bondi Main Sewer, 785 tons; Botany Main Sewer, 463 tons; Macdonaldtown Branch Sewer, 60 tons; Long Cove Creek Stormwater duct, 1,000 tons; Iron Cove Creek S.W. duct, 450 tons; Cleveland-street, 40 tons; and Shea's Creek S.W. duct, 150 tons.

The lower end of Long Cove Creek was cleaned of obstructions and generally improved as far as it was possible to deal with a natural channel. The pent up water at flushing gates has better effect in flushing out, as no dead water is left to cause a nuisance at the lower end.

### Repairs to City Sewers.

No work other than that of ordinary maintenance, raising old manholes to surface, and replacing defective timber covers with cast-iron ditto has been carried out. The number of new castings fixed are, viz. :—32 circular manhole castings, and 31 square castings. It will be necessary to take in hand a section of old sewer running across the Railway yard, as same is reported to require reconstruction to make it safe.

Old sewers in Evans road, Prince Alfred Park, Liverpool-street, and Young-lane, collapsed and had to be reconstructed.

### Pumping Plant.

The Shones ejector plant at Alexandria is in good working order, and gives satisfaction. The quantity of sewage raised into the Botany outfall sewer was 133,630,000 galls. for the year, being a daily average of 367,115 gallons.

The Double Bay plant is on the Shone system, but the motive power is by electricity.

These works have only lately come under the control of the Board, and although the plant is substantially constructed, it is too early to express an opinion on the economy or efficiency of working.

After a run of six months under fair working conditions, a statement will be prepared, showing the number of units absorbed in generating power for the compressors. With this information a comparison can be made with other systems, and probably a rearrangement of the subsidy paid to Railway Commissioners be effected.

Outlet

### Outlet Works, Cook's River.

There has been nothing of import to report in reference to these works. The whole of the plant is in good running order, and building in good condition. The quantity of lime used for lime-washing pits and partial precipitation is 10 tons.

The rolling stock is in fair order, except locomotive, the boiler of which gives trouble, and other working parts require renewing. The locomotive has been constantly running for about twelve years, and was not a first-class one at the beginning.

The temporary bridge requires careful watching, and it is proposed to abolish it and convey the sludge under the river to the farm by a submarine pipe, compressed air being the power used to force the sludge. A contract has been invited for the pipes, and plans are prepared for a second contract for building engine compressor, &c.

### Sewage Farms.

The disposal of the sludge from inlet house has been carried out without causing a nuisance.

The daily sewage has been disposed of over irrigation beds, or filtering tanks, in the usual manner. The daily quantity averages 2,376,000 gallons. This quantity is less than the preceding year, and can be accounted for by the extreme dryness of the year.

The soil of filtering tanks is kept well open by ploughing and harrowing, admitting of air and sunlight doing its work of oxidising the soil.

Additional beds have been subsoil drained. The great difficulty on the farm has been to obtain a pipe which will admit of water passing into it without being charged with sand. After various trials which, more or less, were successful in fulfilling above conditions, but not at the rate of filtration required, a trial was made with coir material. Some of this material was made in the form of a mat, and buried in one of the beds which was used in the filtration of the sewage, so that it would be exposed to the influence of the filtered sewage. After twelve months it was taken and found to be as sound as the day it was put in. Where other fibrous substances used in pipe joints had rotted and become useless, this material appeared to have withstood the test. The manager showed me a small piece which had been underground for eighteen months, under same conditions; this appeared to be unchanged in quality.

One of the beds has been drained with agricultural pipes without sockets, the joint being formed with a wrapper of this material. So far the trial has been satisfactory; but sufficient time has not elapsed to see if there is any decrease in the rate of filtration.

The whole of the valves, sluices, &c., are kept in working order.

The cultivation beds are showing well with crops of Swede turnips, cabbages, and fodder plants.

The pigstyes are in satisfactory state, and stock look in a healthy condition. The manager hopes, by keeping a good strain with the breeding pigs, to establish a name for the farm for stock of this description.

It is only by breeding stock for which satisfactory prices can be realised that we can hope to reduce the working expense of the farm.

Works were carried out to the extent of £232 3s. 10d. for subsoil, drains, and new fencing, which is chargeable to Loan Account.

The expenditure on revenue vote, which includes wages, material, ploughing, harrowing, purchase of forage, live stock, seeds, &c., was £1,048 0s. 3d. Against this there is the revenue derived from sale of produce, live stock, and agistment, aggregating £197 8s. 6d.; the value of live stock on the farm at 30 June being £144 5s.

Tree-planting is continued on the farm as breakwinds and for ornamental purposes.

### Rockdale Farm.

During the year the staff have been engaged in getting the filtering beds into a state to receive sewage; but until the beds are thoroughly underdrained it is impossible to have satisfactory results. A contract has been let for the southern section, and when this has been completed the northern section will be taken in hand.

Tree-planting forms a feature on this farm. About 1,500 trees of various kinds were planted; about three-fourths are growing well. The plants were selected and supplied by Mr. Maiden, Director of Botanic Gardens, for whose cordial assistance and advice I have to express my warmest thanks.

Between the bank and Muddy Creek, a space was reserved for the growth of Osiers. These plants are greedy absorbers of sewage, and as it will only be the filtrate which will reach them, they should thrive on same. Where they have been planted under favourable conditions, the young trees looked very healthy and thriving.

It is quite possible, after a time, to bring the whole area of this margin into favourable conditions for growing Osiers, and it is further possible to obtain some tangible result from the cultivation.

Osiers of a certain variety are used for basket-making, and material is imported from neighbouring colony, and as a local market can be obtained, I am of opinion it will be profitable in the future to cultivate Osier beds on this farm.

Until the banks become well covered and knitted with grass, the high winds cause considerable damage to the formation, and increases the cost of maintenance.

The expenditure on the farm last year was £355 16s. 9d. on revenue account, which included cost of wages, ploughing and harrowing, tools, &c., also the sum of £341 12s. 3d. on loan account, for extending distributing carriers, and tree-planting.

A railway line is being laid in extension of the existing line on Botany Farm, which will command the whole length of the two farms. This line will facilitate transport of produce and considerably reduce the carriage of material required in construction work on the farm.

The abolition of the temporary bridge across Cook's River will cut off direct access to the farm from Botany side, the main entrance will then be from Rockdale side. The probable loss through this disconnection will be more than compensated for by opening up of the western suburbs districts as a market for the sale of produce from the farm.

The present flow of sewage on to the farm is about 1½ million gallons per day. The opening of new districts and rapid rate of connection of premises to the sewers will considerably increase this flow. The area at present available for filtration is 127 acres.

The

The provision for increase of sewage in the future has received careful consideration, and in a report submitted to the Board on the subject, it was pointed out that, taking into account the cost of preparing beds for filtering purposes on the present system, and subsequent charge on the revenue for maintaining same in a proper condition for filtering sewage, it would be advisable to change the method of disposal and adopt the "Biological" system of treatment on lines which is generally known as "Debdin's" system.

In the report a comparative statement was given, which showed that there would be a substantial saving in first cost by constructing Roughing filters and bacteria beds as against preparing future beds for land treatment. The reduction in first cost is followed as a natural sequence by less charges on the Board's revenue for interest and working expenses. Further, it was pointed out that the existing beds could be utilised for agistment or cultivation purposes by being irrigated or watered by the filtrate from the bacteria beds, which would be rich in nitrates and suitable for plant life, and a considerable revenue be derived therefrom.

With the view of obtaining certain data which is absolutely necessary before entering upon works of a large scale, the Board approved of an appropriation of £500 for constructing a small installation on the Botany Sewage Farm to experiment with the sewage from the Southern Outfall Sewer, which is of a varying and complex character. The approval of the Minister has not yet been obtained to cover the expenditure, but it is hoped that this is only a temporary delay, and that the Board will be in a position to dispose of the sewage from the Western Suburbs on scientific as well as economic principles.

The whole of the leaseholds are in a satisfactory state, except in one instance, where it was found necessary to give the specified notice to tenant of determination of lease.

The effluent water has been periodically analysed by Mr. Hamlet, Government Analyst, and the results have been satisfactory as to quality of same.

It is proposed to erect a group of workmen's cottages on the farm for the use of the employés. These will be grouped together, and will be of neat cottage design with tiled roofs. Water will be supplied from the Board's mains, and sanitary conveniences will be provided. The premises will be let at moderate rental, and arrangements will be made, as suggested by the President on a visit, to provide transit by locomotive to end of farm for the children attending the local schools.

It is proposed to make the farm area ornamental as well as useful by tree-planting and other accessories, but this can only be achieved by time and constant attention to filtering beds and plantations.

### House-drainage Branch.

The following is the number of houses connected with the metropolitan and suburban sewers under the control of the Board during the past twelve months:—

	1890.	1891.	1892.	1893.	1894.	1895-6.	1896-7.	1897-8.	1898-9.	Total.
City ...	961	541	1,070	1,223	1,050	1,384	971	1,147	400	8,747
Suburbs ...	3,804	3,578	3,448	3,437	2,853	3,113	2,160	2,685	6,895	31,973
										40,720
										18,000
										58,720
										Connected with city sewers prior to Board's control ... ..

The subjoined list shows the number of properties connected with Board's sewers during the last year:—City, 400; Alexandria, 82; Annandale, 873; Balmain, 152; Camperdown, 14; Erskineville, 76; Glebe, 147; Leichhardt, 849; Marrickville, 903; Newtown, 805; North Sydney, 1,628; Petersham, 582; Paddington, 154; Redfern, 115; Randwick, 43; Waterloo, 60; Waverley, 149; Woollahra, 242; Ashfield, 21.

### House-drainage Plan Fees.

The fees for house-drainage plans, and the number of plans prepared, are as follows:—

	1890.	1891.	1892.	1893.	1894.
Plans prepared ... ..	2,213	2,303	2,485	2,669	2,119
Fees ... ..	£1,033.	£1,036 15s.	£1,013 2s. 6d.	£1,224 2s. 6d.	£788 12s. 6d.
					Total.
Plans prepared ... ..	2,624	2,557	3,219	6,655	26,844
Fees ... ..	£875 2s. 6d.	£690 5s.	£894 12s. 6d.	£1,933.	£9,488 12s. 6d.

The number of houses surveyed and charted on permanent records was 2,312, and the building plans lodged for approval were 200.

The average cost of the drainage for dwellings of the ordinary suburban type, as carried out by Board's contractor at schedule rates, was £10 16s. per house.

In connection with the system of carrying out drainage work on the "deferred payment system," advantage was taken which was never contemplated when the system was initiated. Owners of property, agents, and others, to either save themselves the trouble, or avoid employing an architect, applied to the Board to carry out the work. An approximate cost of the work was forwarded, and the owners, &c., could then express their wish whether they desired the Board to carry out the work. It was found that the information supplied by the Board was used in competition with the bids of licensed plumbers and drainers, and the latter had fair grounds of complaint as to the Board competing against them. As it was never the intention of the Board to compete in any way with the licensed tradesmen, it was decided that the provisions of the Act should only apply to persons in necessitous circumstances, the *bonâ-fides* of which would be investigated before the Board moved in the matter.

The provisions of the Act, in connection with work done under compulsion, stands on a different footing.

The great activity in connection with house-drainage on the suburbs is shown in the number of houses connected to the sewers during the year, the number being 6,895, as compared with 2,685 for the previous year. The plan fees amounted to £1,933, as against £894 12s. 6d. for previous year.

With regard to the premises connected with the old city system, the number of premises which have been newly connected, or had sewerage system reconstructed, according to by-laws of the Board, total 8,747 since the inception of the new system. That

That many of the tenements are in an insanitary condition is beyond a doubt, but with the present imperfect Acts the Board are powerless to obtain proper alterations, but have done the best under the circumstances in getting the old type yard gullies removed and proper ones fixed, which are safeguards against sewer-gas; the old type were not.

The rapid expansion of the house-drainage work has taxed the inspecting staff to the utmost; the work is not confined to sewer districts, but outside the limits of such districts owners request the Board to have the sanitary work inspected by the staff in anticipation of the system being extended to the localities in which the premises are situated.

### House-drainage Certificates.

The number of official certificates issued during the year was:—City divisions, 1,643; suburban division, 1,368. The numbers issued from 1891 to 1898 were:—City, 2,206; suburban, 5,069.

Considering the number of houses connected, the public do not protect themselves as much as would be liked; but as it is not compulsory to obtain a certificate, the public must be left as the best judges of their interests.

### Defective Drainage.

During the year in the City division 69 1st notices were served, and 14 2nd notices to repair or alter defective drainage; North Sydney, 2 1st notices, and 1 2nd notice; Glebe, 13 1st notices, and 10 2nd notices were served.

Action was taken on same as follows:—City, 60 notices were acted upon, and on 9 no action had been taken up to 30 June. North Sydney—In all cases notices were complied with. Glebe—In 9 cases work was completed, and in 4 work was in progress.

In the City, Glebe, and Leichhardt, 183 yard gullies were altered, and gullies of approved type were fixed.

In the city, 140 chokages of private drains occurred; in the Glebe, 10; and in Leichhardt, 1. These are all the cases reported, and have been examined by the staff. The number of premises smoke-tested for defective drainage was 9, which were afterwards dealt with.

### Sanitary Plumbing.

The defects in existing Acts apply as strongly with regard to sanitary plumbing as to house drainage.

The only method by which the Board can compel owners to make premises safe in a sanitary sense is very cumbersome. Under the existing Health Act, the local council is the local authority, and if an owner proves recalcitrant, the local body has to be moved; if they fail, the Health Board can then be moved to take action, by calling upon the local body to do its duty under the provisions of the Health Act. The effect of this cumbersome system is that in cases nothing is done.

The number of jobs supervised is largely in excess of last year's work. The report of the Inspector shows that 4,641 jobs were completed in the city and suburbs, for which 2,418 certificates were granted. The number of soil-pipes tested under water pressure was 275, and smoke-tested 8.

The number of notices served for defective plumbing was 191; of this number, about half have been attended to, although in many cases in the city only yard gullies were fixed instead of being reconstructed.

In the course of inspection the officers have not come across many cases where the sanitary work was so dangerous to health as to warrant a special report, except in one case.

The exception being business premises in King-street; here it was found that the only w.c. for female employees was situated on one of the upper floors in the middle of the building; the room was dark, but lit by artificial means. The closet was one of the abominable type of "pan and container," and in bad state of repair. Alongside the closet was a wash-sink, the waste-pipe being connected to the soil-pipe from closet; the trap of the waste-pipe was tilted to such a degree that it acted as a vent to the soil-pipe, as there was none other. The lead soil-pipe was carried down inside building behind glass cases; the joints of the pipe were found open, and, it is unnecessary to state, that the smell, both soil and waste pipe, was unbearable. On serving notice to reconstruct, the system was altered. This is one of the cases which could be termed exceptions to the general rule connected with defective sanitation of city premises.

The Inspector reports a marked improvement in the quality of material used in connection with sanitary plumbing.

He also regrets that, owing to the scarcity of competent men connected with the plumbing trade, great difficulty is experienced in getting good workmanship, although the materials are up to standard and principles are carried out. The sewerage works of Melbourne, being carried out simultaneously with that of Sydney, causes a dearth in competent men, and in many instances a large part of the work is left to youths. This entails extra work on the inspecting staff.

### Ventilation of Sewers.

#### *Construction.*

The ventilation of sewers in Western suburbs and North Sydney has been pushed on during past twelve months, 546 shafts of various sizes having been completed under contract. Of the number, 397 were erected in Western suburbs, and 149 at North Sydney, the total number being made up of 269 detached tee-iron pillar shafts and 125 attached to timber supports, 149 attached to buildings, and 3 connected direct to chimney stacks, and 3 combined induct water sprays and flushing tanks. Included in the number are 2 shafts, 24-inch diameter, 1 18-inch diameter, and 6 9-inch diameter.

The quantity of piping used was 22,410 lineal feet, giving an average height of shaft of 41 feet.

The 24 and 18 inch shafts are connected with main services, and are each 75 feet in height.

I am pleased to report that the whole of the shafts were erected without any friction on the part of the public and local councils; the latter afforded the Board every assistance in carrying out the work. The whole of the material used in construction of the shafts was made locally.

The brick shafts continue to act effectively, and where erected have been beneficial in improving the condition of the sewer air.

*Maintenance.*

*Maintenance.*

The staff has been kept busy in effecting repairs, painting, and replacing surface boxes with inspection doors in shafts, the latter having been found to be interfered with by children.

Out of 4,000 shafts erected only three complaints were received of damage having been done to private property; in each case it was traced to the wall-plugs to which the strops are fixed.

During the heavy wind storms, in some instances attaining a velocity of 75 miles per hour, only fifteen shafts were damaged; these were promptly repaired.

The staff also attends to overhauling and maintaining the induct sprays and automatic flushing chambers and plumbing work at detached stations.

The mileage of sewers now ventilated totals 330 miles, and the quantity of tubing in ventilating shafts is 146,611 lineal feet, as against 124,201 lineal feet for the previous year.

Dead ends are connected up where practicable, in order to ensure circulation of air and reduce the number of shafts.

The special shafts have been tested during the year, and results are shown in following Table:—

**Special Shafts.****STEAM-SHAFTS, WATER-SPRAYS, STACKS, &C., 1898-99.**

Date.	Instrument.	Time	Anemometer.			Lineal Feet per Hour.	Cubic Feet per Hour.	Miles per Hour.	Lb. Pressure per Square Foot.	Locality.
			Start.	Finish.	Difference.					
1898. 13 July..	2	h. m. 7 30	3,592,900	4,213,300	620,400	82,720	281,976	15.66	1.226	Induct 25-in. dia., Busby Bore, spray.
18 Nov..	2	0 30	4,697,100	4,716,300	19,200	38,400	7,539	7.27	.2642	Exhaust 6-in. dia., Cornwell's Brewery, stack.
18 „ „	1	0 30	15,100	34,900	19,800	39,600	7,775	7.5	.2812	Induct 6-in. dia., Edgecliff-road, spray.
1899. 9 Feb..	13	0 30	553,800	578,400	22,600	45,200	79,868	8.56	.3664	Exhaust 18-in. dia., Kerosene Works, Botany, stack.
10 „ „	12	0 30	397,200	416,500	19,300	38,600	16,984	7.31	.2672	Induct 9-in. dia., Darling Point, spray.
15 „ „	1	0 30	281,200	293,900	12,700	25,400	44,882	4.81	.1157	„ 18-in. dia., Purves-lane, spray.
20 „ „	2	0 30	5,227,100	5,238,400	11,300	22,600	39,934	4.28	.0916	„ 18-in. dia., Bourke-street, spray.
28 „ „	1	0 30	315,400	335,000	19,600	39,200	69,266	7.42	.2753	„ 18-in. dia., Pitt-street, spray.
10 Apl..	10	0 45	3,747,400	3,794,500	47,100	62,800	12,331	11.89	.7062	Exhaust 6-in. dia., New York and Brooklyn, stack.
10 „ „	12	0 20	195,800	206,900	11,100	33,300	20,812	6.3	.1984	„ 9-in x 10-in. dia., Horden's, stack.
10 „ „	2	0 20	5,427,300	5,442,000	14,700	44,100	27,562	8.35	.3486	„ „ „
26 May..	12	0 45	669,700	694,300	24,600	32,800	231,850	6.21	.1928	„ 36-in. dia., Victoria Park.
7 June..	2	0 24	6,201,800	6,221,400	19,600	49,000	346,361	9.28	.4306	„ 36-in. dia., Bellvue Hill.
8 „ „	5	0 40	.....	34,400	34,400	51,600	91,182	9.77	.4773	Induct 18-in. dia., Burren-street, spray.
13 „ „	12	3 0	821,800	1,013,500	191,700	63,900	28,231	12.1	.732	Exhaust 9-in. dia., Crown-street, new stack.
14 „ „	12	1 0	1,013,500	1,115,300	101,800	101,800	19,988	19.28	1.858	„ 6-in. dia., McCorquodale's Mill, stack.
14 „ „	2	3 0	6,254,100	6,396,600	142,500	47,500	223,250	8.99	.4041	„ 26-in. x 26-in. dia., Obelisk.
14 „ „	2	0 15	6,397,000	6,422,900	25,900	103,600	45,770	19.62	1.9247	„ 9-in. dia., Tooth's Brewery, stack.
19 „ „	1	0 30	337,000	357,200	20,200	40,400	7,932	7.65	.2926	„ 6-in. dia., Boyce's Jam Factory, stack.
24 „ „	12	2 0	1,178,800	1,226,600	47,800	23,900	10,559	4.52	.1021	„ 9-in. dia., Lassetter's, stack.
24 „ „	2	0 30	6,431,000	6,468,700	37,700	75,400	14,805	14.28	1.0195	„ 6-in. dia., Taylor Bros., stack.
26 „ „	12	1 40	1,226,500	1,288,000	61,500	36,900	65,206	6.98	.2436	Induct 18-in. dia., Campbell-street, spray.
26 „ „	2	1 15	6,468,700	6,518,700	50,000	40,000	70,684	7.57	.2865	„ 18-in. dia., Glen-street, spray.
26 „ „	13	0 20	331,200	340,300	9,100	27,300	48,242	5.17	.1336	„ 18-in. dia., Dumbarton-street, spray.
1 July..	1	0 30	363,700	376,960	13,260	26,400	20,735	5.0	.125	„ 12-in. dia., Erskine-street, spray.
1 „ „	1	0 30	376,800	285,500	8,700	17,400	30,748	3.29	.0541	„ 18-in. dia., Kent-street, spray.
1 „ „	1	0 30	385,600	396,900	11,300	22,600	39,936	4.28	.0916	„ 18-in. dia., Harrington-street, spray.
4 „ „	7	1 30	641,400	698,100	56,700	37,800	66,796	7.15	.2556	Exhaust 18-in. dia., Liverpool and Elizabeth Streets, spray.
4 „ „	2	2 0	6,551,700	6,614,100	62,400	31,200	55,134	5.9	.174	„ 18-in. dia., St. James' Road, spray.
4 „ „	12	0 24	1,341,200	1,359,200	18,000	45,000	79,520	8.52	.3629	„ 18-in. dia., Bathurst and Elizabeth Streets, spray.
4 „ „	12	0 20	1,359,000	1,368,200	9,200	27,600	48,772	5.22	.1362	„ 18-in. dia., Castlereagh-street, spray.
4 „ „	1	0 36	397,200	412,800	15,600	26,000	45,945	4.92	.121	Induct 18-in. dia., Loftus-street, spray.
4 „ „	1	0 30	412,800	418,100	5,300	10,600	18,731	2.0	.0201	„ 18-in. dia., Macquarie-street, spray.
5 „ „	2	1 0	6,614,100	6,651,500	37,400	37,400	234,366	7.08	.2506	Exhaust 36-in. dia., St. Leonard's Reserve.
10 „ „	12	2 0	1,367,900	1,411,300	43,400	21,700	469,751	4.1	.084	„ 63-in. dia., The Warren.

### Drawings.

During the year 423 tracings and 95 sheets of drawings for various works have been prepared. Heliotypes printed, 1,626; plans mounted, 1,000; and 97 photographs taken.

### Expenditure on Loan Vote.

The expenditure on Loan Vote for the year was £124,743 19s. 8d. Included in this amount is the sum of £2,500 for Balmain Sewerage Debentures taken over by the Board.

### Expenditure on Revenue Vote.

The expenditure on Revenue Vote for the year was £21,710 9s. 5d., for maintenance, wages, and repairs of sewers, sewage farm expenses and inspection of house drainage and plumbing.

### Cement and Pipe-testing Room.

Parcels of cement representing 8,473 casks and 23,400 bags were tested, and issued under supervision of Board's officers. Out of the 26 parcels submitted all passed the standard test except three which were rejected.

Fifty tests were of stoneware pipes, including porosity and crushing tests.

Ten tests were made with "Monier" pipes for crushing strain only.

Eleven samples of sand for use on the works were also tested in the usual manner.

Eight tests were made with bricks submitted for use on Board's works for absorption and crushing strain.

In connection with this sub-branch, the whole of the special shafts and 2,912 ventilating shafts were tested as to efficiency during the year.

Forty-eight observations in connection with the temperature of sewers, and twenty-two observations as to the subsoil water and temperature of subsoils, were taken.

### Diagrams.

Sewerage reticulation.

Zymotic death-rate.

Death-rate, city and suburbs.

Temperature of sewers.

Silt removed.

### General.

During the year the President accompanied by the Engineer made an inspection of upper and lower canals, Prospect, and Pott's Hill, as well as the various pumping stations and tank reserves under the Board's control. The upper canal inspection commenced from the Pheasant's Nest, and continued to Cataract onwards to Prospect. Richmond works were also inspected.

Underground inspections were also made of a large portion of the Bondi outfall sewer—the whole of the lower section of the Botany outfall, also the Western Suburbs outfall sewers, including the sewage farms at Botany and Rockdale.

The outfall sewers works at Willoughby were also inspected before being transferred to the Board.

The information furnished by the Government Astronomer and Government Statistician has been of the greatest assistance to the Department, and I take this opportunity of returning thanks for the courtesy shown by them.

The Assistant Engineers and other officers of the Department have ably assisted me in carrying out the various works, which in the case of Sewerage Branch has been more extensive than any previous year.

I have, &c.,

J. M. SMAIL, M. Inst. C.E.,

Board Engineer.

The Secretary.







APPENDIX A—continued.

TABLE NO. 3.

SEWERS constructed by Municipal Councils and transferred to Board.

Size of Sewer.	Pipes.				Total Length.
	16"	12"	9"	6"	
Length in feet, 1897-98 .....	690	7,220	9,700	100	
	Total .....				17,710 lineal feet = 3.354 miles.

TABLE NO. 4.

STORM-WATER DRAINS constructed by Municipal Councils and transferred to Board.

Size of Duct.	Open Rock Cutting.				Covered.								Circular.	Pipes.		Total Length.
	Open.		12' x 10'	10' 10'	7' x 4'	6' 8" x 3' 3"	5' 6" x 4' 0"	5' 8" x 4' 0"	5' x 4'	4' x 3'	Irregular Section.	5' 0'		Pipes.		
	4' 0" x 2' 0"	3' 6" x 3' 6"											2 1/2"	12"		
1 July, 1896, to 30 June, 1897	528	264	...	...	1,323	150	...	96	33	...	330	264	...	594	660	4,242 lineal feet = 0.803 miles.
1 July, 1898, to 30 June, 1899	...	...	139	1,842	440	...	...	2,244	...	704	1,229	...	...	142	...	6,740 ,, = 1.277 ,,
	Total .....															10,982 lineal feet = 2.08 miles.

A. H. STARLING,  
Surveyor-in-Charge.

T. GRIFFITHS,  
Assistant Engineer.



APPENDIX B—continued.

DISTRICT OF SYDNEY AND SUBURBS.

Exhaust Shafts.								Induct Shafts.									
Year.	Number of Shafts Tested.	Lineal Feet per Hour.	Cubic Feet per Hour.	Cubic Feet per Day.	Cubic Feet per Week.	Average Time of Test.	Average Wind in Miles per Hour.	Year	Number of Shafts Tested.	Lineal Feet per Hour.	Cubic Feet per Hour.	Cubic Feet per Day.	Cubic Feet per Week.	Average Time of Test.	Average Wind in Miles per Hour.		
1891	500	5,074,061	996,292	23,911,108	167,377,056	14 min	9.62	1891	240	3,493,572	685,963	16,463,112	115,241,784	14 min.	9.62		
1892	515	5,631,370	1,105,719	26,537,256	185,760,792	16 "	13.95	1892	241	3,863,800	758,657	18,207,768	127,454,376	18 "	13.95		
1893	538	5,614,550	1,102,416	26,457,984	185,205,888	30 "	8.72	1893	251	3,844,163	754,801	18,115,224	126,806,568	30 "	8.72		
1894	613	6,159,430	1,209,404	29,025,696	203,179,872	10 "	7.8	1894	289	1,183,740	822,459	19,739,016	138,173,112	10 "	7.8		
1895-6	1,026	14,892,875	3,005,985	72,215,640	505,509,480	11 "	10.72	1895-6	520	10,288,505	2,037,054	48,889,296	342,225,072	13 "	10.72		
1896-7	1,225	19,187,320	3,836,959	93,287,016	653,009,112	25 "	11.19	1896-7	634	11,567,085	2,305,238	55,325,712	387,279,984	27 "	11.44		
1897-8	1,436	21,211,100	4,332,856	104,012,544	728,087,808	28 "	12.9	1897-8	724	12,857,820	2,550,657	61,215,744	428,510,208	25 "	13.2		
1898-9	1,947	29,663,110	6,304,737	151,313,688	1,059,195,816	21 "	13.6	1898-9	965	18,426,370	3,653,951	87,694,824	618,863,768	21 "	13.3		
Average Work of One Exhaust Shaft.								Average Work of One Induct Shaft									
Year.	Lineal Feet per Hour.	Cubic Feet per Hour.	Cubic Feet per Day.	Cubic Feet per Week.	Miles per Hour.	Average Wind Velocity.	Percent age of Wind.	lb. Pres sure per Sq Foot	Year.	Lineal Feet per Hour.	Cubic Feet per Hour.	Cubic Feet per Day.	Cubic Feet per Week.	Miles per Hour.	Average Wind Velocity.	Percent age of Wind.	lb. Pres sure per Sq. Foot.
1891	10,148	1,992	47,808	334,656	1.87	9.62	19.52	.071	1891	14,555	2,858	68,592	480,144	2.75	9.62	28.52	.0378
1892	10,934	2,147	51,528	360,696	2.07	13.95	14.83	.0214	1892	16,032	3,148	75,552	528,364	3.03	13.95	21.72	.0459
1893	10,436	2,049	49,176	344,232	1.97	8.72	22.59	.0194	1893	15,315	3,007	72,168	505,176	2.9	8.72	33.25	.042
1894	10,042	1,972	47,328	331,296	1.9	7.8	24.35	.018	1894	14,494	2,845	68,280	477,960	2.74	7.8	35.12	.0375
1895-6	14,515	2,932	70,385	492,699	2.74	10.72	25.55	.0375	1895-6	19,785	3,917	94,015	658,125	3.74	10.72	34.88	.0702
1896-7	15,663	3,173	76,152	533,064	2.96	11.19	26.45	.0438	1896-7	18,244	3,636	87,264	610,848	3.45	11.44	30.15	.0595
1897-8	14,771	3,013	72,432	507,024	2.8	12.9	21.7	.0392	1897-8	17,760	3,523	84,552	591,864	3.36	13.2	25.46	.0564
1898-9	15,235	3,238	77,712	543,984	2.89	13.6	21.25	.0418	1898-9	19,091	3,786	90,804	636,048	3.61	13.3	27.14	.0651

Exhaust Work —1,874 6 in shafts, 67 9 in shafts, 2 12 in shafts, 1 16 in shaft, 1 18 in. shaft, 2 24 in. shafts, 20 stacks, sprays, &c Exhaust per hour, 8,365,934 cubic feet; per day, 200,782,416 cubic feet; per week, 1,405,476,912 cubic feet  
 Induct Work —957 6 in. shafts, 8 9 in. shafts, 15 sprays Induct per hour, 4,546,177 cubic feet, per day, 109,108,248 cubic feet; per week, 763,757,736 cubic feet.

Exhaust Work.			Induct Work.		
Size of Shaft.	Lineal Feet.	Cubic Feet	Size of Shaft.	Lineal Feet	Cubic Feet.
6"	28,332,360	5,572,376	6"	18,279,970	3,589,272
9"	1,148,850	506,643	9"	146,400	64,679
12"	56,400	44,296	Special	18,426,370	3,653,951
16"	12,000	16,756			
18"	25,700	45,414			
24"	37,800	118,752			
Special	29,663,110	6,304,737	Total Cubic Feet		4,546,177
	.. .. .	2,061,197			
	Total Cubic Feet..	8,365,934			

Government Laboratory, Sydney, 23 June, 1899.

Analysis of Sample of Water received from effluents from Botany Sewage Farm, 16 May, 1899.  
 Labelled—Taken from Well A.

Sediment	...	Large quantity.
Reaction	...	Alkaline.
Clearness	...	Turbid.
Appearance in 2 foot tube	...	Yellowish brown.
Odour on heating to 100° Fahr.	...	Faint organic.
Chlorides as chlorine	...	Results expressed in parts per 1,000,000—129.0.
Sulphates	...	" " 29.53.
Phosphates	...	Present.
Nitrogen as nitrates	...	Trace.
Nitrites	...	None.
Nitrogen existing as free ammonia	...	Results expressed in parts per 1,000,000—37.80.
" combined ammonia	...	" " 1.23.
Oxygen absorbed in 15 minutes at 80° Fahr.	...	" " 5.80.
Oxygen absorbed in 4 hours at 80° Fahr.	...	" " 7.74.
Total solid residue dried at 220° Fahr.	...	" " 448.

WILLIAM M. HAMLET,  
 Government Analyst.

## PHOTO., HELIOGRAPHIC, and MOUNTING ROOM—Work executed from 1 July, 1898, to 30 June, 1899.

	Helios.— Sewerage.	Helios.—Water.	Plains— Mounted.	Photographs.			
				Taken.	Printed.	Mounted.	
1898.			Total.				
July... ..	87	79	166	74	12	20	5
August ... ..	58	27	85	101	4	.....	.....
September ... ..	70	75	145	87	8	14	14
October ... ..	52	62	114	58	16	2	.....
November ... ..	106	42	148	96	.....	.....	.....
December ... ..	124	31	155	99	.....	.....	.....
1899.							
January ... ..	131	52	183	87	2	41	31
February ... ..	111	56	167	110	.....	7	7
March ... ..	110	33	143	122	41	13	.....
April ... ..	47	56	103	40	.....	.....	.....
May... ..	39	52	92	49	.....	.....	.....
June ... ..	50	75	125	77	.....	.....	.....
Grand Total ... ..			1,626	1,000	83	97	57

## Work executed for Water Department from 1 July, 1898, to 30 June, 1899.

Helios. printed from July 1st to May 31st, 565 = 26 rolls, at 30s. per roll	£	s.	d.
..	39	0	0
.. " " June 1st to June 30th, 75 = 2 $\frac{3}{4}$ rolls, at 25s. "	2	16	3
Gallic acid used for above prints, 11 bottles, at 6s. 6d. ... ..	3	11	6
Time and labour, 34 days, at 9s. per day ... ..	15	6	0
Total ... ..	60	13	9
Photos. taken ... ..	Nil.		
.. " printed ... ..	Nil.		
.. " mounted ... ..	Nil.		

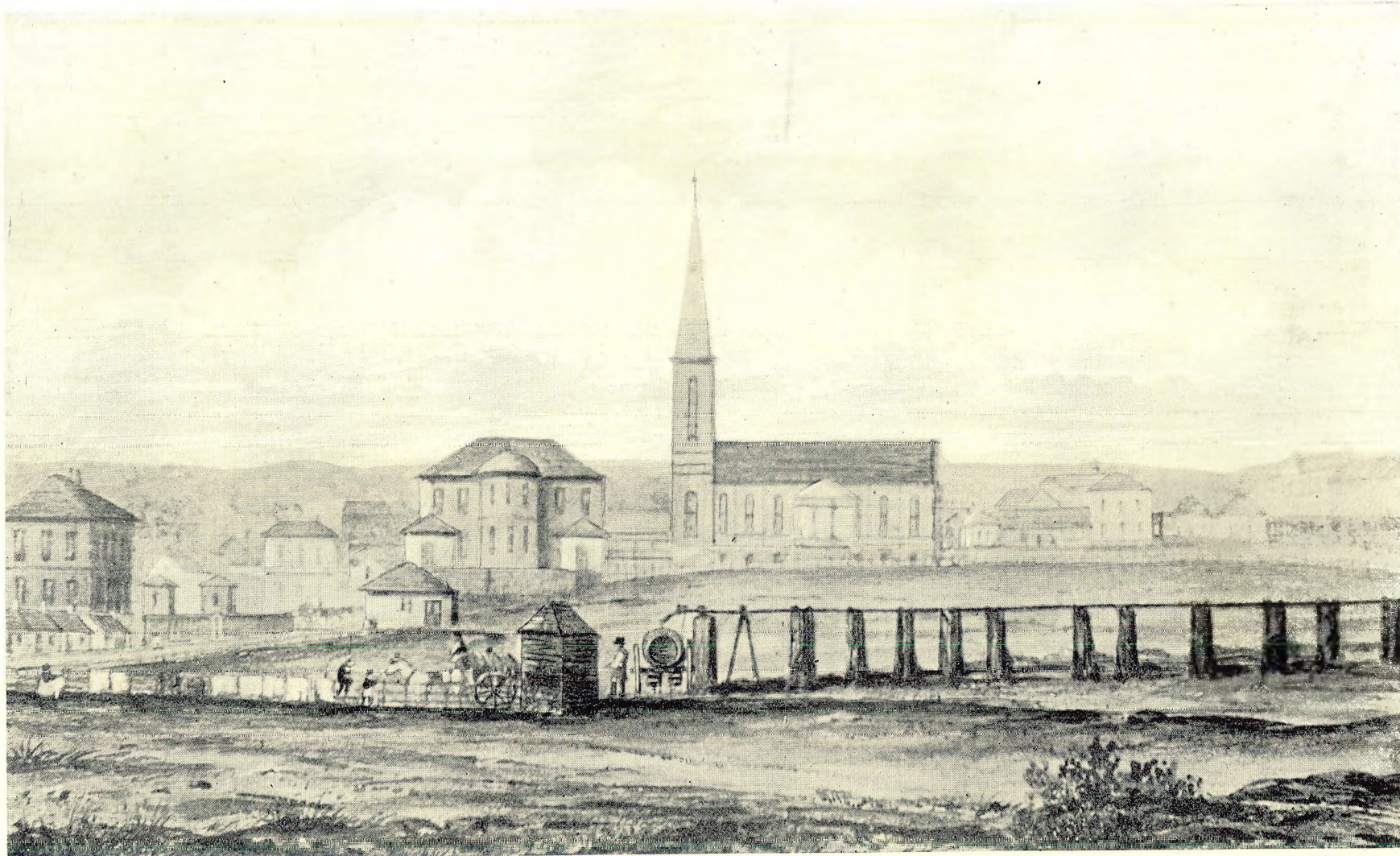
## PHOTOGRAPHIC, HELIOGRAPHIC, and MOUNTING ROOM—Work executed for Sewerage Department from 1 July, 1898, to 30 June, 1899.

Helios. printed from 1st July to 31st May, 935 = 35 rolls, at 30s. per roll	£	s.	d.
..	52	10	0
.. " " 1st June to 30th June, 50 = 2 $\frac{1}{4}$ rolls, at 25s. "	2	16	3
Gallic acid used for above prints, 17 bottles, at 6s. 6d. per bottle ... ..	5	10	6
Plans mounted 1,000 = 623 yards of mounting union, at 1s. ... ..	31	3	0
Photos. taken, 83; printed, 97; Mounted, 57.			

[Six Plates and Twelve Plans.]







St. James' School.

Watch-house.

Court-house.

St. James' Church.

St. James' Parsonage.

Infirmary.

VIEW SHOWING WATER SUPPLY TO TOWN OF SYDNEY FROM BUSBY'S BORE, 1841.

From Water-color Painting by Mr. C. H. Woolcott, late Town Clerk.

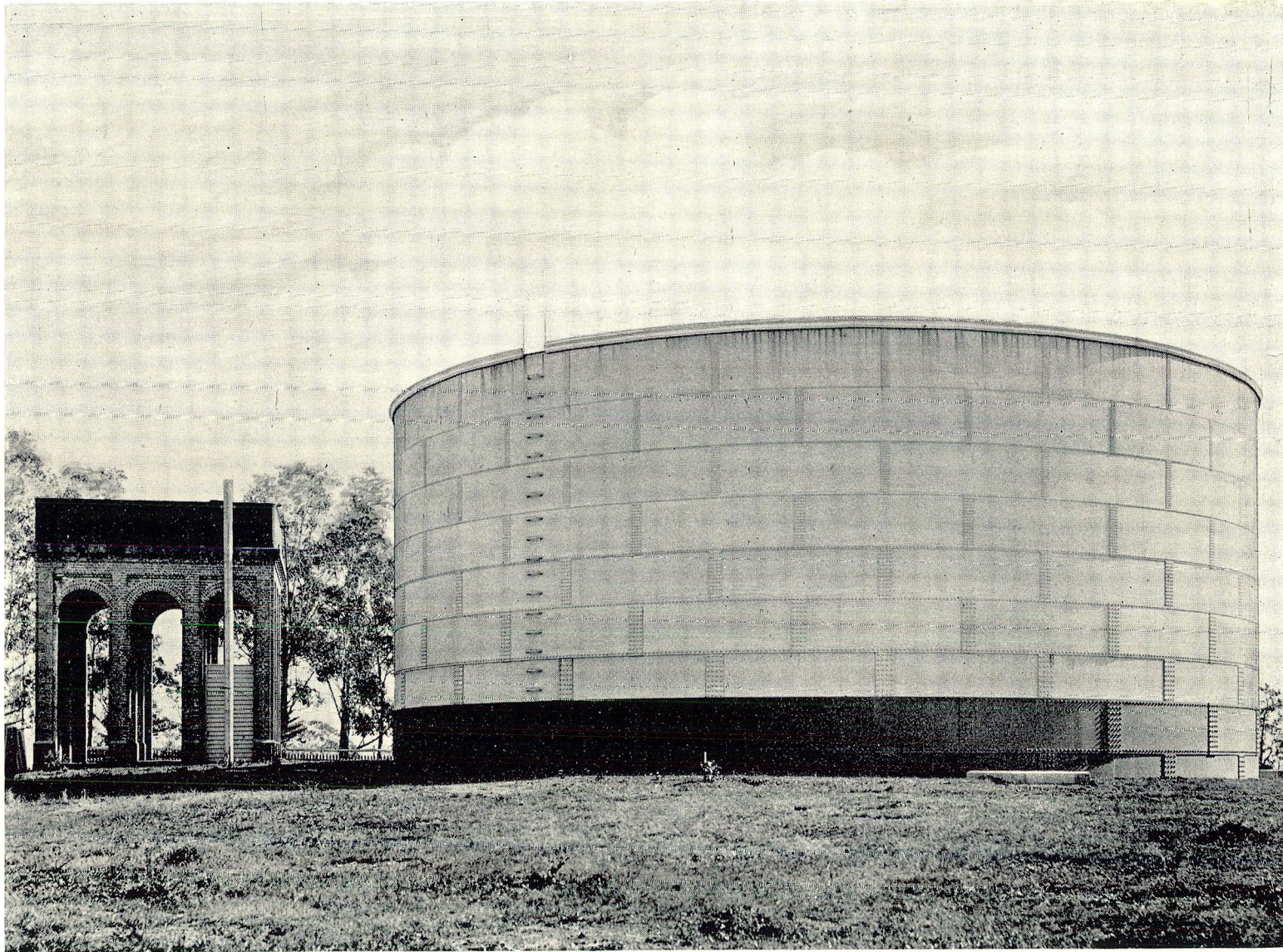
Busby's Bore commenced building 1827.





SITE OF PROSPECT RESERVOIR. 1878.





22,800 Gallons.

1,000,000 Gallons.

PENSHURST TANKS.





40,000 Gallons.

1,000,000 Gallons.

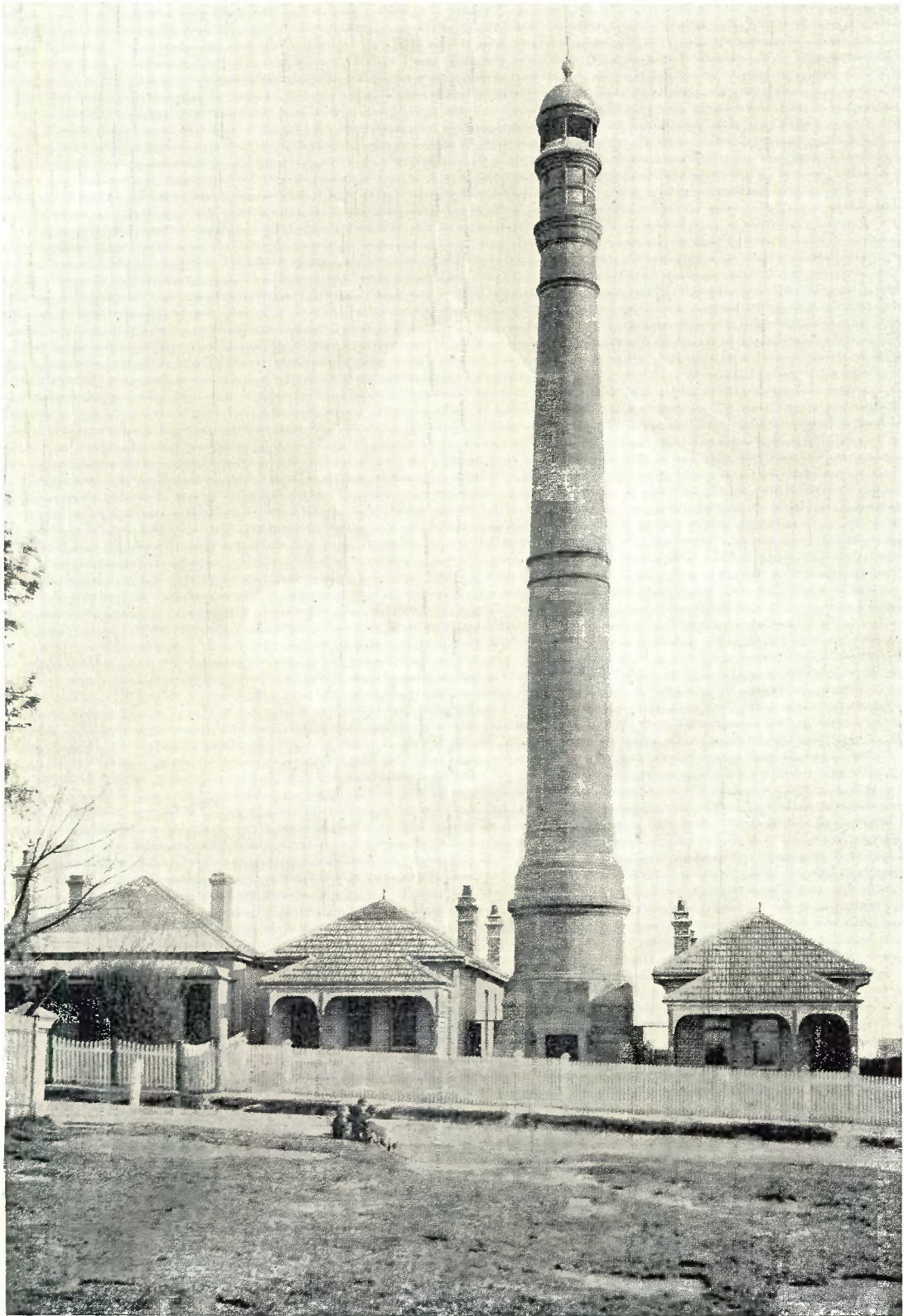
WAHROONGA TANKS.





VENTILATING SHAFT, NORTH SYDNEY SEWERAGE, ST. LEONARD'S PARK.






VENTILATING SHAFT, MARRICKVILLE—WESTERN SUBURBS SEWERAGE.





# METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE. SYDNEY.

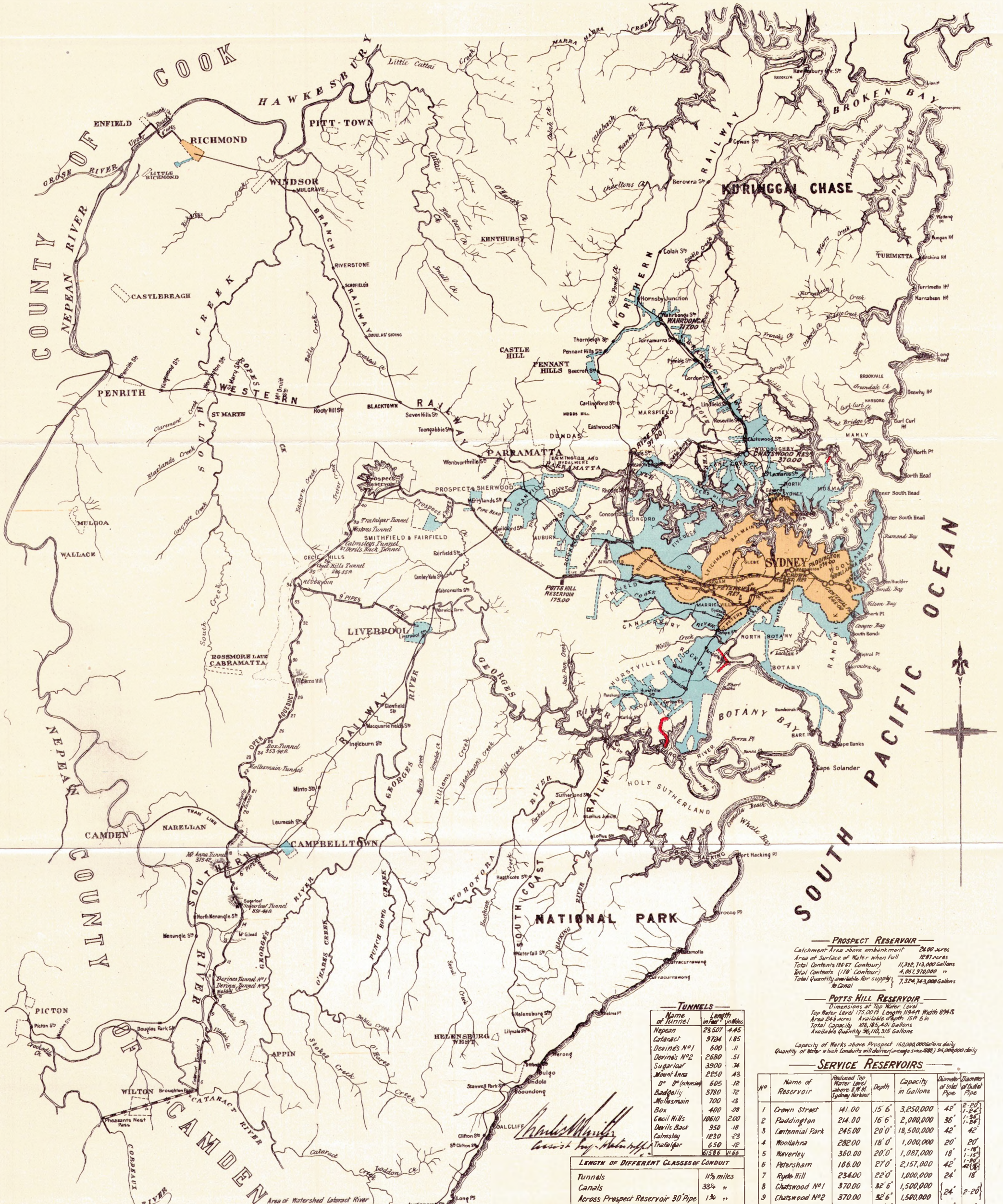
PLAN SHOWING THE GENERAL SCHEME OF WATERWORKS UNDER THE CONTROL OF THE BOARD

— AREA SUPPLIED WITH WATER —

PREVIOUS TO THE BOARD'S CONTROL SHOWN THUS 

EXTENSION OF AREA BY BOARD TO END OF JUNE 1897 " " 

AREA ADDED FROM 1897 TO END OF JUNE 1899 " " 



**PROSPECT RESERVOIR**  
 Catchment Area above embankment 2400 acres  
 Area of Surface of Water when full 1297 acres  
 Total Contents (1885 Contour) 11,332,713 gallons  
 Total Contents (170 Contour) 4,051,970 gallons  
 Total Quantity available for supply to Canal 7,324,743,000 gallons

**POTTS HILL RESERVOIR**  
 Dimensions at Top Water Level  
 Top Water Level 175.00 ft. Length 1134 ft. Width 894 ft.  
 Area 244 acres. Available depth 15 ft 6 in.  
 Total Capacity 478,985,400 gallons  
 Available Quantity 36,113,315 gallons

Capacity of Works above Prospect 15,000,000 gallons daily  
 Quantity of Water at both Conduits will deliver (average since 1888) 35,000,000 daily

**TUNNELS**

Name of Tunnel	Length in Feet	in Miles
Nepean	23,507	4.45
Cataract	9724	1.85
Dexines No 1	600	.11
Dexines No 2	2680	.51
Sugarloaf	3900	.74
Mount Anna	2250	.43
No 1 (at Prospect)	605	.12
Badgelly	3780	.72
Mollesmain	700	.13
Box	400	.08
Cecil Hills	10610	2.00
Devils Back	950	.18
Calmsley	1230	.23
Tratalfay	650	.12
<b>Total</b>	<b>57,585</b>	<b>1.08</b>

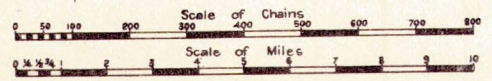
**LENGTH OF DIFFERENT CLASSES OF CONDUIT**

Class of Conduit	Length in Miles
Tunnels	1 1/4
Canals	33 1/4
Across Prospect Reservoir 30" Pipe	1 3/4
Wrought Iron Flumes 8" 7 1/2 6 in	1/2
Wrought Iron Pipes 6 ft	4 7/8
Cast Iron Pipes 4 ft	7 1/2
Cast Iron Pipes 3 ft 6 in	3 3/4
<b>Total</b>	<b>63 1/4</b>

**SERVICE RESERVOIRS**

No	Name of Reservoir	Reduced Top Water Level above R.M.H. Sydney Harbour	Depth	Capacity in Gallons	Diameter of Inlet Pipe	Diameter of Outlet Pipe
1	Crown Street	41.00	15' 6"	3,250,000	42"	2'-0"
2	Paddington	214.00	16' 6"	2,000,000	36"	1'-3 1/2"
3	Centennial Park	245.00	20' 0"	18,500,000	42"	2'
4	Moolahra	282.00	18' 0"	1,000,000	20"	20"
5	Maverley	350.00	20' 0"	1,087,000	18"	1'-10"
6	Petersham	166.00	27' 0"	2,157,000	42"	1'-10"
7	Ryde Hill	234.00	22' 0"	1,000,000	24"	18"
8	Chatswood No 1	370.00	32' 6"	1,500,000	24"	2'-0"
9	Chatswood No 2	370.00	32' 6"	1,500,000	24"	2'-0"
10	Mahroogah No 1	717.00	5' 0"	40,000	9"	9"
11	Mahroogah No 2	706.50	26' 0"	1,000,000	15"	15"
12	Penshurst No 1	270.00	5' 0"	22,800	6"	6"
13	Penshurst No 2	270.00	32' 6"	1,000,000	15"	15"
14	Smithfield	175.00	17' 0"	100,000	12"	6"
15	Richmond	206.00	13' 0"	225,000	6"	6"

Area of Combined Watersheds of Nepean and Cordeaux Rivers 284 square miles



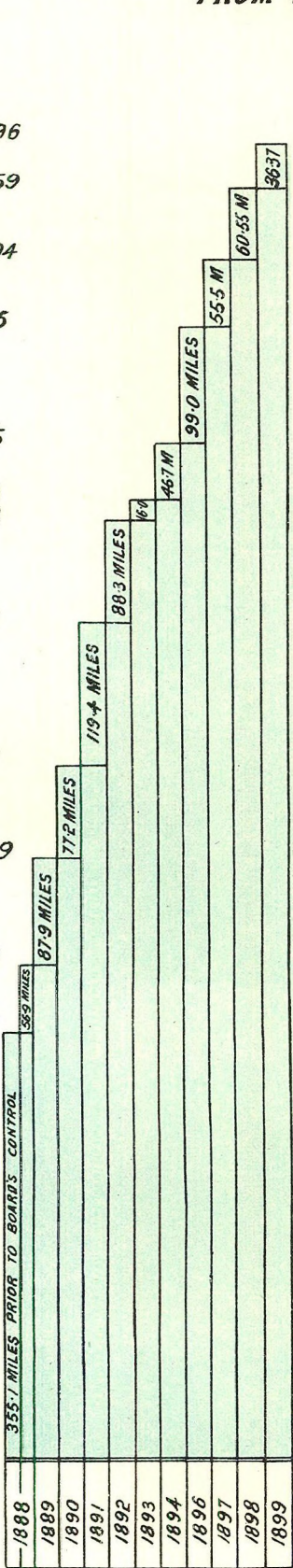
**WATER LEVELS**  
 The heights marked on this line of conduit denote the level of water surface when running full and are above High Water Mark Sydney Harbour



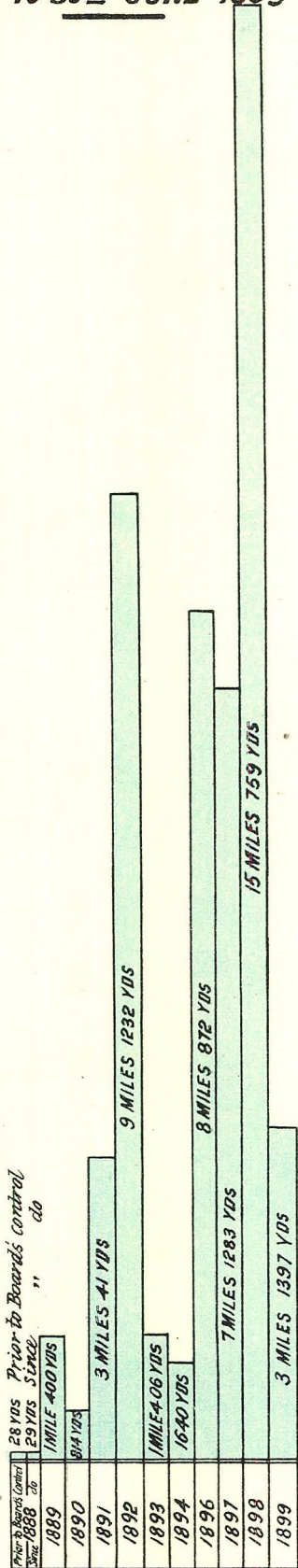
DIAGRAMS

SHOWING THE TOTAL MILEAGE OF TRUNK PUMPING & RETICULATION MAINS LAID TO END OF JUNE 1899 ALSO OF MAINS REMOVED & CLEANED DURING EACH YEAR FROM 1888 TO 30<sup>th</sup> JUNE 1899

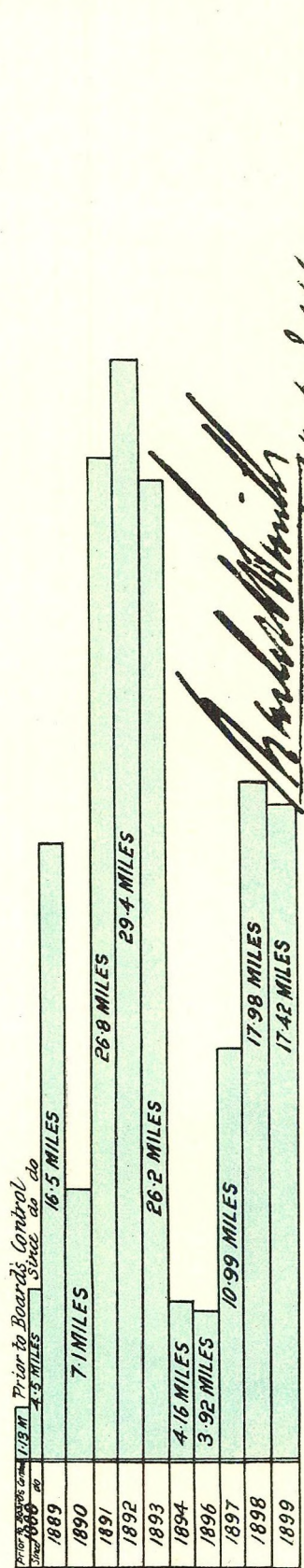
1098.96  
1062.59  
1002.04  
946.5  
847.5  
800.8  
784.8  
696.5  
577.1  
499.9  
412.0  
355.1



Prior to Board's Control Since 1888 to



Prior to Board's Control Since 1888 to



MAINS LAID

MAINS REMOVED

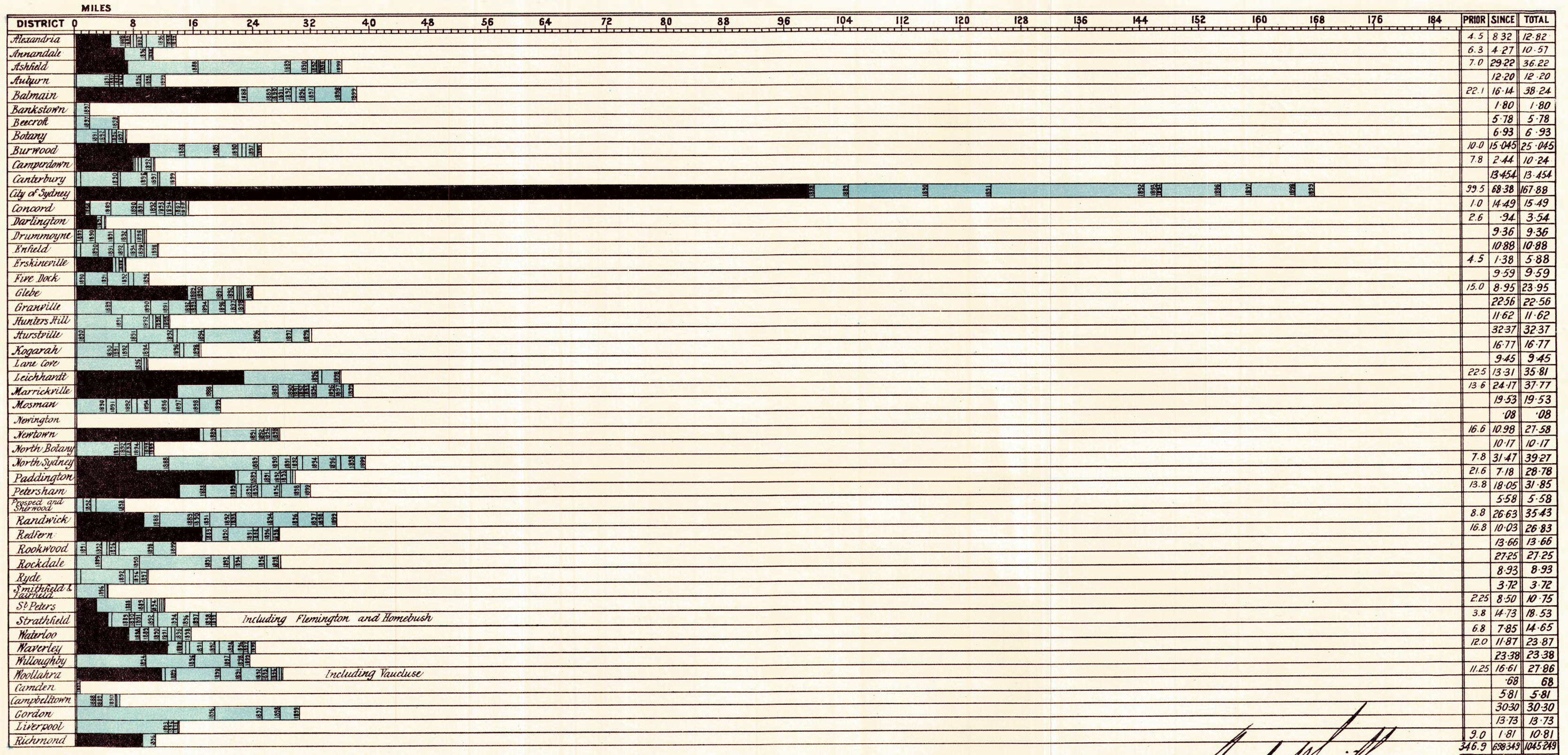
MAINS CLEANED

*Handwritten signature and text:*  
 Robert W. ...  
 Asst. Eng. Water Supply.



**METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE,**  
**SYDNEY.**  
**WATER MAIN RETICULATION**  
**DIAGRAM**

*Showing Mileage of Water Main Reticulation of the City of Sydney and Suburbs etc. The Mains laid prior to the control of the Board shown in black and the Mains laid since are shown in blue.*



*Robert Smith*  
*Chief Eng. Water Supply.*

N.B The above does not include Trunk or Pumping Mains or Repairs &c



# METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE.

## SYDNEY.

TABLE SHOWING THE VOLUME OF WATER SUPPLIED WEEKLY FROM PROSPECT RESERVOIR BY GRAVITATION TO SYDNEY AND SUBURBS, FROM 30<sup>TH</sup> JUNE 1897, TO 30<sup>TH</sup> JUNE 1899; THE DISTRIBUTION OF THIS WATER BY GRAVITATION AND BY PUMPING; THE MEAN SHADE TEMPERATURE; AND THE RAINFALL FOR EACH WEEK.



47492

Photo-lithographed by W. A. Gullik, Government Printer, Sydney, N.S.W.

SIG. 170

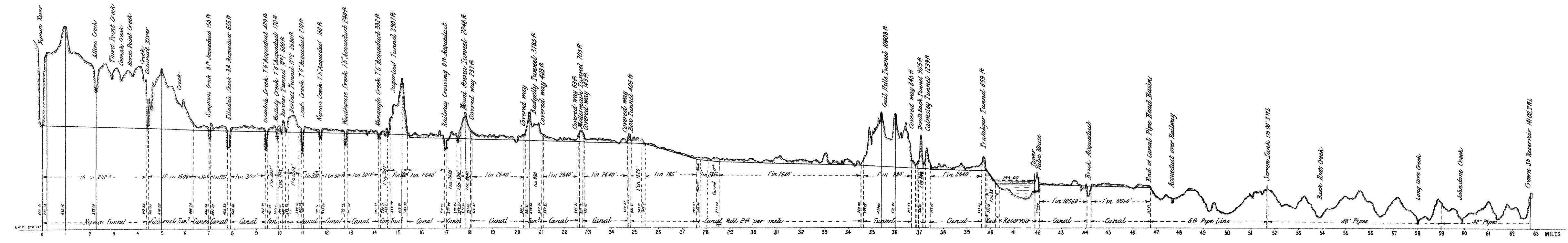
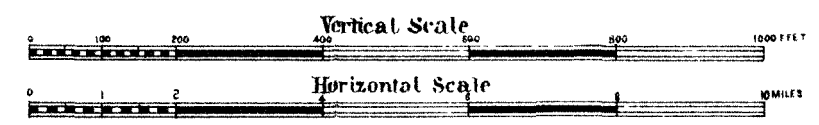
*Charles W. Smith*  
Assist. Eng. Water Supply

J.H.J. 18.8.99.



# SYDNEY WATER SUPPLY

## SECTION OF CONDUIT FROM PHEASANT'S NEST TO SYDNEY



SECTION

*Michael Smith*  
 Surveyor General, N.S.W.

Photo-lithographed by  
 W. A. Gullick, Government Printer,  
 Sydney, N.S.W.



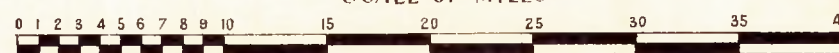
# SEWERAGE RETICULATION DIAGRAM

## SHEWING MILEAGE OF SUBSIDIARY SEWERS IN THE CITY OF SYDNEY & SUBURBS

NOTE

Sewers laid prior to the Control of the Board shewn in Black  
Sewers laid during the Control of the Board shewn in Green

SCALE OF MILES



BOROUGH	0	10	20	30	40	50	60	70	80	90	100	110	Prior to Board's Control	During Board's Control	Totals	
Alexandria		1891	1895-96											9.13	9.13	
Annandale	96-97	1897-98												7.62	7.62	
Ashfield		1897-98	1898-99											19.58	19.58	
Balmain	97-98	1898-99												16.34	16.34	
Camperdown	1892	1893	1894	1895-96	1896-7	1897-98	1898-99							5.85	5.85	
City of Sydney								1890	1891	1892	1893	1894	70.27	7.68	77.95	
Darlington													1.90		1.90	
Erskineville	91-92	1895-96	1897-98	1898-99										7.05	7.05	
Glebe		1893	1894										3.35	10.64	13.99	
Leichhardt	96-97	1897-98	98-99											17.23	17.23	
Marrickville	1891	1896-97	97-98	98-99										17.47	17.47	
Newtown	1891	1892	1896-7											16.80	16.80	
North Sydney	1895-6	96-7	1897-98	98-99										19.39	19.39	
Paddington			90	92	1893	1894	1895-96	1897-98	1898-99				10.39	5.72	16.11	
Petersham	1894	1895-96	1897-98	98-99										26.88	26.88	
Randwick		94	95-96										4.45	5.58	10.03	
Redfern		1890	1891										3.20	7.18	10.38	
Waterloo	1890	91	92-93	94	95-96	97-98	98-99							7.09	7.09	
Waverley	1891	1894	95-96	97-8	98-9									15.13	15.13	
Willoughby														.66	.66	
Woollahra		1891	1892	93	94	96-7	98-9							3.31	13.18	16.49
<b>Grand Totals of Mileage</b>													96.87	236.20	333.07	

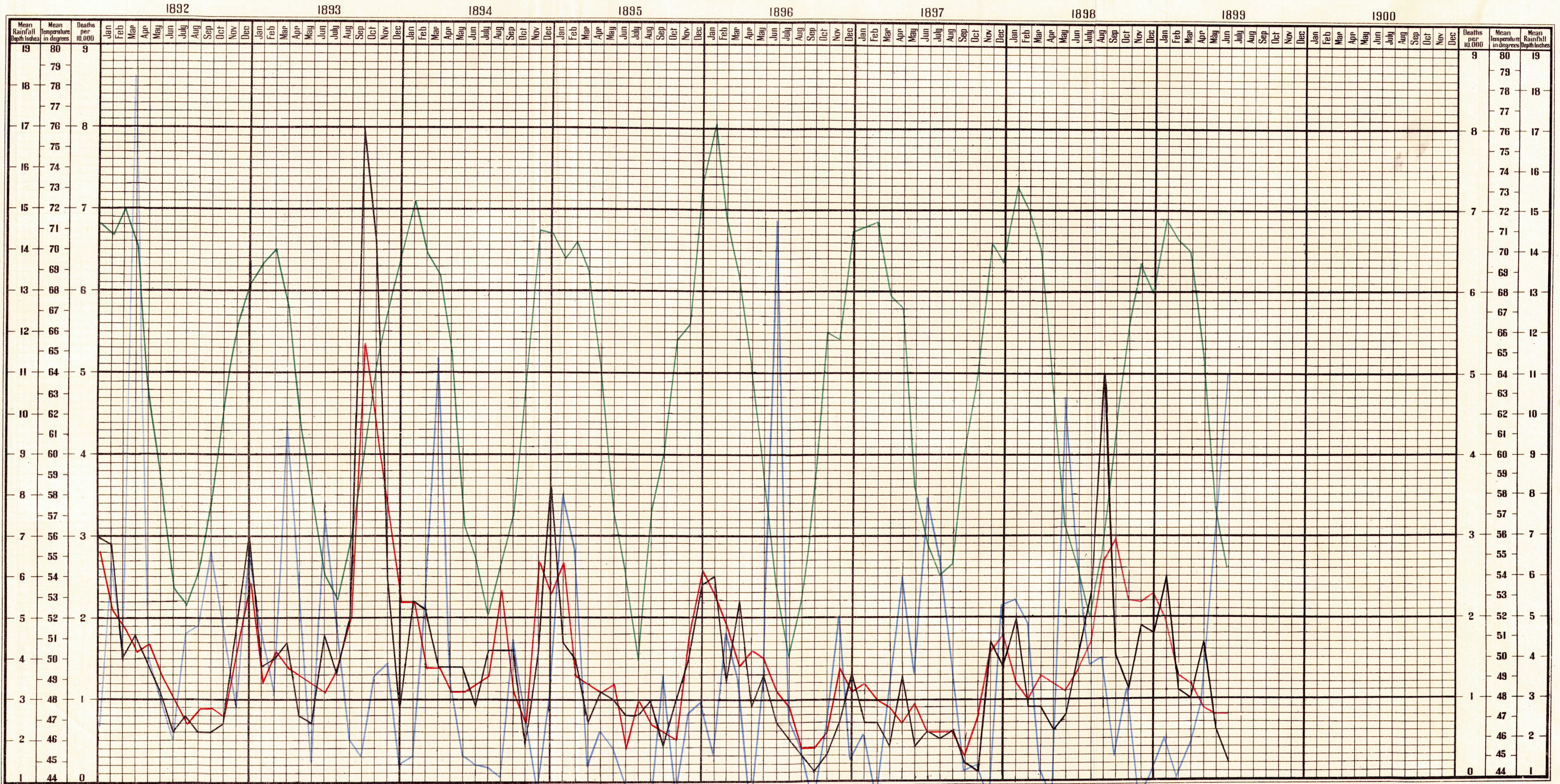
• The whole of the Sewers in these Boroughs laid prior to 1890 were Constructed by the Government in accordance with the Act

*A. M. Starling*  
Surveyor in Charge

*Griffiths*  
Assistant Engineer



# ADULT AND INFANTILE ZYMOTIC DEATH RATE OF THE METROPOLIS Per 10,000 of the Population



*J.G.S. Davis*  
Chief Draftsman

**NOTES**

- Red line indicates the Suburban rate
- Black .. do .. City do
- Blue .. do .. Rainfall
- Green .. do .. Temperature

Photo-lithographed by  
W. A. Gallick, Government Printer,  
Sydney, N.S.W.

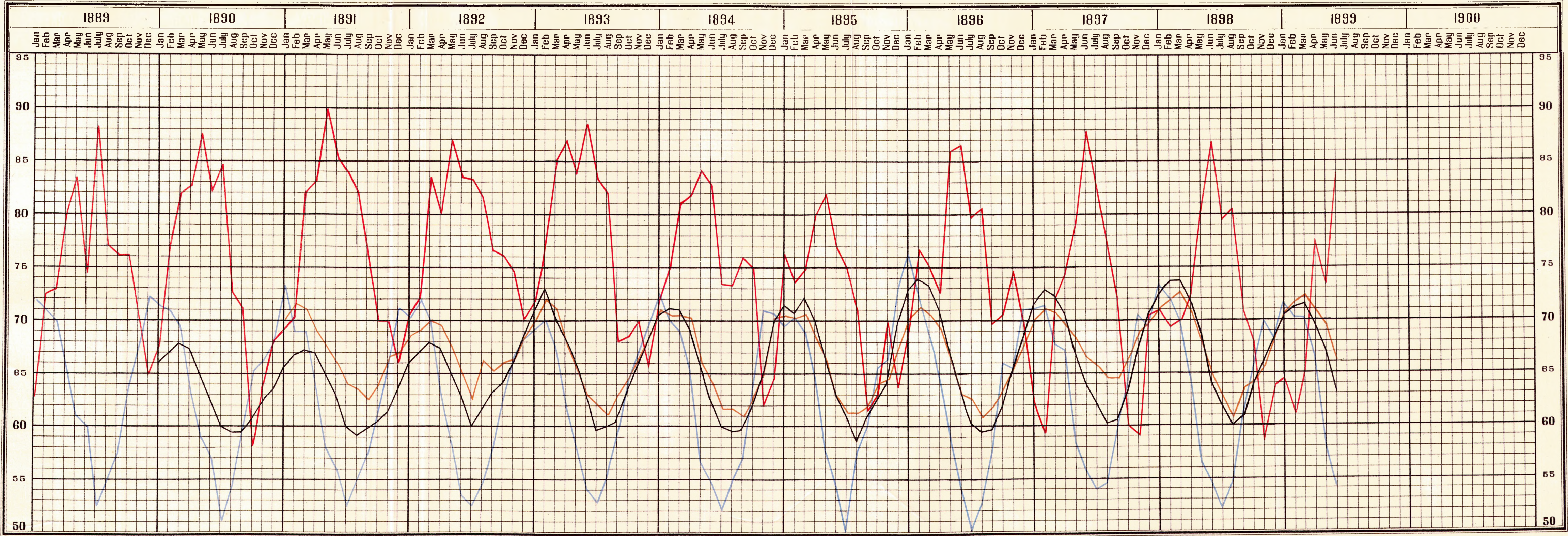
*W. A. Gallick*  
Assistant







**DIAGRAM**  
**SHOWING MEANS OF**  
**EXTERNAL TEMPERATURE, TEMPERATURE IN SEWERS 10 & 40 FT. DEEP & HUMIDITY**  
**FROM THE YEAR**  
**1889**



**NOTES**

Mean Temperature in Open Air shewn thus.	<span style="color: blue;">—</span>
do. Humidity - do. do. do. do.	<span style="color: red;">—</span>
do. Temperature in Sewer 40 Ft deep do.	<span style="color: black;">—</span>
do. do. do. 10 - do. do.	<span style="color: orange;">—</span>

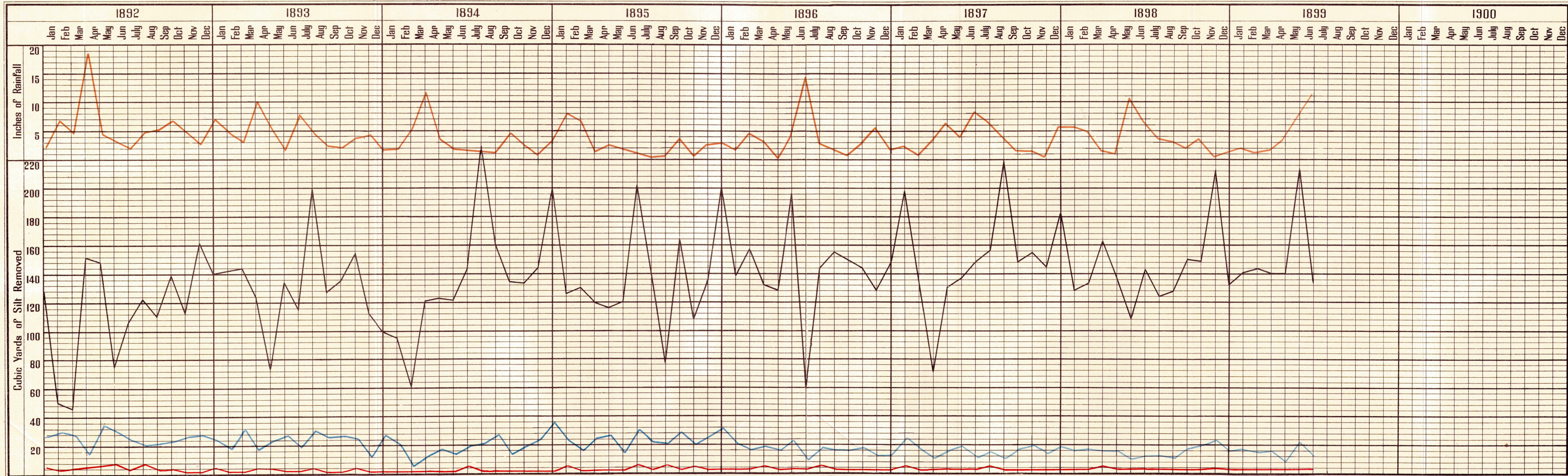
*J. J. Purvis*  
Chief Draftsman.

*H. Griffiths*  
Assist. Eng.



# BOTANY SEWAGE FARM

## DIAGRAM SHEWING QUANTITIES OF SILT REMOVED FROM INLET AND OUTLET HOUSES



W.E.M.  
47492

*J.G.S. Purvis*  
Chief Draftsman.

**NOTES**

Silt removed from Screening Wells | Silt removed from Outlet Well   
 do. do. do. Inlet do. |  Rainfall

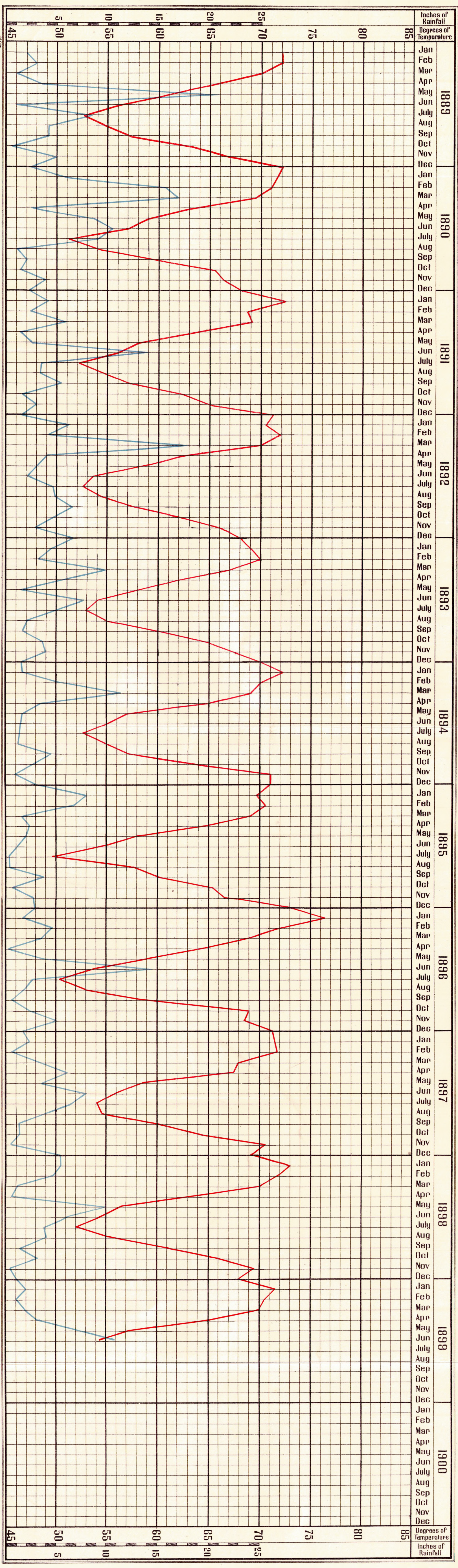
Photolithographed by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.

SIG. 4 179.

*M. Griffiths*  
Assistant



# DIAGRAM SHEWING ATMOSPHERIC TEMPERATURES & RAINFALL SYDNEY



*J. J. Burns*  
Chief Draftsman.

**NOTES**  
Mean Temperature shown thus —  
do - Rainfall - do - do

Printed and Published by  
W. A. Gordon & Co.,  
Sydney, N.S.W.

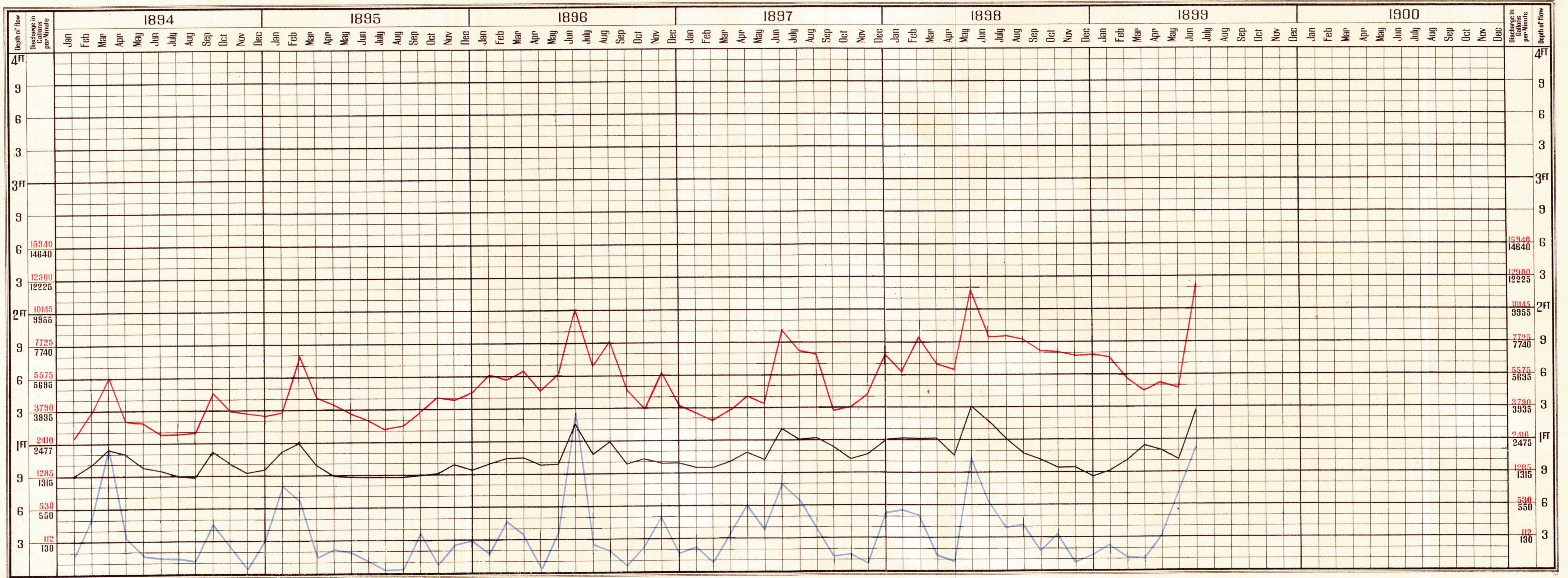
*W. A. Gordon & Co.*  
Sydney, N.S.W.



# BOND AND BOTANY MAIN OUTFALL

## MEAN MONTHLY

### DEPTH OF FLOW AND DISCHARGE IN GALLONS PER MINUTE



J. G. S. Purvis.  
Chief Draftsman.

**NOTES**  
 Bondi Outfall shewn thus ————  
 Botany do. do. do. ————  
 Rainfall do. do. ————

*Piffith & Ass't Eng.*

Photo-illustrated by  
W. A. Gullick, Government Printer,  
Sydney, N.S.W.



1899  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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# REPORT

OF THE

## HUNTER DISTRICT WATER SUPPLY AND SEWERAGE BOARD,

From 1 July, 1898, to 30 June, 1899.

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*Printed under No. 8 Report from Printing Committee, 2 November, 1899.*

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SYDNEY: WILLIAM APPLIGATE GULLICK, GOVERNMENT PRINTER.

\*180—*a*

1899.  
[1s. 9d.]





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1899.

## NEW SOUTH WALES.

## HUNTER DISTRICT WATER SUPPLY AND SEWERAGE BOARD.

(REPORT FROM 1 JULY, 1898, TO 30 JUNE, 1899.)

Newcastle, 4 September, 1899.

To the Honorable the Secretary for Public Works,—

Sir,

The Hunter District Water Supply and Sewerage Board have the honor to submit to you their Report for the year ending 30 June, 1899.

## WATER SUPPLY.

2. The average daily consumption of water per head of the estimated population was 21·94 gallons as against 20·89 gallons during the preceding year.

3. During the year 651 houses were connected with the mains.

4. The number of properties rated at the close of the year was 13,925, of which 7,920 were connected, leaving 2,181 vacant lands and 3,824 houses not connected. During the year 32,767 rate notices have been served.

5. It will be seen that a very large number of ratepayers have failed to take advantage of the water supply. The Board have not deemed it advisable to exercise the powers conferred upon them by the Principal Act, under which the occupiers of premises rated could have been called upon to connect their properties with the mains, but the terms of the Deferred Payment System are sufficiently easy to enable the poorest ratepayer to have his premises connected, repaying the cost of same by quarterly instalments extending over three years. During the year ninety-five ratepayers have connected under this system, making a total of 608 who, since the inception of the Board, have been assisted to obtain the benefit of the water supply in return for the rates paid.

6. During the year 3 miles 1,047 yards of 3-inch pipes and 1,437 yards of 4-inch pipes have been laid. The lengths of mains now under the Board's control are as follows :—

Suction mains	...	...	...	1 mile 176 yards.
Rising mains	...	...	...	14 miles 1,407 yards.
Gravitation mains	...	...	...	17 miles 762 yards.
Reticulation mains	...	...	...	142 miles 420 $\frac{5}{8}$ yards.
Total	...	...	...	175 miles 1,005 $\frac{5}{8}$ yards.

7. The repairs to the main pipe line bridges crossing the swamps between Buttai and Lambton reservoirs, commenced at the close of last year, have been satisfactorily completed, and the bridges are now in a safe condition.

8. The rainfall on the catchment area of the Hunter River above the intake at Walka and on the Water District was below the yearly average. During the year there were three more than usual rises in the river, the highest being the flood rise in September last, when the gauge at Belmore Bridge, West Maitland, recorded 25 feet 6 inches. At the end of the summer the flow of water had considerably diminished, and it was estimated that the visible flow past the intake at Walka did not then exceed 15,000,000 gallons per day. No inconvenience was, however, felt, the river furnishing at all times a more than ample supply. The Board Engineer, in a recent report, stated that prolonged droughts have been known during which, it is said, the flow of the Hunter River was so much diminished as to be scarcely observable, but the immense stores of water in the long deep pools would afford an inexhaustible supply should the river actually cease running during such a drought.

9. Since the inception of the Board considerable attention has been paid to the improvement of the water in the storage reservoir at Walka Pumping Station. This reservoir, formed by constructing an earthen embankment with puddle core across an old lagoon, contains the reserve supply of water, and has a capacity of 200,000,000 gallons. Water is pumped from it when the river supply is turbid, and the reservoir is replenished by the rainfall on its catchment area of 200 acres, and by water pumped from the river. Large quantities of water are run off through the scour pipe. The circulation thus kept up has considerably improved the quality of the water, but realising that the best results could not be obtained without removing the soft sludge, which has accumulated on the bottom of the reservoir beyond the action of the scour-pipe, the Board decided to construct a syphon scour-pipe for this purpose. This pipe, fitted with a long flexible jointed suction length, has been fixed, and is made to operate on the bottom of the reservoir wherever required by means of floats and a pontoon. It has worked very satisfactorily, removing the sludge without discolouring the body of water in the reservoir. The drain laid by the Board in Cook's-lane to connect the lagoon below the storage reservoir (into which the scour-pipe discharges) with the river has been extended up to the outfall end of the reservoir by-wash with stoneware pipes. This extension was carried out to enable the sludge to be taken direct into Cook's-lane drain, instead of passing through the intervening lagoon. The syphon has not been in operation sufficiently long yet to show any marked results, but its operation so far, combined with the system of circulation adopted, has improved the quality of the water.

10. Small quantities of the water weeds, which gave considerable trouble four or five years ago have reappeared. The larger weeds are now being removed and burnt.

11. The filterbeds at Walka Pumping Station continue to work satisfactorily, and better results have been obtained since the water has been well aerated immediately before filtering, and the beds refilled with filtered water slowly from the bottom after they have been dried off for skimming, &c., instead of the former system of applying water to the top.

12. During recent years it has been found necessary to frequently empty and cleanse the clear water tank to remove growths of aquatic weeds from the floor and sides. To exclude the light, and so prevent the growth of the weeds, the Board have decided to cover over the tank, and contracts have now been let for the supply of materials. The constant expense and inconvenience of previous operations will then be avoided.

13. Regularly every month samples of water, taken from the river, storage reservoir, settling tank, and clear water tank at the Walka Pumping Station, are submitted to the Government Analyst, Mr. William M. Hamlet, F.I.S., F.I.C. His reports show that the filtered water delivered into the mains for consumption continues to maintain its reputation as a good wholesome water fit for drinking and all domestic purposes.

14. The river water is moderately hard, but the dissolved substances contained in it vary from time to time with the rainfall over the watershed of the Hunter, increasing in time of drought, partly due to the long continued evaporation, and partly to the streams being principally fed with spring and subsoil water, which in its passage through the ground has become charged with soluble minerals. The hardness of the river water differs considerably, ranging from only 6 degrees during freshets to as high as 22 degrees during dry weather. The filtered water has varied from 12 to 19½ degrees (Clark's scale). The variations in the soluble matter and the high percentage which gives a permanent hardness to the river water at present prevent the application of any economical softening scheme which would be within the Board's resources. When the revenue improves, however, the matter will be again looked into, and, if possible, steps will be taken to soften the water, so as to make it more suitable for laundry purposes.

15. The Pumping Plant at Walka is working satisfactorily. The quantity of water pumped during the year was as follows:—From the river to the storage reservoir 231,163,771 gallons, from the river to the settling tank 143,644,169 gallons, from the storage reservoir to the settling tank 180,979,877 gallons, making the total quantity of unfiltered water pumped 555,787,818 gallons, an increase over the previous year of 18,612,545. From the clear water tank to the service reservoirs 317,184,136 gallons of filtered water were pumped, showing an increase over last year of 32,117,416 gallons. The quantity of water pumped from the Newcastle reservoir to the high-level tank supplying the highest parts of Newcastle, was, approximately 2,400,000 gallons.

16. The cost of pumping 1,000 gallons 100 feet lift for last year was 427d., as against 439d. for the previous year. The cost of coal delivered at the pumping station was 5s. 6d. per ton during the first half, and 6s. 6d. during the second half of last year.

17. The whole of the buildings at the Walka Pumping Station and the various reservoirs are in good order. Slight additions will be required to four of the caretakers' cottages. The suction, rising, and reticulation mains have been maintained in proper working order.

18. To prevent the pollution of the watershed of the river, regular inspections for a distance of 20 miles above the intake at Walka are made. There is comparatively little settlement of population in the neighbourhood of the river along this length. The sanitary arrangements of these holdings, however, receive strict supervision, and the river and its banks are also carefully inspected.

19. The new duplicate suction main from the river and the rising main to Buttai have considerably improved the facilities for pumping to the service reservoirs, but the best results will not be obtained until the 15-inch gravitation main from Buttai to Newcastle is duplicated. As this work will involve an expenditure of, approximately, £80,000, the Board will defer its construction as long as possible; but there can be little doubt, if the consumption continues to increase as it has done since 1892, the duplication of the existing single pipe line cannot safely be postponed much longer. For the year ending 30 June, 1893, the water pumped to the service reservoir for consumption was, in round figures, 165,000,000 gallons, and last year it reached 317,000,000 gallons, or very nearly double.

20. The decay of the metal in a number of cast-iron watermains in certain parts of the reticulation of Newcastle and suburbs continues to cause trouble and expense. The decay is confined to the mains laid in streets where copper slag, furnace ashes, and such like refuse has been used as part of the road-making material. From local investigations and tests made by the Government Analyst, it has been clearly shown that the decay is due to the action of acid liberated from copper ore, slag, &c., in or near which the pipes have been laid. At Minmi several bursts took place in the 6-inch main pipe. On examination the pipes were found badly decayed, most probably caused by water percolating to them from the decomposing pyritous refuse in the adjacent railway embankment, which has been formed mainly with coal-pit refuse. Where mains are laid in streets formed in this way it is now the practice to place limestone in the bottom of the trenches to neutralise the acidity of the subsoil water.

21. During the year 1,870,100 gallons of water have been supplied free to public hospitals, benevolent asylums, churches, parks, mechanics institutes, and schools of art. The liberal allowance of 30 gallons per head per day has been made in the case of hospitals and asylums, any excess over same being charged for. Water for street-watering and public baths is charged for at the specially reduced rate of 6d. per 1,000 gallons, and is supplied free for gutter flushing and cleansing sumps and drains.

22. For the year 267 meters have been hired-out by the Board. The meter used is the class specially designed by the Metropolitan Board of Water Supply and Sewerage, to whom the Board are indebted for the privilege. The hire charges are moderate. Since the initiation of the system in January, 1896, 588 meters have been hired-out to consumers. During the year 365 meters have been tested.

#### FINANCIAL.

23. The revenue struck for the year was £26,958 14s. 8d. Adding to this the arrears outstanding at 30 June, 1898 (£12,236 12s. 3d.), gives the total revenue receivable, £39,195 6s. 11d. Of this amount, £27,770 2s. 3d. was collected and remitted to the Treasury, leaving £11,465 3s. 5d. outstanding at the close of the year. Included in this amount is the sum of £5,300, due by the Railway Commissioners of New South Wales, payment of which has been delayed in consequence of a difference of opinion as to the liability of the Commissioners' properties for water-rates for the year ending 30 June, 1898, and the basis of charging for water supplied. The whole of the papers have been submitted to the Minister, and the Board hope that the amount will be paid by the Commissioners without further delay.



24. The Board are unable at present to submit a proper balance-sheet showing the revenue and expenditure for the year, as the capital debt has not yet been determined. In accordance with the provisions of the Amending Act, the Board have been furnished with particulars of the capital debt to 30 June, 1897, for consideration and report. This matter was receiving attention at the close of the year.

25. The management expenses for the year amounted to £4,848 12s. 8d., and the working expenses to £5,014 11s. 8d. The amount of interest for the year on the capital debt and the statutory instalments to the sinking fund for the maintenance and reconstruction of renewable works, cannot be ascertained until the capital debt is finally determined.

26. The total amount expended by the Board during the year was :—

Chargeable to loans ... ..	£3,188	5	5
Chargeable to revenue ... ..	£9,689	6	6

### SEWERAGE.

27. The Board have been furnished with copies of the report prepared by Mr. J. Davis, M.Inst.C.E., Chief Engineer for Sewerage Construction, embodying his scheme for the sewerage of Newcastle and suburbs. A brief description of same is attached. This report has been sent to the Board for an expression of opinion as to whether, from a financial point of view, the scheme should be referred to the Parliamentary Standing Committee on Public Works for investigation. The Board at once requested the District Medical Officer of Health to furnish them with a report on the present sanitary condition of the areas proposed to be sewered, the prevalence of typhoid fever, phthisis, and other diseases which the construction of efficient sewerage works might reasonably be expected to prevent or mitigate.

Dr. Dick promptly supplied the Board with an able and exhaustive report, copy of which is submitted herewith. He has dealt very fully with the existing sanitary arrangements of the borough of Newcastle and the municipalities of Hamilton, Wickham, and Merewether, and has given statistics of the cases of phthisis, diphtheria, diarrhœa, and typhoid fever. Referring to these diseases, he states :—

A consideration of the tables given discloses the fact that the typhoid fever death-rate and attack-rate, and the diarrhœal death-rate in the local centres, considerably exceed the rates which obtain in a completely sewered locality, such as the city of Sydney. As already stated, the prevalence of these two diseases is, to a large extent, influenced by insanitary conditions, such as are present in the local centres, and these conditions are such as can be practically done away with in the most effectual way by the institution of a sewerage system.

Dealing with the existing municipal sanitary systems, he reports :—

As regards the present systems in use in the different localities, it may be said that in Merewether the methods generally adopted are entirely at variance with sound principles of hygiene. In Hamilton and Wickham, whilst the pail system is a marked step in advance, the question of the disposal of the slop waters (which are practically equally as foul as the sewage of a water-closeted town) remains to be satisfactorily dealt with. In Newcastle the present mixed system as regards the removal of the contents of pail-closets cannot be deemed to be by any means a good one. The patent pails which are connected with the drains are filthy contrivances. The present sewerage system, judging from a limited experience, appears to stand in need of much improvement in important particulars.

In concluding his report, Dr. Dick says :—

Considering the great benefits from a health standpoint which have resulted from the establishment of sewerage systems, as judged from the statistics given, it is reasonable to expect that similar benefits will follow the institution of an efficient sewerage system in the localities under review.

The

The Board feel that, looking at the matter solely from a public health point of view, the information furnished by the District Medical Health Officer amply demonstrates the necessity of an efficient scheme of sewerage being provided to supersede the present defective sanitary arrangements.

Mr. Davis came to Newcastle by special request and personally explained his scheme to the Board. He dealt fully with the questions of the disposal of storm waters, polluted yard waters, situation of the reticulation sewers, average cost of house connections, carrying out of same by Board for ratepayers on a system of deferred payments, possibility of the pollution of the beaches adjacent to the out-fall works, extension of the scheme to the outlying areas later on, the discharge of the sewage into the ocean, and of the biological and other systems of treating sewage.

With regard to the estimated capital cost of the works, the Board pointed out that, in the event of the scheme being carried out, they hoped the estimated cost would not be exceeded, and although they felt they could hardly expect the Minister to give a guarantee to that effect, they would be glad to have some assurance on the point, so as to prevent subsequent disappointment and dissatisfaction. Mr. Davis suggested that the object the Board had in view might be attained by arranging that all the tenders for the work close at the same time, so that the total of the lowest tenders could be ascertained, when it could be seen at once whether the work could be carried out for the sum named in his report or not, and the Minister could then decide as to acceptance. Mr. Davis's suggestion will materially assist the Board in arriving at a decision, as it affords a reasonable guarantee that the works will not be carried out if the estimated cost is likely to be exceeded by any great amount. The Board feel certain that if the total of the tenders exceeds the estimated cost the Minister will afford them an opportunity of considering the matter before any tenders are accepted.

At the close of the year this matter was still under consideration, and estimates of probable revenue and expenditure were being prepared by the Board's officers.

#### GENERAL.

28. In consequence of a serious waste of water, and the want of proper supervision and control generally, on the occasion of a large fire in Scott-street, Newcastle, in February last, the Board wrote to the Chief Secretary, drawing his attention to this matter, and pointing out that, in their opinion, the time has arrived for the proper organisation of the fire brigades in the district. Upon receipt of this minute, the Chief Secretary directed Mr. Alfred Webb, Superintendent of the Metropolitan Fire Brigades, to inquire into and report on same. Mr. Webb came to Newcastle and went exhaustively into the whole matter, and also into a counter complaint made by one of the fire brigades that the water supply was insufficient. The Board was furnished with a copy of Mr. Webb's report, and were pleased to note that the searching inquiry made put it beyond all doubt that the water supply on the occasion of the fire was in every way ample, had it been used in a proper manner.

The Board considered the disclosures made by Mr. Webb fully justified their action in asking for an inquiry, and recommended that the Board should be represented on the Fire Brigades Board, which Mr. Webb suggested should be established.

The

The water used at fires has, by law, to be supplied free of charge, at the expense of the ratepayers of the Hunter district, and the Board are, therefore, interested in seeing that the brigades are kept in a state of proper organisation and efficiency. The Chief Secretary has been good enough to promise that this request shall receive consideration, and the Board hope, in view of the present disorganised and unsatisfactory condition of the local fire brigades, an effectual remedy will be provided with the least possible delay.

29. During the year the Board have again brought under the notice of the Minister the recommendation made by them that the staff should be placed under the control of the Public Service Board, so as to widen the scope of promotion for their officers, and have been favoured with a reply to the effect that certain amendments have been found necessary in the Public Service Act, and when the Amending Bill is being drafted the matter will receive consideration.

This subject was referred to at length in last year's report, and the Board hope that the necessary legislation will soon be passed to give effect to their recommendation.

30. The Board have during the year made inspections of the pumping station, several of the service reservoirs, and the pipe-line bridges.

31. Mr. H. W. Lee, official member of the Board, resigned his seat in May last, and Mr. John Reid was appointed to fill the vacancy.

32. Fifty-eight meetings of the Board were held, at which the attendances were as follows:—

MEETINGS OF BOARD FROM 1 JULY, 1898, TO 30 JUNE, 1899.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May.	June.
Meetings held ... ..	4	4	5	5	5	6	5	5	4	4	6	5
H. D. Walsh, President ... ..	3	4	4	5	4	6	5	5	4	4	6	5
J. W. Birkenhead, Vice-President ... ..	4	4	3	5	4	6	4	4	4	3	6	3
J. Ewing, Official Member ... ..	4	4	4	5	4	5	5	3	4	4	6	4
H. W. Lee, Official Member* ... ..	4	4	3	5	4	6	5	4	4	4	5	...
George W. Webb, Municipal Member ... ..	4	4	5	5	4	5	5	4	3	4	6	3
J. B. Barclay, Municipal Member ... ..	3	4	4	4	4	6	3	5	2	1	6	4
O. G. Steel, Municipal Member ... ..	4	4	4	5	4	6	4	5	3	3	5	5

\* Resigned in May, 1899.

33. Enclosed are reports by the Engineer (Mr. J. B. Henson, Assoc. M. Inst. C. E.), with a plan shewing the Intake Works, Walka Pumping Station, Storage Reservoir, and Cook's-lane Drain, and also a report by the Assessor, Mr. P. de Mestre Hart.

H. D. WALSH, M. Inst. C. E., B. A. I. (Dubl.),  
President.

ALFRED E. FRY,  
Secretary.

Accountant's

## Accountant's Branch.

RETURN showing amount of Revenue struck, collected, and outstanding for year ending 30 June, 1899.

Head of Revenue.	Arrears from previous years.			Amount struck for the year ending 30 June, 1899.	Total receivable.	Collected			Amount outstanding at 30 June, 1899.
	Amount outstanding at 30 June, 1898.	Charges since cancelled.	Net arrears.			Total collected.	Less over-payments refunded.	Net collections.	
Water Rates—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Rates only ... ..	9,075 14 10	1,349 12 3	7,726 2 7	20,563 3 10	28,289 6 5	20,626 8 11	30 5 6	20,596 3 5	7,693 3 0
New mains ... ..	8 11 6	0 17 5	7 14 1	5 5 4	12 19 5	8 13 10	.....	8 13 10	4 5 7
New assessments ... ..	3,531 14 8	1,209 5 1	2,322 9 7	48 2 5	2,370 12 0	661 3 1	0 16 1	660 7 0	1,710 5 0
Special Fees—									
Gardens ... ..	13 7 6	5 5 0	8 2 6	31 15 0	39 17 6	38 0 0	0 5 0	37 15 0	2 2 6
Live stock ... ..	17 10 0	2 0 0	15 10 0	181 10 0	197 0 0	191 5 0	.....	191 5 0	5 15 0
Sundry water supply ... ..	8 5 0	2 0 0	6 5 0	37 3 6	43 8 6	40 17 6	0 10 0	40 7 6	3 1 0
Builders' supply ... ..	.....	.....	.....	55 12 9	55 12 9	55 12 9	.....	55 12 9	.....
Meters—									
Meters only ... ..	398 4 3	1 19 11	396 4 4	1,362 3 2	1,758 7 6	1,382 5 9	.....	1,382 5 9	376 1 9
Meters in excess ... ..	1,764 17 3	48 19 5	1,715 17 10	3,168 13 0	4,884 10 10	3,276 8 4	7 17 8	3,268 10 8	1,616 0 2
Shipping ... ..	7 17 4	.....	7 17 4	656 5 3	664 2 7	644 14 2	.....	644 14 2	19 8 5
Meter Hire—Rent of meters ... ..	30 9 0	.....	30 9 0	188 8 7	218 17 7	184 1 1	0 4 6	183 16 7	35 1 0
Other charges—									
Drilling Fees ... ..	.....	.....	.....	89 13 0	89 13 0	89 13 0	.....	89 13 0	.....
Reconnecting Fees ... ..	.....	.....	.....	16 0 0	16 0 0	16 0 0	.....	16 0 0	.....
Supervision Fees ... ..	.....	.....	.....	23 5 0	23 5 0	23 5 0	.....	23 5 0	.....
Interest on Deferred Payment Instalments	.....	.....	.....	14 14 1	14 14 1	14 14 1	.....	14 14 1	.....
Meter Testing Fees ... ..	.....	.....	.....	0 7 6	0 7 6	0 7 6	.....	0 7 6	.....
Delivery Charges ... ..	.....	.....	.....	15 16 1	15 16 1	15 16 1	.....	15 16 1	.....
Penalties Account... ..	.....	.....	.....	3 11 5	3 11 5	3 11 5	.....	3 11 5	.....
Sale of By-laws ... ..	.....	.....	.....	0 2 0	0 2 0	0 2 0	.....	0 2 0	.....
Material on Hire ... ..	.....	.....	.....	0 4 0	0 4 0	0 4 0	.....	0 4 0	.....
Plumbers' Licenses ... ..	.....	.....	.....	17 0 0	17 0 0	17 0 0	.....	17 0 0	.....
Rents received ... ..	14,856 11 4	2,619 19 1	12,236 12 3	26,478 15 11	38,715 8 2	27,290 3 6	39 18 9	27,250 4 9	11,465 3 5
Other receipts ... ..	.....	.....	.....	241 14 0	241 14 0	241 14 0	.....	241 14 0	.....
	.....	.....	.....	238 4 9	238 4 9	238 4 9	.....	238 4 9	.....
	14,856 11 4	2,619 19 1	12,236 12 3	26,958 14 8	39,195 6 11	27,770 2 3	39 18 9	27,730 3 6	11,465 3 5

Board's Offices, Newcastle, 28 August, 1899.

ALFRED E. FRY,  
Secretary and Accountant.

## Report of Assessor's Branch for year ending 30 June, 1899.

I HAVE the honor to submit a report of the work of this branch during the year ending 30 June, 1899.

### RATE NOTICES.

During the year 32,767 notices have been served upon ratepayers, including those for new mains, new assessments, special fees, and final notices, for overdue rates.

### REVENUE STRUCK.

The total amount of revenue struck for the year was £26,478 15s. 11d.

### REVENUE COLLECTED.

The revenue collected for the year was £27,250 4s. 9d., the total receivable for the year with arrears from previous years was £38,715 8s. 2d., leaving outstanding at 30 June, 1899, £11,465 3s. 5d. The Board's officers have been in attendance on specified days at the several Municipal Council Chambers, for the convenience of ratepayers.

### PROPERTIES RATED AND SUPPLIED AT 30 JUNE, 1899.

At 30 June, 1899, there were 13,925 properties rated, namely, 2,181 unimproved land, 3,824 properties unconnected, and 7,920 properties connected with the Board's mains, showing an increase of 388 charged at 30 June, 1898.

### SUMMONS WORK.

During the year 4,174 final notices were served, 644 summonses, and 54 executions issued.

### METERS.

At 30 June, 1899, 1,188 meters were on private supplies, showing an increase for the year of 223. During the year 365 meters have been tested.

### METER HIRE.

During the year 267 Board's meters have been hired by private consumers, making a total of 588 since the inception of the hire system.

### DEFERRED PAYMENTS.

During the year ninety-five ratepayers have availed themselves of the deferred payment system, of connecting their premises with the Board's mains, making a total of 608 since the inception.

### FREE SUPPLY OF WATER.

Hospitals...	...	...	...	...	1,175,200 gallons.
Fire Stations	...	...	...	...	69,000 "
Churches	...	...	...	...	11,300 "
Parks	...	...	...	...	74,600 "
Mechanics Institutes	...	...	...	...	16,300 "
Benevolent Asylums	...	...	...	...	523,700 "
Total	...	...	...	...	1,870,100 "

Detailed returns attached.  
The Secretary.

P. DE MESTRE HART,  
Assessor, 29/8/99.

## Rates and Charges for Water in force for the year ending 30 June, 1899.

1. Water By-laws Nos. 1, 2, 3, 4, 5, 6, 7, 8, and 9, published in the *Gazette* of 1 November, 1898, are hereby repealed, and the following By-laws shall be substituted in lieu thereof: Provided that such repeal shall not prejudice or affect the payment or recovery of any rate, charge, or sum now due under the repealed By-laws.

2. The following shall be the rate to be paid in respect of property ratable for water supply, whether such property is connected with any main, or is otherwise supplied with water by the Board or not.

### WATER RATES ON PROPERTY.

- (I.) Where the land or premises are of the assessed annual value of £10 or under, 10s. per annum.
- (II.) Where the land or premises are above the assessed annual value of £10, a rate of 1s. for each pound sterling of the amount of the assessed annual value.
- (III.) Where the land or premises, on which no building is erected for human habitation, are of the assessed annual value of £5 or under, 5s. per annum.
- (IV.) Where the land or premises, on which no building is erected for human habitation, are above the assessed annual value of £5, a rate of 1s. for each £ sterling of the amount of the assessed annual value.
- (V.) Vacant lands of the assessed annual value of £10, and under, a rate of 3s. 4d. per annum; and on all such lands above the assessed annual value of £10, 4d. for each £ sterling of the amount of the assessed annual value.

## WATER SUPPLIED BY MEASURE.

Supply to  
property by  
measure.

3. Unless otherwise determined by special agreement between the Board and the consumer, the charge for water supplied by measure shall be 2s. per 1,000 gallons. The minimum quantity of water to be charged for where water is so supplied shall be the quantity which, calculated at the charge prescribed by the By-laws, amounts to the rates paid in respect of the property.

## CHARGES IN ADDITION TO RATE ON UNMETERED SERVICES.

Special fees.

4. The following shall be the charges to be paid in addition to the rate in respect of property where water is used for other than domestic purposes, and the supply is not through a meter, and are hereinafter referred to as Special Fees.

Trade purposes.

(I.) The Special Fees for water supplied for:—

Photography and any like process shall be...	...	10s. per annum.
Tripe cleaning ... ..	...	10s. „
Tying purposes ... ..	...	20s. „
Small goods (sweets) ... ..	...	10s. „
Waterfalls and fountains ... ..	...	20s. „
Shop fronts, by hose ... ..	...	20s. „
Organ motors and such-like mechanism ... ..	...	40s. „
Washing vehicles, by hose ... ..	...	10s. „
Washing yards, by hose ... ..	...	20s. „

Vehicles.

Yards.

(II.) All Special Fees shall be payable in advance.

Nozzle and  
waste pipes.

5. No person shall use water in connection with any motor unless the nozzle supplying such motor has been first approved of by the Board. The waste-pipe from each motor shall be so fixed that the waste water can be measured at any time.

Gardens.

6. The charge for water supplied for watering gardens or lawns, by hose, shall be at the rate of 5s. per annum for every 500 square feet, superficial area, or part thereof, and 2s. 6d. for every additional 250 square feet, superficial area, or part thereof.

Meter may b  
insisted upon.

7. In all cases where special fees are charged, the Board reserve to themselves the right of insisting upon a meter being fixed at any time, notwithstanding the fact that the Special Fee may have been paid.

Building  
charges, &c.

8. (I.) The charge for water supplied for building and plastering purposes, for buildings to be used either wholly or partly as dwelling-houses, shall be at the rate of 1d. per cubic yard on the cubical contents of each building. The Board will supply water for all other buildings, either by meter or at the rate above mentioned by cubic yard on the cubical contents of each building, as the Board shall determine: Provided that before any water shall be used through meter for building purposes such meter shall be submitted to the Board in each case for examination, and must pass the sensitive test; and the minimum quantity of water to be charged for where water is so supplied shall be 20,000 gallons.

(II.) The charge for water supplied for plastering rooms only shall be 5s. for each room, and for the building of wash-houses, water-closets, coppers, and chimneys only, 2s. 6d. each.

(III.) The charge for water supplied for the making and mixing of concrete for foundations of wooden blocks, stone cubes, or other form of permanent roadway or pavement, shall be at the rate of £3 per 1,000 square yards, by superficial measurement of road surface; and for all other concrete, brickwork, or masonry, at the rate of 6d. per cubic yard, as measured on the work.

Premises where  
horses and cows  
kept liable to  
extra rate.

9. All lands or premises actually supplied with water by the Board, on which any one or more head of horses or cattle shall be kept or maintained, shall be liable to an extra rate or charge (beyond and in addition to the rates hereinbefore imposed) of 5s. per head for each head of horses or cattle kept or maintained on such lands or premises. Where such lands or premises are not actually supplied with water by the Board, they shall be liable to an extra rate or charge (beyond and in addition to the rates hereinbefore imposed) of 2s. 6d. per head for each head of horses or cattle kept or maintained on such lands or premises.

## Board Engineer's Report.

Sir,

Newcastle, 28 August, 1899.

I have the honor to submit my report relating to the water supply for the year ended 30 June, 1899.

## QUANTITY OF WATER SUPPLIED.

A constant supply of water at a satisfactory pressure was maintained in the reticulation water mains throughout the Newcastle and Maitland Districts during the year.

The total quantity of filtered water pumped to the distributing reservoirs was 317,184,136 gallons being an increase of 32,117,416 gallons over the previous year; the total quantity of unfiltered water pumped to the settling tank and the Storage Reservoir amounted to 555,787,817 gallons, an increase of 18,612,544 gallons.

The number of properties (excluding vacant lands) liable for water rates amounted to 11,744 at the close of the year, representing an approximate population of 58,720 persons contiguous to the water-mains. The number of these properties actually connected to the watermains was 7,920 estimated to contain 39,600 inhabitants. The total population of the municipal and other areas reticulated with water mains is estimated to be 64,480—many of these, however, reside in houses beyond reach of the water pipes.

The



The average daily consumption of water per inhabitant of the 7,920 properties connected to the water mains was 21·94 gallons as against 20·89 gallons for the preceding year. Averaging the daily consumption separately for the Maitland District (comprising East and West Maitland, Morpeth, &c.) and the Newcastle District (comprising City of Newcastle, suburbs and mining townships) the former gave 15·04 gallons per head and the latter 23·92 gallons per head.

The quantity of water supplied through meter to 63 large consumers such as Railways, Collieries, Shipping, Breweries and factories of various kinds was, for Maitland District, 2,065,400 gallons, and for Newcastle District, 81,944,020 gallons, together making 84,009,420 gallons and equal to 26 per cent. of the total consumption. The remaining 74 per cent. was the consumption for street watering, domestic purposes, small gardens, stock, &c., and averages 14·46 gallons per head per day in Maitland District and 16·77 in Newcastle District.

Owing to the hardness of the water supplied by the Board, most householders store rain water and use it for laundry and similar purposes; this additional consumption must be borne in mind when considering the consumption per head stated above.

Particular attention was given throughout the year to the prevention of waste of water from consumers pipes and fittings, and in this direction the institution of the practice of the free rewashing of taps by the Board's employees has been beneficial.

#### COST OF PUMPING.

The cost of pumping 1,000 gallons 100 feet high at Walka Pumping Station was 427d., a slight reduction as compared with 439d. for the previous year, although there was an increase in the cost of coal. The pumping engines worked satisfactorily, and much credit is due to the Mechanical Engineer in charge, Mr. E. Hackett, for the efficient maintenance and working of the machinery.

#### QUALITY OF THE WATER.

The filter beds at the pumping station continued to give satisfactory results; the filtered water as supplied for consumption being shown by the results of analysis of samples sent monthly to the Board of Health, to maintain its good character. The filtered water varied in hardness from 12 degrees to 19½ degrees, Clarke's scale. The Hunter River water ranged between wider limits, viz., from 6 degrees during freshets to as high as 22 degrees during dry weather. Frequent emptying and cleansing of the clear water tank has during recent years been found necessary to remove growths of aquatic weeds from the floor and sides. To avoid the constantly recurring expense and inconvenience of this operation the exclusion of light by covering over the tank is necessary. This course was decided upon and contracts let for the supply of material for roofing the tank.

#### PIPE LAYING.

The total length of water mains laid during the year amounted to 4 miles 724½ yards, raising the total length laid by the Board during the past seven years to 36 miles 738½ yards. The new mains laid comprised extensions to Boolaroo, Cockle Creek; Georgetown, Waratah; and Broadmeadow. The laying and jointing was all done by day-labour.

#### MAINTENANCE OF PIPE LINES.

The repairs to the main pipe line bridges, commenced during the previous year, were completed and the bridges left in a safe condition. The rising mains from Walka Pumping Station to East Maitland and Buttai Reservoirs and the gravitation main from the latter to Newcastle were all maintained in good working order. The full working capacity of the gravitation main from Buttai to Newcastle District is gradually being approached in the hottest part of the summer.

Trouble and expense have continued to be caused by decay of the cast-iron water mains in certain parts of the reticulation of Newcastle and suburbs where copper-slag, furnace-ashes, and such like, have been used for forming streets. Whenever repairs of decayed pipes are effected limestone is placed in the bottoms of the trenches to neutralise the acidity of the subsoil water.

Several bursts took place in the 6-inch main pipe line to Minmi, at a place where the pipe line dips in a depression at the base of a railway embankment, formed mainly with coal-pit refuse. The cast-iron pipes were found to be badly decayed, probably caused by water percolating to them from the decomposing pyritous refuse in the embankment. As the pipe line in this locality is in very low swampy ground, and in wet seasons is submerged for months at a time, the pipes should be lifted and placed on piles; a recommendation to this effect has been submitted for the Board's consideration.

Inside rust tuberculation of water pipes has not proceeded to any serious extent, as seen in pipes removed for repairs, connections, and alterations, although the pipes have been in use fourteen years.

In proposals made to Municipal Councils for the erection of garbage destructors, the value of the clinker produced for forming roads and streets is usually mentioned; it is more than probable that if so used or deposited in the neighbourhood of water, or other metallic pipes, these would receive severe injury therefrom. The question of regulating the deposit of slag, clinkers, furnace-ashes, and such like in the vicinity of water-pipes will, sooner or later, have to be considered by the authorities charged with the maintenance of the pipes.

#### THE STORAGE RESERVOIR.

The scheme approved by the Board for removing the sludge from the bottom of the Storage Reservoir was constructed, and brought into successful operation on the 6 June. This work consists of an extension of Cook's-lane drain with 24 and 21 inch stoneware pipes to the outfall end of the reservoir by-wash, thence a 12 inch stoneware pipe to the toe of the embankment, where it is connected to an 8 inch cast-iron syphon carried over the embankment and terminating about 3 feet below top-water level of reservoir. At this end a submerged flexible jointed suction-pipe is connected and carried a few inches below the water surface by means of floats as far as a pontoon, to the underside of which it is suspended. Several ball and socket-joints are here provided in the pipes, and the pipe turns downwards and descends to the bottom of the reservoir.

Dredging

Dredging operations are conducted as follows :—There is a difference of about 20 feet between the water level in the reservoir and the level at which the syphon discharges below, this difference causes a powerful inrush of water at the mouth of the pipe on the bottom of the reservoir when the syphon is started. By slowly hauling the pontoon along the arc of a circle, using the floating pipe as a radius, and at the same time from the deck of the pontoon operating the vertical part of the suction-pipe so as to cause its mouth to move over the bottom in and out for a width of about 9 feet transversely to the arc of travel, the sludge is swept in by the strong inrush of water, carried through the syphon, and discharged into the outfall drain. To ensure complete removal of the sludge, the same strip of the bottom is gone over twice, then the radius is increased or reduced, as the case may require, and an adjoining strip of the bottom operated upon. This system of dredging acts satisfactorily, and the soft sludge is removed without discolouring the body of the water in the reservoir.

The Storage Reservoir was kept nearly full throughout the year. 231,000,000 gallons were pumped in from the river, 143,000,000 gallons drawn off for the supply of the filter beds, upwards of 32,000,000 gallons discharged through the scour-pipe, and a considerable quantity through the suction-dredge pipe. The full capacity of the reservoir is about 200,000,000 gallons; it is, therefore, obvious that a very fair circulation of the water was effected. More river water could have been pumped in, but its extreme hardness during many months of the year rendered this course inadvisable. Rainfall on the catchment area of the reservoir, and water pumped in from the river, caused the contained water to range in hardness between 11 and 17 degrees.

The water weeds which appeared and grew abundantly four and five years ago, and the removal of which entailed considerable trouble and expense, have reappeared in small quantities.

The attention given to the Storage Reservoir is slowly causing an improvement in the quality of the water; this, it is expected, will proceed more rapidly when the sludge is removed.

The construction of Cook's-lane drain has been attended with beneficial results; it affords a free outlet into the Hunter River for water and sludge discharged from the Storage Reservoir, and has also enabled the water level of the swampy lagoon at the back of the reservoir embankment to be considerably reduced.

RAINFALL AND RIVER.

The rainfall on the catchment area of the Hunter River above the intake of the Walka water-works, and on the water supply district, was below the yearly average.

From reports furnished by the Government Astronomer, the following information respecting the rainfall during the year ending 30 June has been compiled.

Catchment Area.							
Cassilis ...	...	...	...	...	...	...	16.16 inches.
Denman ...	...	...	...	...	...	...	17.66 "
Merriwa ...	...	...	...	...	...	...	16.06 "
Singleton ...	...	...	...	...	...	...	24.46 "
Wingen ...	...	...	...	...	...	...	19.95 "
Broke ...	...	...	...	...	...	...	17.55 "
Water Supply District.							
Newcastle ...	...	...	...	...	...	...	33.74 inches.
Maitland ...	...	...	...	...	...	...	21.59 "

November, 1898, and May, 1899, were very dry months; rain fell most abundantly during September, 1898, and April, 1899.

The Hunter River rose in flood on September 2 and 3, 1898, to the height of 25 ft. 6 in. measured on the gauge at Belmore Bridge. The only other rises worth mentioning were 11 feet on July 3, 1898, and 8 ft. 5 in. on April 5, 1899. From the middle of September, 1898, after the flood waters had subsided, the river kept at a very low level until 4 April, 1899, the flow gradually diminishing until towards the end of the period, from rough measurements made, it was estimated that the visible flow past the intake was reduced to about 15,000,000 gallons per day, and fluctuations of water level due to tidal influence were observed below the gravel bar on the downstream side of the intake. The amount of rainfall on the catchment area of the river has a considerable influence on the quality of the water, particularly its hardness. Samples of river water taken just after the flood in September gave a total hardness of six (6) degrees (Clark's scale), of which four (4) were permanent. During the subsequent dry period the hardness rose to 20 degrees in March, fell in April to 13 degrees, due to a rainfall sufficient to cause a freshet in the river, then rose again rapidly; the maximum for the year, 22 degrees, being reached in June.

Although the rainfall, taken as a whole, was low, the showers fell at intervals favourable to the maintenance of a fair supply of rain water in householders tanks, much resorted to for laundry purposes owing to the hardness of the river water. It was mainly owing to the favourable distribution of the rainfall that, whilst the average weekly summer consumption of water from the pipes was greater than during the previous summer, the maximum weeks consumption did not rise so high as the maximum of that summer.

Tabular statements of operations, results, and comparisons are annexed.

The Secretary.

J. B. HENSON, Assoc. M. Inst. C.E.  
Board Engineer.

## Statistics.

## REVENUE STRUCK.

Revenue struck for year ending 30 June, 1899.										Amount.	
										£	s. d.
Rates—										20,563	3 10
Water rate only ...	...	...	...	...	...	...	...	...	...	5	5 4
New mains ...	...	...	...	...	...	...	...	...	...	48	2 5
New assessments ...										1,362	3 2
Meters—										3,168	13 0
Meters only ...	...	...	...	...	...	...	...	...	...	656	5 3
Meter accounts in excess of rates ...											
Water supplied by measure (shipping)											
Special fees—											
Gardens ...	...	...	...	...	...	...	...	...	...	31	15 0
Live stock ...	...	...	...	...	...	...	...	...	...	181	10 0
Trade purposes ...	...	...	...	...	...	...	...	...	...	37	3 6
Building purposes ...	...	...	...	...	...	...	...	...	...	55	12 9
Drilling fees ...	...	...	...	...	...	...	...	...	...	89	13 0
Re-connection fees ...	...	...	...	...	...	...	...	...	...	16	0 0
Meter hire—Rent of meters...	...	...	...	...	...	...	...	...	...	188	8 7
Deferred payments—											
Supervision fees ...	...	...	...	...	...	...	...	...	...	23	5 0
Interest on instalments ...	...	...	...	...	...	...	...	...	...	14	14 1
Miscellaneous receipts ...	...	...	...	...	...	...	...	...	...	37	1 0
										£26,478	15 11

## REVENUE struck, collected, and outstanding for the year ending 30 June, 1899.

Head of Revenue.	Arrears from previous years.			Amount struck for year ending 30 June, 1899.	Total receivable.	Collections for the year. Net.	Amount outstanding at 30 June, 1899.
	Outstanding at 30 June, 1893.	Charges since cancelled.	Net Arrears.				
Rates .....	£ s. d. 12,616 1 0	£ s. d. 2,559 14 9	£ s. d. 10,056 6 3	£ s. d. 20,616 11 7	£ s. d. 30,672 17 10	£ s. d. 21,265 4 3	£ s. d. 9,407 13 7
Meters .....	2,170 18 10	50 19 4	2,119 19 6	5,187 1 5	7,307 0 11	5,295 10 7	2,011 10 4
Special Fees.....	39 2 6	9 5 0	29 17 6	306 1 3	335 18 9	325 0 3	10 18 6
Other charges.....	30 9 0	.....	30 9 0	339 1 8	399 10 8	364 9 8	35 1 0
Totals .....	14,856 11 4	2,619 19 1	12,236 12 3	26,478 15 11	33,715 8 2	27,250 4 9	11,465 3 5

## SUMMONS Work for year ending 30 June, 1899.

Municipality or District.	No. of Final Notices served.	No. of Summonses issued.	No. of Executions issued.
Adamstown ...	90	14	1
Merewether ...	218	44	2
Wallsend ...	167	31	4
Plattsburg ...	251	34	1
Hamilton ...	341	48	4
Morpeth ...	81	17	.....
East Maitland ...	214	33	7
West Maitland ...	595	125	19
Wickham ...	435	77	4
Lambton ...	212	39	6
New Lambton ...	80	15	2
Waratah ...	269	25	2
Carrington ...	181	12	1
Newcastle ...	831	126	1
Unincorporated ...	159	4	.....
Totals ...	4,174	644	54

PROPERTIES Rated and Connected at 30 June, 1899.

Municipality or District.	Unimproved Land.	Properties unconnected.	Properties connected.	Properties charged.
Newcastle ... ..	127	195	2,468	2,790
Hamilton ... ..	329	317	747	1,393
Waratah ... ..	343	200	248	791
Wickham ... ..	514	268	1,138	1,920
Carrington... ..	134	86	363	583
Merewether ... ..	9	459	385	853
Lambton ... ..	44	403	139	586
Wallsend ... ..	17	274	180	471
Plattsburg... ..	52	325	190	567
Adamstown ... ..	76	202	141	419
New Lambton ... ..	9	140	72	221
Minmi ... ..	.....	102	45	147
Cockle Creek ... ..	.....	.....	11	11
Boolaroo ... ..	49	11	23	83
Railway Commissioners ... ..	.....	12	7	19
West Maitland ... ..	228	403	1,189	1,820
East Maitland ... ..	129	206	329	664
Morpeth ... ..	56	161	119	336
Maitland Unincorporated ... ..	65	60	126	251
<b>Totals ... ..</b>	<b>2,181</b>	<b>3,824</b>	<b>7,920</b>	<b>13,925</b>

RETURN of Properties rated and Notices served for year ending 30 June, 1899.

Municipality.	Number of properties liable year ending 30 June, 1898.	New Assessments.	New Mains.	Total.	Added.	Deducted.	Total number of properties liable on 30 June, 1899.	Number of notices served during year ending 30 June, 1899.							Total.
								Rates.	New Assessments.	New Mains and Notices to connect.	Stock.	Gardens.	Special fees.	Final Notices.	
Newcastle .....	2,735	30	...	2,765	25	...	2,790	5,470	30	...	150	50	40	831	6,571
Hamilton .....	1,334	18	2	1,354	39	...	1,393	2,668	18	8	100	18	14	341	3,167
Waratah .....	766	13	21	800	...	9	791	1,532	13	84	35	10	2	269	1,945
Wickham .....	1,883	11	18	1,912	8	...	1,920	3,766	11	72	110	30	23	485	4,497
Carrington .....	580	6	3	589	...	6	583	1,160	6	12	40	5	3	181	1,407
Merewether .....	820	3	12	835	18	...	853	1,640	3	48	50	10	...	218	1,969
Lambton .....	565	4	...	569	17	...	586	1,130	4	...	25	...	...	212	1,371
Wallsend .....	468	1	...	469	2	...	471	936	1	...	30	6	...	167	1,146
Plattsburg .....	535	1	...	536	31	...	567	1,070	1	...	25	10	...	251	1,357
Adamstown .....	412	...	...	412	7	...	419	824	...	...	25	9	...	90	948
New Lambton .....	218	1	...	219	2	...	221	436	1	...	15	...	...	80	532
Minmi .....	154	...	...	154	...	7	147	308	...	...	10	...	1	92	411
Cockle Creek .....	11	...	...	11	...	...	11	22	...	...	...	...	...	...	22
Boolaroo .....	...	82	...	82	1	...	83	...	82	...	...	...	...	...	82
Railways .....	...	19	...	19	...	...	19	...	19	...	...	...	...	...	19
West Maitland .....	1,792	3	...	1,795	25	...	1,820	3,584	3	...	85	25	9	595	4,301
East Maitland .....	676	3	...	679	...	15	664	1,352	...	...	50	15	5	214	1,636
Morpeth .....	332	...	...	332	4	...	336	664	...	...	15	10	4	81	774
Maitland unincorporated .....	256	3	...	259	...	8	251	512	3	...	20	15	1	67	618
<b>Totals .....</b>	<b>13,537</b>	<b>158</b>	<b>56</b>	<b>13,791</b>	<b>179</b>	<b>45</b>	<b>13,925</b>	<b>27,074</b>	<b>195</b>	<b>224</b>	<b>785</b>	<b>213</b>	<b>102</b>	<b>4,174</b>	<b>32,767</b>

METERS.

Municipality or District.	Number of Meters connected on 1 July, 1898.	Meters fixed during year ending 30 June, 1899.	Meters discarded during year ending 30 June, 1899.	New meters to replace old during year ending 30 June, 1899.	Meters repaired during year ending 30 June, 1899.	Total number of meters at 30 June, 1899.
Newcastle .....	211	60	7	12	6	264
Cockle Creek .....	4	5	...	...	...	9
Minmi .....	13	4	2	...	...	15
Plattsburg .....	31	14	...	1	2	45
Wallsend .....	21	4	...	...	1	25
Lambton .....	20	7	...	...	...	27
Waratah .....	80	10	1	5	...	89
Wickham .....	59	21	5	4	...	75
Carrington .....	24	8	...	2	3	32
Hamilton .....	40	13	2	1	1	51
Adamstown .....	9	9	...	...	...	18
Merewether .....	26	8	1	2	...	33
New Lambton .....	7	3	...	...	...	10
West Maitland .....	273	33	6	11	1	305
East Maitland .....	88	16	1	2	...	103
Morpeth .....	27	8	...	...	...	35
Maitland Unincorporated .....	32	20	...	...	...	52
<b>Totals .....</b>	<b>965</b>	<b>248</b>	<b>25</b>	<b>40</b>	<b>14</b>	<b>1,188</b>

QUANTITY of Filtered Water pumped to the District Reservoirs, and the Population supplied for the seven years ending 30 June, 1899.

Period—Year ended.	Average daily supply.	Total quantity pumped during the year.	Houses supplied.	Estimated population supplied.	Average daily supply during the year.	
					Per house.	Per inhabitant.
30 June, 1893 .....	451,005	164,616,850	3,421	17,105	132	26·37
30 „ 1894 .....	418,766	152,849,650	3,848	19,240	109	21·76
30 „ 1895 .....	518,038	189,084,003	4,640	23,200	111	22·23
30 „ 1896 .....	606,728	222,062,466	6,246	31,230	97	19·42
30 „ 1897 .....	731,451	266,979,523	6,931	34,655	105	21·10
30 „ 1898 .....	781,004	285,066,720	7,475	37,375	104·5	20·89
30 „ 1899 .....	868,997	317,184,136	7,920	39,600	109·7	21·94

QUANTITY of Water pumped during the year ended 30 June, 1899, and Coal used.

At Walka Pumping Station—

River to storage reservoir ... ..	231,163,771
„ „ settling tank ... ..	143,644,169
Storage Reservoir to settling tank ... ..	180,979,877
Clear water tank (filtered water) to Buttai Reservoir ... ..	268,708,292
„ „ „ „ East Maitland Reservoir ... ..	48,475,814
Quantity of coal used „ ... ..	1,777 tons.

The quantity of water re-pumped from Newcastle Reservoir to the High-level Tank, Newcastle, was, approximately, 2,400,000 gallons; the coal used cost 10s. per ton during the first half of the year, and 10s. 9d. per ton during the last half. The quantity of coal used was 34½ tons.

STATEMENT of Cost of Pumping at Walka Pumping Station.

Period.	Cost per 1,000 galls., 100 ft. lift.	Cost per 1,000,000 galls., 100 ft. lift.	Coal used per 1,000,000 galls., 100 ft. lift.	Cost of Coal per ton.	Remarks.
1892 .....	d. 790	£ s. d. 3 5 10	Tons. 1·873	£ s. d. 0 8 0	All water pumped at the works is included. The cost includes wages, fuel, stores, ordinary repairs, but not interest on capital. The coal used contains from 15 to 20 per cent. of ash.
1893 .....	743	3 1 11	1·827	0 7 6	
1894 .....	690	2 17 6	1·826	0 7 0	
1895 .....	565	2 7 1	1·841	0 6 9	
1896 .....	490	2 1 7	1·632	0 6 0	
1897, to June 30 .....	330	1 11 8	1·500	0 5 6	
1 July, 1897, to 30 June, 1898 .....	439	1 16 7	1·550	0 5 6	
„ „ 1893, „ „ 1899	427	1 15 7	1·549	0 5 6	
				0 6 6	
				0 6 6	

STATEMENT of the extent of Reticulation Water Mains laid during the seven years ended 30 June, 1899.

					miles.	yards.
Existing mains at 30 June, 1892 ... ..	...	...	...	...	105	1,442
Laid during year ended 30 June, 1893 ... ..	...	...	...	...	0	204
„ „ 30 „ 1894 ... ..	...	...	...	...	3	1,313½
„ „ 30 „ 1895 ... ..	...	...	...	...	10	200
„ „ 30 „ 1896 ... ..	...	...	...	...	8	931
„ „ 30 „ 1897 ... ..	...	...	...	...	6	517½
„ „ 30 „ 1898 ... ..	...	...	...	...	3	364
„ „ 30 „ 1899 ... ..	...	...	...	...	4	724½
Total ... ..	...	...	...	...	142	420½

CONSUMER'S SERVICE PIPES AND FITTINGS.

STATEMENT of Notices served, Permits issued, and Inspections made during the year ended 30 June, 1899.

District.	Taps re-washed.	Notices served.			Permits issued.			Inspections.
		To alter or repair.	To shut off water.	Final notices.	Water main drillings and tappings.	Houses connected.	Alter or repair Service pipes.	
Newcastle .....	782	103	164	3	505	554	1,620	6,150
Maitland ... ..	72	2	32	.....	90	97	235	314
Total .....	854	110	196	3	595	651	1,855	6,464







COMPOSITION of the solid residue, Hunter River Water (Sample No. 6).—Expressed in parts per million.

Date Sample taken.	Sodium Chloride.	Potassium Chloride.	Magnesium Chloride.	Magnesium Carbonate.	Calcium Carbonate.	Calcium Sulphate.	Iron and Alumina.	Silica and Alumina.	Silica.	Insoluble.	Organic Matter.	Loss, &c.	Total.	Remarks on state of River at Belmore Bridge, West Maitland.	
Aug. 8, 1898..	96.42	Trace.	19.00	45.85	66.28	25.71	..	6.00	..	..	40.74	..	300.00	{ 11 ft. freshet on 3rd July; 6 ft. 10 in. freshet on 27th July; 5 ft. 6 in. freshet on 11th August. 25 ft. 6 in. flood on 2nd and 3rd Sept. River level gradually fell from 4 feet on 24th September to 2 feet on 23rd November to 1 foot on 21st March, then stationary to 3rd April. 8 ft. 5 in. freshet 5th April. Low. Low.	
Sept. 6, 1898..	57.64	Trace.	Trace.	28.72	36.00	5.80	38.00	..	72.00	..	29.84	..	268.00		
Oct., 10, 1898	116.28	..	35.57	74.43	62.43	28.00	11.00	..	7.00	..	..	42.29	377.00		
Nov. 7, 1898..	130.00	..	41.71	86.57	90.85	25.43	2.85	..	6.43	..	..	..	38.16		422.00
Dec. 5, 1898..	188.29	..	42.00	94.14	94.00	36.14	47.43	..	8.00	..	..	..	32.00		542.00
Jan. 10, 1899..	246.00	..	44.00	94.29	128.43	32.00	32.00	..	..	13.14	..	..	14.14		604.00
Feb. 7, 1899..	269.00	..	47.86	100.43	102.57	30.57	28.71	..	..	8.43	..	..	29.86		618.00
Mar. 7, 1899..	277.02	..	52.23	112.08	86.25	35.02	..	40.60	..	..	..	..	36.80		640.00
Apr. 11, 1899..	149.25	..	26.02	47.36	53.62	21.73	9.40	..	27.20	..	..	..	21.42		356.00
May 9, 1899..	235.00	..	47.32	101.24	87.11	33.85	20.60	..	11.80	..	..	..	17.08		554.00
June 6, 1899..	247.58	..	46.53	100.26	78.35	36.65	53.20	..	4.80	..	..	..	14.63		582.00

## Description of Hunter District Water Works at 30 June, 1899.

The supply of water for the district under the control of the Board is pumped from the Hunter River, at the apex of the Hunter River Delta, about  $1\frac{1}{2}$  miles up stream from Belmore Bridge, West Maitland. Between this point and the sea coast at Newcastle the river is subject to tidal influence, and the water is unfit for domestic purposes.

The drainage area of the Hunter River above the intake is 7,090 square miles, on which the average annual rainfall is about 25 inches.

The Hunter River and its principal tributary, the Goulburn River, rise in the Great Dividing Range. There are no permanent snow-fields on the mountains, and no lakes in the valleys. The river for about 50 miles of its course above West Maitland, where it is at about sea-level, has an average surface grade of 2 feet per mile, and consists in ordinary summer weather of long reaches of deep still water separated by gravel and rock bars, over which the water rushes; it is subject to floods which at times are severe and destructive, and prolonged droughts have been known during which it is said the flow of water was so much diminished as to be scarcely observable. The immense stores of water in the long deep pools would afford an inexhaustible supply should the river actually cease running during a prolonged drought.

A natural bar of gravel extends across the river immediately below the intake, and is the limit to tidal influence. From this bar up stream there extends a long reach of deep water.

The greater part of the drainage area consists of sedimentary strata of carboniferous and permo-carboniferous age. In the north-west, along the Liverpool Range, there is an extensive area of eruptive rocks, and isolated masses of similar rock are distributed over the eastern and north-eastern parts of the river basin. The Hawkesbury sandstone measures extend into the valley from the south at its extreme western end, and cover a fair extent of country. These measures overlie the carboniferous beds, and afford a superior class of soft water, but are too remote for their capabilities in this respect to be directly availed of. Limestone is comparatively rare; a few isolated outcrops of limited area occur in the valley of the Upper Hunter. The lime and magnesia, which cause the hardness of the river water, together with salt, are probably derived mainly from the marine beds of the permo-carboniferous measures.

The productive coal measures of the Hunter Valley extend over a considerable portion of the contributing drainage area, but actual coal-mining operations are at present of a limited extent above the intake. In course of time, no doubt, a greater development of this industry will take place, and precautions will have to be taken to prevent pollution of the river water, especially at periods of minimum flow. The principal coal workings of the Hunter District are situated between Maitland and the coast.

The river water is moderately hard, but the dissolved substances contained in it vary from time to time with the rainfall over the drainage area, increasing in time of drought, partly to the long continued evaporation, and partly to the streams being principally fed with spring and subsoil water, which in its passage through the ground has become charged with soluble minerals. In times of flood, although the amount of material washed down by the current will show a large increase in the suspended matter, yet the dissolved matter is not so noticeable, owing to the greater dilution over a given volume of the water.

The number of persons now settled on the drainage area is approximately 30,000, which gives 4.23 persons per square mile. The Board have jurisdiction over the river for a distance of 20 miles above the intake, and frequent inspections are made for prevention of pollution. There is comparatively little settlement of population in the neighbourhood of the river along this length.

The scheme of water supply was originally designed by the late W. Clark, M. Inst. C.E., in the year 1877, and it provided for the requirements of the City of Newcastle and suburbs and the municipalities and townships on the southern side of the Lower Hunter River from the sea coast to West Maitland. Its construction, with some modifications in the details, was commenced by the Government in the year 1879.

Towards the end of 1885 an urgent demand for water arose in the Newcastle District, caused by a prolonged drought, and the main pipe lines being completed, a temporary pumping plant was erected at the intake on the Hunter River, and water was in this way first delivered into Newcastle on 23 November, 1885. The temporary pumping plant was kept almost constantly at work until January, 1887, when it was superseded by the permanent engines.

The Hunter District Water Supply and Sewerage Board was formed and took control of the water works on 1 July, 1892. During the seven years which have elapsed extensions and improvements to the works have been effected.

The pumping engines are situated above flood-level on a hillside about 44 chains back from the right bank of the river. The pumping plant consists of three independent Woolf compound beam pumping engines of about 150-horse power each. Two engines are designed to force water to the summit reservoirs; each works two main pumps of the bucket and plunger type—one pump, having 19-inch bucket and 14 $\frac{3}{4}$ -inch plunger, is at the crank end of the beam, and the other, having 15-inch bucket and 10 $\frac{1}{2}$ -inch plunger, is at the cylinder end of the beam. The third engine is designed to raise water from the river, or the storage reservoir, to the settling tank, or to raise water from the river to the storage reservoir as required. It works three main pumps; two, having 21 $\frac{1}{2}$ -inch buckets and 15-inch plungers, are placed one on each side of the beam centre; the third pump is double-acting, having a pump barrel 24 inches diameter, and is worked from a supplementary beam linked to a cross-head on the pump rod of the pump at engine side of main beam centre. This third pump was added in 1896, and is designed mainly to pump water from the Hunter River to the storage reservoir. Each engine averages thirteen to fourteen revolutions per minute, and all the pumps have a uniform stroke of 4 feet 6 inches.

There are two river suction pipes, each 44 chains in length; one is 18 inches diameter, cast-iron; the other 20 $\frac{3}{4}$  inches diameter, riveted steel plates.

The boiler-house contains five 50-horse power Lancashire boilers, two of which ordinarily supply sufficient steam for the engines. A coal store is attached, having a capacity for 120 tons. A residence is provided for the engineer in charge, and five cottages for workmen.

At the pumping station are a settling tank of 1,390,500 gallons capacity, which receives the water pumped from the river; four filter-beds, 100 feet by 100 feet each; a clear water tank of 589,500 gallons capacity; and a storage reservoir of 172,408,100 gallons available capacity, all uncovered. The latter has been formed by constructing an earthen embankment with puddle core across an old lagoon. It contains a reserve supply of clear water, which is resorted to when the river-water is turbid, and is replenished by rainfall on its catchment area of 200 acres, and by water pumped up from the river.

Water is pumped into the settling tank, from which it descends to the filter-beds; the filtered water is collected in the clear-water tank.

The filtered water is pumped from the clear-water tank into two summit reservoirs—one at East Maitland and one at Buttai. The latter is on the top of a range about 5 $\frac{1}{2}$  miles distant from the pumps. These reservoirs are built of brick and concrete, and are covered over.

East Maitland Reservoir is supplied through a 10-inch cast-iron rising main, 4 miles 310 yards in length, and has a capacity of 463,430 gallons. It commands East Maitland, West Maitland, Morpeth, and neighbouring places.

There are two rising mains to Buttai Reservoir—one riveted steel pipe 20 $\frac{3}{4}$  inches diameter, common to both, extends from the engine-house a distance of 155 yards then it bifurcates, one line continues as a 20 $\frac{3}{4}$  inch riveted steel pipe—the other is a 15-inch cast-iron pipe. The length of the line of rising mains from the pumps to Buttai Reservoir is 5 miles 983 yards.

Buttai Reservoir has a capacity of 1,051,010 gallons.

The district commanded comprises the following places:—City of Newcastle, Carrington, Wickham, Hamilton, Waratah, Merewether, Adamstown, New Lambton, Lambton, Wallsend, Plattsburg, Minmi, and Cockle Creek.

There are six district reservoirs which are supplied by gravitation from Buttai Reservoir, and receive the water for distribution. Their location and respective capacities are as follows:—

Minmi, 62,209 gallons; Hamilton, 402,909 gallons; Wallsend, 452,472 gallons; Newcastle, 523,613 gallons; Lambton, 402,610 gallons; Obelisk Hill, Newcastle, 137,125 gallons. All these reservoirs are built of brick and concrete, and are covered over.

The gravitation main from Buttai Reservoir to Newcastle is cast-iron, 15 inches diameter, and 17 miles 762 yards in length. On the hill at Newcastle there is a high-level tank constructed of iron on timber supports, which has a capacity of 20,000 gallons; it is supplied with water by a small duplex steam-pumping engine placed on the roof of Newcastle reservoir.

A cottage is provided for the caretaker in charge of the three reservoirs at Newcastle, and similar provision is made for caretakers at each of the other reservoirs.

The lengths of mains now under the Board's control are as follows:—

<i>Suction Mains</i>	...	From River to Walka (old),	Diameter 18 ins.	968 yds.	} 1 ml.	176 yds.	
		" " " (new),	" 20 $\frac{3}{4}$ "	968 "			
<i>Rising Mains</i>	...	" Walka to Buttai (old),	" 15 "	5 mls. 1,060 "	} 15 mls.	1,407 "	
		" " " (new),	" 20 $\frac{3}{4}$ "	5 " 983 "			
		" " East Maitland	" 10 "	4 " 310 "			
		" Newcastle to High-level Tank	" 6 "	" 814 "			
<i>Gravitation Main</i>	...	" Buttai to Newcastle,	" 15 "	17 " 762 "	17 "	762 "	
<i>Reticulation Mains</i>	...	Laid at inception of Board,	Various sizes.	105 " 1,442 "	} 142 "	420 $\frac{2}{3}$ "	
		Laid by Board to 30th June, 1898,	" "	36 " 738 $\frac{2}{3}$ "			
				Total Mileage	...	176 "	1,005 $\frac{2}{3}$

*Particulars of Reticulation Mains.*

3"		4"		6"		7"		8"		9"		10"		12"		15"	
mls.	yds.	mls.	yds.	mls.	yds.	mls.	yds.	mls.	yds.	mls.	yds.	mls.	yds.	mls.	yds.	mls.	yds.
51	1,159 $\frac{2}{3}$	26	1,211 $\frac{1}{3}$	19	746 $\frac{2}{3}$	0	1,722 $\frac{1}{3}$	4	1,118 $\frac{2}{3}$	0	783	1	845 $\frac{2}{3}$	0	686 $\frac{1}{3}$	0	211
21	169 $\frac{1}{3}$	9	1,093 $\frac{2}{3}$	3	794 $\frac{2}{3}$	.....	.....	.....	.....	2	439 $\frac{2}{3}$	.....	.....	.....	.....	.....	.....
72	1,329	36	545	22	1,541 $\frac{1}{3}$	0	1,722 $\frac{1}{3}$	4	1,118 $\frac{2}{3}$	0	783	3	1,285 $\frac{1}{3}$	0	680 $\frac{1}{3}$	0	211

Brief description of the Scheme proposed for the Sewerage of Newcastle and Suburbs by Mr. J. Davis, M.Inst.C.E., Chief Engineer for Sewerage Construction, Department of Public Works, N.S.W., dated 5 January, 1899.

THE scheme is designed ultimately to embrace the whole of the City of Newcastle, Merewether, Hamilton, and Carrington and the greater part of Adamstown, Lambton, New Lambton, Waratah, and Wickham, covering an area of 4,656 acres, on which the estimated ultimate population for which provision has been made in determining the capacity of the sewers is 138,660 persons; the present population is 40,548.

It is, however, proposed at first to construct only a portion of the scheme to provide for the more densely inhabited areas.

The districts to be thus sewered comprise the whole of the City of Newcastle, nearly the whole of the Municipality of Merewether, considerable part of Hamilton, and a small part of Wickham, covering in all an area of 1,222 acres, having an estimated present population of 23,000; the estimated ultimate population is 46,380.

Of the 1,222 acres comprised within the first division of the scheme, 867 acres are to be drained by gravitation, while the sewage of 355 acres will require to be pumped. In that portion of the scheme left for future extension 2,056 acres can be drained by gravitation and 1,378 acres of low-lying lands will need to be dealt with by pumping.

The scheme advocates the adoption of the Water Carriage Separate System of Sewerage. The distinguishing feature of this system is the rigid exclusion of rain-water aimed at—the sewers being restricted to the conveyance of sewage only. The dimensions of the sewers and works and the volume of the sewage to be disposed of are each by this system reduced to the minimum.

The sewers have been designed of sufficient capacity, running not more than two-thirds full, to carry off 50 gallons per head of population per day, one-half running off in six hours.

It is proposed to discharge the sewage into the ocean after it has been carefully screened, and all paper, fruit-peelings, and other solids arrested. This method is simple and will entail the least expense, but if it should be eventually found necessary, by reason of pollution of the beaches, to put a stop to the discharge of screened but otherwise untreated sewage into the ocean, the design provides for the construction of tanks near the outfall into which the sewage, having previously been mixed with lime, will pass, and deposit the greatest part of the offensive matter before it finally flows into the ocean. Nothing but actual experience can determine whether in this particular case the discharge of crude sewage into the ocean will or will not be a success, and one of the advantages of the position chosen for the outfall is that if it be not a success the method of disposal can be altered at the least possible expense.

The outfall is on the coast, about one-eighth of a mile north-easterly from Merewether Beach. At this point flat rocks extend out from the coast for more than 200 feet. A suitable inlet exists here in which there is deep water, and the sewer will be led to this as a point of discharge. Rocks, submerged at high water, run out from the inlet for a considerable distance, which will have a tendency to assist the flow of sewage seawards. A tidal flap will be provided where necessary.

The outfall sewer, constructed of concrete with dimensions 5 ft. by 3 ft. 6 in., begins at the point on the coast above-mentioned, and runs in a south-westerly direction to the screening chamber near the intersection of Darby and Junction Streets, at which latter point the two main sewers join.

One of these sewers, 3 ft. 3 in. by 2 ft. 2 in., extends northerly, and, with subsidiary sewers, provides for the reception of the sewage from the northern portion of the City of Newcastle and Hamilton and the part of Wickham embraced in the first division of the scheme, also provides for the ultimate reception of the sewage from the whole of Carrington and additional portions of Wickham and Hamilton. The other sewer, 4 ft. by 3 ft., will extend westerly, and, with subsidiary sewers, provides for the sewage from the western suburbs—Merewether, Adamstown, New Lambton, Lambton, Waratah, and parts of Hamilton and Wickham. As, however, these districts, with the exception of Merewether, are not included in the first division, it is intended to provide for the present requirements of Merewether by laying a 16-inch pipe, which will be replaced by the larger sewer referred to above when the occasion demands it.

Reticulation sewers for that portion of the district proposed to be dealt with at once consist of 5 miles  $14\frac{1}{2}$  chains of 9-inch pipes and 19 miles  $72\frac{1}{2}$  chains of 6-inch glazed stoneware pipes, with 472 man-holes. In locating reticulation sewers, great attention has been given to the question of economy in house connections; and with this end in view many of the sewers are designed to run through the blocks instead of in the streets. The report states this arrangement will lead to a very considerable saving to individual owners when connecting their properties with the sewers.

Two pumping stations will be required to deal with the sewage from the low-level areas laying within the first division of the scheme. One will be located near the corner of Brown and King Streets, and the other near the intersection of Cottage Creek storm-water channel with Landford-street. These pumping stations will consist of subterranean cast-iron cylinders, provided with chambers for the reception of sewage. The sewage will be raised from the cylinders into the gravitation sewers by means of pumps driven by electric motors. At No. 2 Station—viz., the one situated at Cottage Creek—a power-station will be installed for the purpose of generating electricity for the electric motors. It is proposed to install the electrical plant on what is known as the three-phase system, and the cables will be carried overhead on poles.

The estimated cost of that division of the scheme now proposed to be carried out is £75,308 12s. 6d. Annual interest and repayment (in 100 years) will be £2,723 2s., the working expenses £2,109 5s., making together the annual cost £4,832 7s.

The total annual value of property within the area covered by the first division is estimated at £177,000; consequently, the rate necessary to cover interest, repayment, and working expenses will be about 6½d.

In the event of experience showing the necessity of abandoning the method of turning crude sewage into the ocean, and, consequently, some form of treatment being required, these estimates will have to be modified thus:—Capital cost, £89,130 2s. 10d.; interest, and repayments in 100 years, £3,222 10s.; working expenses, £3,510 1s.; making together the annual cost, £6,732 19s. As before, the annual value of property sewered is taken at £177,000; hence a rate of about 9d. in the £ will be necessary to cover interest and repayments and working expenses.

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## Report by the Medical Officer of Health on the Sanitary Conditions of Newcastle and Suburbs.

Letter addressed by the Secretary of the Hunter District Water Supply and Sewerage Board to the Secretary of the Board of Health:—

Sir,

Newcastle, 28 February, 1899.

The Honorable the Minister for Public Works has referred to the Board for their consideration and report the proposed scheme for the sewerage of Newcastle and suburbs, designed by the Chief Engineer for Sewerage Construction, Mr. J. Davis, M.Inst.C.E.

In his report Mr. Davis gives valuable information as to the proved benefits of sewerage in Great Britain and Sydney from a sanitary point of view. The Board are anxious to have before them, if possible, local health statistics, by which the present health standard of the district may be gauged, so that in considering Mr. Davis' report they may have some data to enable them to express an opinion as to what improvement may be expected if an efficient sewerage scheme is carried out.

I am, therefore, directed to ask if the President of the Board of Health will be good enough to cause the Board to be supplied with the statistics of cases of typhoid fever, phthisis, and other diseases, which the construction of the sewerage works may be expected to prevent or mitigate.

These statistics are required for the city of Newcastle and the municipal districts of Hamilton, Wickham, and Merewether, and, if possible, for, say, the last five years.

The Board will also be glad to have the mortality rate per 1,000 of the population within such areas for the same period.

Letter addressed by the Secretary of the Hunter District Water Supply and Sewerage Board to Dr. Robert Dick, Resident Medical Officer of Health, Waratah:—

Sir,

Newcastle, 10 March, 1899.

I have the honor to enclose copy of a communication addressed by me to the Secretary of the Board of Health on the 28 ultimo, to which I am to-day in receipt of the enclosed reply, which please peruse and return.

Will you be good enough to supply the Board with the information referred to in my letter, and oblige?

I am to add that the Board will be glad to have in addition any other information you can give which may assist them in arriving at an opinion of the present health conditions of the district embraced in the area which it is proposed to sewer at first, and of the improvement in the public health which may be expected to result from the carrying out of this work.

Letter from Dr. Robert Dick, Medical Officer of Health to the Hunter River Combined Districts, to the Secretary of the Hunter District Water Supply and Sewerage Board:—

♦ Sir,

Waratah, 21 March, 1899.

In reply to a communication received from the Secretary, I have the honor to present herewith a short statement dealing with questions which may be considered of importance in judging of the advisability or otherwise of providing a system of sewerage for the localities concerned, viz., Newcastle, Hamilton, Merewether, Wickham.

I have confined myself almost entirely to the hygienic aspect of the subject. This is no doubt the most important consideration. The data for death-rates have been obtained from the death registers of the different places, and information has been gained from the Newcastle Hospital register, which has rendered it possible to distribute to their proper districts the deaths of persons who have died in that institution.

The rates which have been obtained during the same years in the city of Sydney (where a complete sewerage system is present) have been taken for the purposes of comparison. These numbers, for the years 1895-1897, have been derived from returns made to the Metropolitan Sewerage Board by their medical adviser; those for 1898 have been kindly furnished by Dr. Armstrong, the M.O.H. for the metropolitan combined districts.

## Short Note by Dr. Robert Dick on the present systems in vogue for dealing with Sewage Matters in the localities concerned.

### NEWCASTLE.

A fairly extensive sewerage system is in existence. This was originally constructed for conveying away surface waters and household slops, but some 830 water closets are at present connected with the sewers. A fee of 10s. for each closet per annum is charged by the council. The sum of £380 was received from this source during 1898.

In addition to the water closets there are in use some 1900 pails, and about 220 cesspits exist.

As Regards Pail Closets.—Householders are required to supply their own pails, which must be of specified size. The municipality provides scavengers. The sum of 9d. is charged per removal, if done at irregular intervals, and 7d. if removed weekly or fortnightly. Very few pails are emptied at these shorter intervals—about  $\frac{1}{5}$ th of the number are emptied weekly,  $\frac{1}{5}$ th fortnightly, and the remainder at much longer intervals. In a few cases, probably about 20, a type of pail exists which is so constructed as to allow fluids to pass through perforations at the bottom or sides to the drains. When the pail becomes full, which it does at long intervals, the contents are removed by the scavenger.

Fæcal matter collected from pits and pails is disposed of by being punted to sea, as a rule twice weekly, in the meantime being stored at a depot in tightly closed wooden tanks.

As Regards Drains.—There are a number of premises—some 500—without drains. In these cases house slops are disposed of by being cast about the yard areas. In other cases where pail closets are provided and where water closets are present, provision is made for the removal of slop and surface water by means of drains. The yard gullies in connection with these channels have been noticed in many cases to be of antiquated and inefficient types. During the last nine months opportunity has occurred for examining the condition of a limited number of drains, which have been tested and found imperfect, and serious defects were found in connection therewith.

There are eight ventilating shafts only attached to the sewers of the city. It appears the exception for drains to be disconnected from the sewers, and water closets are rarely provided with anti-syphonage or ventilating pipes.

Mode of Discharge of the Sewage.—A small quantity from the highest parts of the city is discharged into the ocean; the main bulk, however, flows into the harbour. Certain of the effluents, owing to their position, lead to considerable fouling of the foreshores in the vicinity.

### HAMILTON.

A Duplicate pail system, with a fortnightly service; about 100 pails are removed weekly, and 25 twice weekly. The charge for fortnightly removal is 9s. per annum, and *pro rata* for a more frequent service. About 14 cesspits still exist.

Excrement is disposed of by burial at a depot situated within the municipality. This depot appears suitable for present purposes, but, undoubtedly, with increasing settlement towards Newtown, will have to be abandoned. The yard areas in the more densely populated part of the municipality are very small. Householders are not allowed to dispose of slop waters by running them into the street gutters. The want of an efficient method to get over the slop water difficulty is keenly felt in this municipality.

### WICKHAM.

The present duplicate pail system has been in vogue for the past six years. Pails are removed at weekly intervals, about 20 of them bi-weekly. The charge is 12s. per annum for the weekly removal. Pails are provided by the council. There are still about 200 cesspits in existence.

Excrement is disposed of by burial at a depot situated within the municipality, but removed some distance (quarter mile) from the nearest settlement.

There is no system of drainage apart from street gutters. Householders make use of these for getting rid of slops.

### MEREWETHER.

In this municipality there is no uniform system for dealing with excrement. A few of the residents who live near the Hamilton boundary take advantage of the Hamilton sanitary service. A fairly large number of cesspits are in existence; where these are not present, pails are used for the reception of excrement. In the absence of a regular system of scavenging householders are obliged to dispose of the contents of pail closets, and this they do by burial on their own premises. The pails for the reception of excrement are in many instances of an unsuitable type, and, as a result, pollution of the ground in and around the privy takes place.

In this municipality underground tanks are not at all infrequent as sources of water supply. These tanks are in many cases poorly constructed and covered, and with no provision made to prevent the inflow of ground waters. The burial of excreta—normal as well as infectious—on premises where underground sources of water supply are made use of, is not by any means a safe procedure. A householder will, as a rule, endeavour not to endanger his own water supply, but he does not always extend to his neighbours the same consideration.

The street gutters are the only channels provided for conveying away surface and slop waters.

### STATISTICAL EVIDENCE.

In attempting to judge of the health conditions of communities by statistical evidence importance is given to the following points, amongst others:—The corrected death rate, death rate from typhoid fever, diphtheria, diarrhoea (zymotic diseases), phthisis death rate, infantile mortality rate (number of deaths under one year, per 1,000 births).

The



The diseases typhoid fever, diarrhoea, and diphtheria are those the prevalence of which depend to a considerable extent on faulty sanitary states, and a high death rate from these affections may be taken as indicative of the presence of insanitary conditions.

The phthisis death rate, if excessive, indicates dampness of soil, unhealthy workrooms, and overcrowding of tenements.

The infantile mortality rate is influenced by the prevalence of epidemic diarrhoea, the occurrence of epidemics of whooping-cough and measles, and by a want of proper care and management on the part of mothers.

In addition to the death rate, the sickness rate is a very important factor to be taken into consideration, for it is clear that the number of deaths from a particular disease by no means represents the total number of cases of that affection which may exist. Under the provisions of the Public Health Act, the diseases typhoid and diphtheria have been made notifiable diseases since January, 1898, so that it is now possible to obtain definite information as to the prevalence of these maladies. Where conditions exist which are favourable to the development and spread of typhoid and kindred diseases, there we should expect to find the most cases, but not necessarily the greatest number of deaths, for the death rate may vary according to the type of disease and other factors. Hence the importance of considering the attack rate.

*Points to be taken into account in calculating and comparing rates.*

Correct estimate of the population is necessary. The population figures given are taken from the statistical registers. In comparing death rates certain corrections need to be applied, such as for differences as regards age and sex distribution, and the exclusion of the deaths of non-residents who have died in public institutions in a district, and the inclusion of residents who have died elsewhere. This correction has as far as possible been made so far as Newcastle and other places are concerned, but the same cannot be said of the Sydney rates except for the year 1898.

POPULATION and General Death Rate per 1,000 of the Population for the Years 1895-1898.

	1895.		1896.		1897.		1898	
	Popula- tion.	Death- rate per 1,000.	Popula- tion.	Death- rate per 1,000.	Popula- tion.	Death- rate per 1,000.	Popula- tion.	Death- rate per 1,000.
Newcastle ... ..	13,500	13·3	14,800	12·16	15,150	10·75	15,700	10·5
Hamilton ... ..	5,200	10·38	5,200	11·7	5,350	12·15	5,420	11·2
Merewether ... ..	4,350	16·7	4,420	14·7	4,470	10·51	4,450	15·9
Wickham ... ..	6,650	13·3	5,650	10·8	5,900	11·6	6,100	16·5
Sydney (City) ... ..	101,935	16·51	97,925	16·5	98,125	16·03	98,250	17·38

It will be seen that, with the exception of Merewether, in 1895, the general death rates locally are lower than those of Sydney. Now, a mere comparison of such rates alone cannot yield conclusions of any value as regards health conditions, for several reasons, as follows:—(1.) The constitutions of the populations are without doubt dissimilar as regards age and sex distribution (a large number of very young or very old people in a district considerably increases the death rate, and also the mortality among males and females at different age periods differs). (2.) The great influence which density of population has in increasing the death rate in large centres. In Sydney the average density is 34 persons per acre, whereas in Newcastle there are 14, in Wickham 6, in Merewether 4, in Hamilton 3 persons only per acre. (3.) In large centres of population people tend to become of lowered vitality and prone to hereditary diseases. There are more accidents, increased indoor occupations, greater intemperance, and other evil conditions, the result of co-existent poverty and modes of living.

Though the general death rates compare favourably with those of Sydney, it will be seen later on, when diarrhoea and typhoid fever are considered, that these affections are much more prevalent, and exact from the inhabitants of the local centres a greater death toll than occurs in completely sewered localities.

It is therefore in the reduction of the prevalence of these diseases which are to a very great extent preventable that every effort should be made.

*Phthisis.*

Death Rates per 1,000 of the Population for the years 1895-98.

	1895.	1896.	1897.	1898.
Newcastle ... ..	1·11	·87	·66	·63
Hamilton ... ..	1·15	·38	1·12	·36
Merewether ... ..	1·14	1·13	·22	1·3
Wickham ... ..	·75	·53	·85	·32
Sydney (City) ... ..	1·07	·98	·91	·92

It will be noted that the local death rates are lower than those of Sydney, with certain exceptions, viz.: Newcastle in 1895, Hamilton in 1895, 1897, Merewether in 1895, 1896, 1898.

As already stated phthisis is most prevalent, and also most fatal in those places where overcrowding of dwellings and workshops occur, and where dampness of soil exists. In the local districts the important factor of overcrowding and the unhealthy conditions resulting therefrom do not obtain to any extent. This no doubt conduces in a great measure to the more satisfactory rates which prevail locally, as compared with those which obtain in a large centre, such as Sydney.

*Diphtheria.*

*Diphtheria.*

## Death Rate per 1,000 of the Population.

	1895.	1896.	1897.	1898.
Newcastle ... ..	·22	0	·06	·19
Hamilton ... ..	·19	0	·37	0
Merewether ... ..	·46	·22	·22	·22
Wickham ... ..	·60	·17	·50	·16
Sydney (City)... ..	·09	·06	·05	·10

Merewether rates exceed those of Sydney in 1895, 1896, 1897, 1898.

Wickham rates exceed those of Sydney in 1895, 1896, 1897, 1898.

Hamilton rates exceed those of Sydney in 1895, 1897.

Newcastle rates exceed those of Sydney in 1895, 1897, 1898.

*Diphtheria.*

## Attack rate per 1,000 of the Population, 1898.

Locality.	Population.	Cases of Diphtheria.	Attack rate † 1,000.
Newcastle ... ..	15,700	11	·7
Hamilton ... ..	5,420	6	1·1
Merewether ... ..	4,450	2	·44
Wickham ... ..	6,100	8	1·3
Sydney (City)... ..	98,250	89	·90

For the past year the attack rate in Hamilton and Wickham exceeds the Sydney rate.

*Diarrhœa.*

Death Rates per 1,000 of the Population in various districts for the years 1895-98, compared with those which obtained in the City of Sydney (where a complete sewerage system is present.)

	1895.	1896.	1897.	1898.
Newcastle ... ..	1·7	1·6	1·4	·51
Hamilton ... ..	2·5	1·9	2·4	1·1
Merewether ... ..	2·7	2·4	1·5	1·1
Wickham ... ..	1·8	1·7	1·7	3·4
Sydney (City)... ..	·65	·59	·36	·4

With one exception (Newcastle, 1898) the rates are much higher in the local centres than in Sydney.

Important factors which contribute to the prevalence of, and death rate from, diarrhœa are the following:—Want of cleanliness, foul air from sewers, drains, accumulations of filth, improper food, maternal neglect, soil pollution (loose, porous soils, contaminated with organic matters derived from slops, soakage from cesspits, &c., being favourable).

The good effect which the institution of a sewerage system has had in reducing the death rate from diarrhœa is shown in the following table:—

## Death Rate from Diarrhœa per 1,000 of the Population.

	Before laying of Sewers.	After laying of Sewers.
Sydney (City) ... ..	·67	·58
Glebe ... ..	1·00	·34
Paddington ... ..	1·05	·50
Newtown ... ..	·52	·30

*Typhoid Fever.*

Death Rate per 1,000 of the Population.

	1895.	1896.	1897.	1898.
Newcastle ... ..	·37	·60	·26	·38
Hamilton ... ..	·57	·38	·18	·92
Merewether ... ..	·68	·22	·22	·67
Wickham ... ..	·15	·17	·0	·49
Sydney (City)... ..	·19	·42	·16	·07

Newcastle rates exceed those of Sydney in 1895, 1896, 1897, 1898.

Hamilton rates exceed those of Sydney in 1895, 1897, 1898.

Merewether rates exceed those of Sydney in 1895, 1897, 1898.

Wickham rates exceed those of Sydney in 1898.

*Typhoid Fever.*

Attack Rate per 1,000 of the Population, 1898.

Locality.	Population.	Cases of Typhoid.	Attack rate, per 1,000.
Newcastle ... ..	15,700	23	1·4
Hamilton ... ..	5,420	27	4·9
Merewether ... ..	4,450	30	6·7
Wickham ... ..	6,100	20	3·2
Sydney (City) ... ..	98,250	103	1·04

It will be seen that the numbers per 1,000 who became affected with this disease in the local centres were much in excess of those who were attacked in Sydney.

The prevalence of this disease locally calls for close attention.

Typhoid fever is one of the maladies which are classed as preventable, since by the absence or removal of those conditions which engender and act as media by which the affection spreads the occurrence of the disease may be obviated.

It is an established fact that the germs of typhoid thrive in a soil polluted by excrement and other filth, and measures which have been effected in order to do away with such insanitary conditions have been followed by a reduction in the prevalence of this particular malady.

The actual means of dissemination is mostly by water and milk, and the increased precautions taken in guarding these liquids from pollution have had the effect in reducing the extent of the disease which is often water and milk borne.

The most important local matters which need consideration in connection with the occurrence of this disease may be briefly stated:—1. How soil becomes polluted so as to encourage the growth of the germs of typhoid. (a) By excremental matters derived from leaky sewers, drains, cesspits, &c.; (b) By household slops. From absence of a drainage system these are disposed of by surface gutterage, or by being thrown on yard areas. (c) Other organic matters, such as are contained in garbage. 2. Soil pollution dangerous, in that it leads to water pollution. This is of special import in those places where underground sources of water supply are made use of, as at Merewether. 3. The disease may be spread by infected dust particles derived from soils polluted with solid or fluid excreta.

Measures which are needed to remedy the conditions which have been mentioned as being favourable to the occurrence of the disease are the following:—(a) Paving of yards in crowded areas to prevent soakage and exhalation, sub-soil drainage to remove dampness. (b) Frequent removal of house refuse, and proper disposal of same. (c) A proper system of drainage to carry off all waste products.

The effect of underground drainage in reducing the prevalence of and death rate from typhoid is shown in the following tables:—

## England and Wales.

Typhoid death rate per 1,000 of the population.

1870... ..	·38
1871-75 ... ..	·37
1880-85 ... ..	·21
1890-97 ... ..	·17

In England underground drainage systems have been in existence for more than fifty years, but during recent times many improvements have been made in regard thereto.

An investigation by the Medical Officer of the Local Government Board into the effect of sanitary works in reducing the death rate of typhoid fever in England and Wales showed that of 25 towns taken into consideration where such works had been carried out, in nine there was a reduction exceeding 50 per cent., and in ten others a reduction between 30 and 50 per cent.

These good effects have been experienced not only by England, but many other instances might be added of Continental cities and others showing similar beneficial results following the provision of sewerage systems. Coming nearer home, we may take the case of the city of Sydney and its suburbs :—

## City of Sydney.

Death rate from Typhoid Fever per 1,000 of the population.

Year.	Death rate per 1,000.
1889	·50
1890	·37
1891	·26
1892	·17
1893	·14
1894	·40
1895	·19
1896	·42
1897	·16
1898	·07

The present sewerage system was instituted in the year 1889.

The reduction in mortality which has followed the laying of sewers has been marked, as the following table shows :—

## Death rate per 1,000.

	Before laying of Sewers.	After laying of Sewers.
Sydney (City)	·50	·24
Glebe	·25	·11
Paddington	·27	·16
Newtown	·66	·38

In conclusion, a consideration of the tables already given discloses the fact that the typhoid fever death rate and attack rate, and the diarrhoeal death rate in the local centres, considerably exceed the rates which obtain in a completely sewerred locality, such as the city of Sydney. As already stated the prevalence of these two diseases is to a large extent influenced by insanitary conditions such as are present in the local centres, and these conditions are such as can be practically done away with in the most effectual way by the institution of a sewerage system.

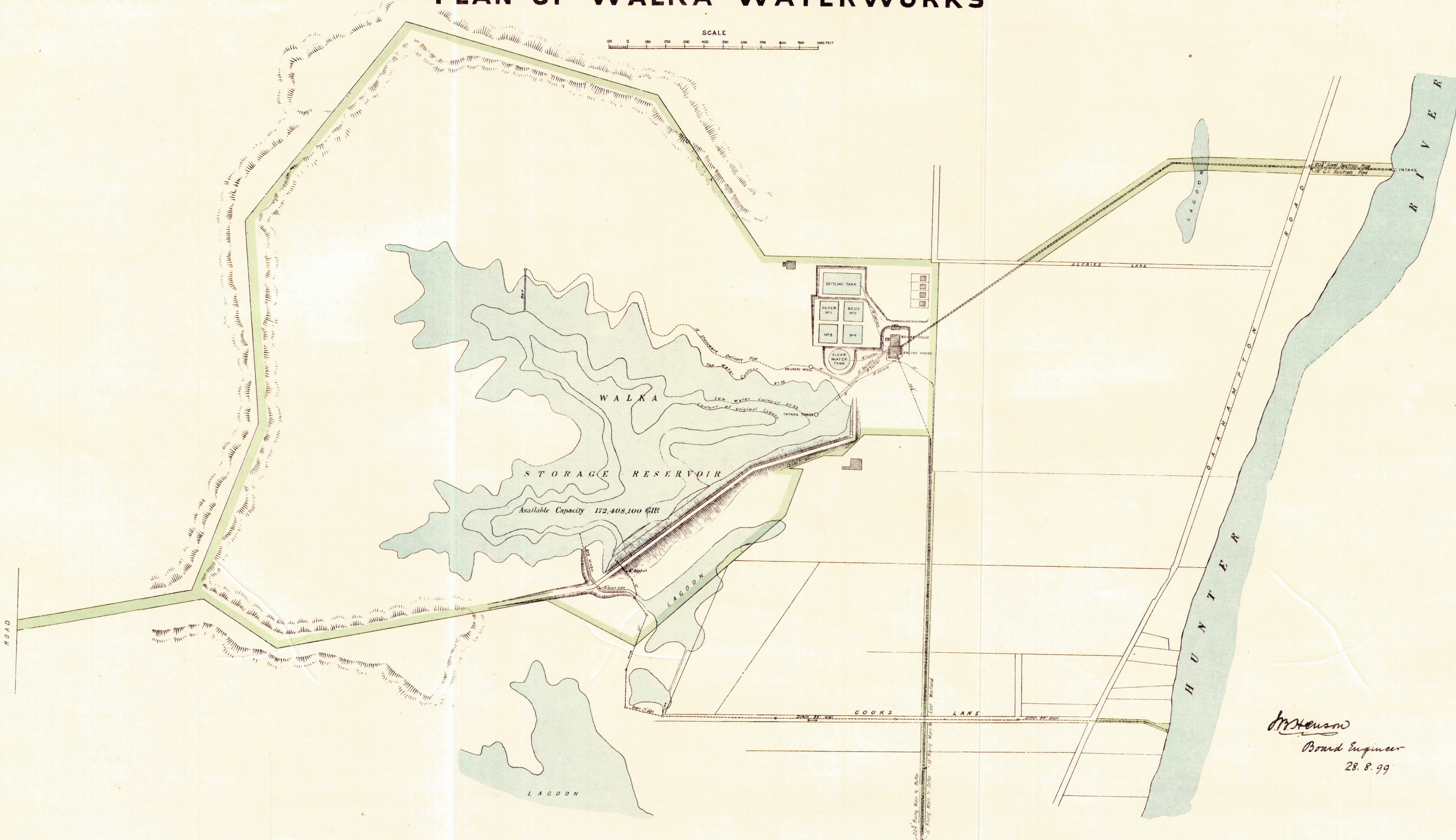
As regards the present systems in use in the different localities, it may be said that in Merewether the methods generally adopted are entirely at variance with sound principles of hygiene. In Hamilton and Wickham, whilst the pail system is a marked step in advance, the question of the disposal of slop waters (which are practically equally as foul as the sewage of a water closeted town) remains to be satisfactorily dealt with. In Newcastle the present mixed system as regards the removal of the contents of pail closets cannot be deemed to be by any means a good one. The patent pails which are connected with the drains are filthy contrivances. The present sewerage system, judging from a limited experience, appears to stand in need of much improvement in important particulars.

Considering the great benefits from a health standpoint which have resulted from the establishment of sewerage systems as judged from the statistics given, it is reasonable to expect that similar benefits will follow the institution of an efficient sewerage system in the localities under review.

[Plan.]



# HUNTER DISTRICT WATER SUPPLY AND SEWERAGE BOARD PLAN OF WALKA WATERWORKS



*J. Henson*  
Board Engineer  
28. 8. 99



1899.

(THIRD SESSION.)

—  
 LEGISLATIVE ASSEMBLY.  
 NEW SOUTH WALES.

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**MILITARY FORCES OF THE COLONY.**

(REPORT BY MAJOR-GENERAL G. A. FRENCH, R.A., C.M.G., COMMANDING, FOR THE YEAR ENDED  
 30TH JUNE, 1899.)

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*Printed under No. 12 Report from Printing Committee, 30 November, 1899.*

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## MILITARY FORCES OF THE COLONY.

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REPORT for the Year ending 30th June, 1899, by Major-General G. A. FRENCH, R.A., C.M.G., Commanding Military Forces.

To The Principal Under Secretary,—

Sir,

I have the honor to submit the following Report on the Forces and Defences of the Colony for the year ending 30th June, 1899, for the information of the Honorable the Minister :—

### PERMANENT FORCES.

(1.) “A” Battery was encamped from 28th September, 1898, to 8th November, 1898, in the National Park, when a complete course of gun practice was carried out with the nine 15-pounder guns, using cordite. Hitherto spasmodic practices could only be carried on owing to the difficulty in obtaining a suitable artillery range; but now that a very suitable one is available I hope that an encampment for gun practice for all the field batteries will be an annual affair. This Battery is in a very efficient state, and I was very pleased at my last inspection to find men, guns, horses, harness, &c., turned out in a most creditable fashion, the barrack-rooms, stables, gun-sheds, &c., being also a credit to the Corps.

### FIRST GARRISON ARTILLERY.

(2.) The formation of this force into three complete Companies works well, and it allows of a regular system of relief being carried out annually.

The physique of 131 recruits passed for these Companies during the past year was particularly good—

Average height ... ..	5 ft. 10 $\frac{1}{4}$ in.
„ chest measurement ... ..	38 $\frac{1}{8}$ in.
„ weight... ..	11 st. 4 $\frac{1}{4}$ lb.

Captain A. H. Sandford and Lieutenant C. W. Lamb returned from England on 18th May, 1899, and 21st February, 1899, respectively, having passed very creditably the examinations in connection with their Courses of Instruction.

(3.) The Annual Local Long Course of Gunnery was carried out from 6th June to 15th December, 1898, and two of the neighbouring colonies were again represented. Bridging and Major-General French's Scheme of Coast Defence were introduced for the first time, in addition to the usual Syllabus of Practices.

(4.) By letter dated 14th July, 1899, and subsequent *Gazette* notice, authority was given by Her Most Gracious Majesty the Queen for the Permanent Artillery of New South Wales being in future styled the “New South Wales Regiment of the Royal Australian Artillery,” an honor which, doubtless, will be fully appreciated by all ranks of the Force.

### SUBMARINE MINERS.

(5.) This Corps carried out, practically, laying of mines from 31st March, 1899, to 15th April, 1899.

The old submarine mining steamer, which was little suited for the work of laying mines, was given over to the Public Works Department (Harbours and Rivers Branch), and a regular submarine mining steamer of up-to-date pattern has been ordered, and should be delivered next year. This will add greatly to the efficiency of this branch; it will also be of much use to the Garrison Artillery for towing targets at a fast rate for gun practice.

These small, disjointed sections are at a great disadvantage at the present time. Federation should make a great improvement in them.

PARTIALLY-PAID

## PARTIALLY-PAID FORCES.

## MOUNTED FORCES.

(6.) The Lancers are still well to the front. They have been re-armed with the Martini-Enfield carbine.

Three Officers and 102 Non-Commissioned Officers and men proceeded to England in s.s. "Nineveh," and have been undergoing hard practical training with the Cavalry at Aldershot.

This party was received most cordially by the Civil and Military Authorities in England, and had quite an ovation from the London populace on landing. To those philosophers who despise sentiment the above may seem nothing, but those interested in the defences of the whole Empire will value anything which promotes good feeling between the Mother Country and the Colonies.

(7.) I have reason to believe that 100 of the Infantry will next year follow the good example set by the Mounted Rifles and the Lancers, and I should hope that the public of New South Wales will fully understand that these men go for right down hard work, accept the small rates of pay received by the Regular Forces, and also have to pay a portion of their passage money themselves. Further, that the rest of the expense is provided by a few citizens, whose patriotism should be more appreciated. I would especially mention Lieutenant-Colonel J. Burns, through whose exertions the Lancer scheme was carried through and made a practical success.

I may mention that the Imperial Government have given a Commission in the Imperial Cavalry to Lieutenant William John Scott Rundle, of the detachment of Lancers sent to England.

(8.) The Mounted Rifles hold their own as a Corps well suited to this country. A large percentage (96.4) were present in Camp for the full time. They have been re-armed with the .303 Martini-Enfield rifle, as they preferred it to the Magazine rifle.

(9.) The 1st Australian Horse progress steadily, and are growing in numbers; the only check to further growth is the want of funds. Although a Volunteer Corps, the expenses in connection with it are very great, mainly in consequence of heavy charges for transport of men and horses to Camp, and to the small concentrations of Squadrons for united drill made by the Railway Department.

These small Camps form very valuable training for horses and men, and the expenses in connection with them, so far as camping grounds, forage, rations, &c., are borne by private individuals, to whom I should like to be allowed to express my thanks publicly for their highly patriotic action.

Uniform and personal equipment for this Regiment was obtained in a rather hurried, and consequently extravagant, fashion, and on borrowed money. The amount of correspondence that this has involved with the Commanding Officer pressing the wants of the Corps on one side, and the Auditor-General and the "spot-cash" system on the other, can be more readily imagined than described.

## FIELD BATTERIES.

(10.) Four 15-pdr. guns, with cordite ammunition, have been ordered for one of these Batteries. It would seem desirable that the other should have new equipment at an early date, and possibly the 5-inch howitzer may be considered suitable, as there are no weapons of this nature available in Australia.

These Batteries were able to make a short visit to the Artillery Practice Camp, and carried out a little gun practice under supervision of Colonel Smith, R.A., whose report is attached.

We have also enough Government horses now to turn out the guns at least with properly-trained horses, and the improvement is most marked. These horses did nearly all the cartage in connection with the Mobilisation Camps, and when the Camps were struck and stores returned, most of them were turned out to grass, thus saving much expense.

## ENGINEERS.

(11.) Nos. 1 and 2 Field Companies have undergone valuable instruction in bridging during the Easter training, and some good work has been carried out. All ranks evidence considerable interest in their duties, and voluntary parades are well attended.

No. 3 S.M. Company has received more instruction in mine-field work during its annual training, and I am satisfied with the results generally.

No. 4 Electric Company has been increased to provide personnel for the additional electric lights which have been recently completed, and to provide a complete field telegraph section for the Offensive-Defensive Force. The latter section is to a certain extent handicapped for want of the Service pattern carts, but has carried out satisfactory work during the mobilisation and annual training.

#### INFANTRY.

(12.) All the Infantry have been provided with Magazine rifles, and there are sufficient in stock to bring all the corps up to War strength.

The four Regiments attended Camp, almost in full strength.

The provision of Musketry prizes, as asked for last year, has been carried out with the best effects. Every Company now has certain prizes for its own members, and much more interest will be taken in the shooting. The new rifle having little recoil, I feel sure that the general average of the shooting will be brought up from this cause alone.

This branch, by careful attention to their capitation allowance, have considerable funds in hand, and are now applying a portion for the purchase of equipment and stores to enable them to take the field, as well as barrack furniture and gymnasium stores for use in drill-halls. This application of the funds seems highly commendable.

#### VOLUNTEERS.

(13.) This branch is still extending, want of funds being the only drawback.

The Scottish Rifles, consisting of six Companies, now form a distinct Regiment.

The Irish Rifles, with some Companies to be raised in the Illawarra District, forming a new Regiment, the "8th." These two Corps will in time, no doubt, form separate Regiments.

The 6th Regiment had a good muster at Camp, but the 7th a poor one.

(14.) The Railway Volunteer Corps has been disbanded, a matter which I much regret, as they were a splendid lot of men, and a credit to the Service.

This Corps was raised on the suggestion of the late Mr. Eddy; every facility was given to them to carry out their drills at times suitable to themselves; they had not to attend Camp; but latterly they got the notion into their heads that the superior officials of the Railway Department were opposed to them, and one after the other the officers resigned, and the men followed suit.

It is difficult to believe that the superior officials of the Railway Department should be opposed to a Corps of this nature, whose main duty would be the protection of railway property and weak points in the railway system. Thus it was the special duty of these two Companies to protect the Hawkesbury Bridge, and naturally they would work more in harmony with the railway officials than chance Companies detached from any Regiment; but the latter is the system that must now be reverted to.

Owing to the collapse of this Corps, the above bridge was left quite undefended when practising our Mobilisation Scheme last April, the other Corps having taken up the positions assigned to them in the Defence Scheme.

#### CAMPS.

(15.) The Annual Encampment in April last was arranged so that for the first four days all Corps should take up the place assigned them in the Scheme of Defence, and find out in practice the weak spots therein. With this view, the Troops were concentrated at the following points:—

##### I.—SYDNEY FORTRESS.

Commandant—Officer Commanding New South Wales Artillery Forces.

*No. 1, or Port Jackson Section.*—Section Commander—Officer Commanding 2nd Infantry Regiment.

*No. 2, or Botany Bay Section.*—Section Commander—Officer Commanding 5th (Vol.) Infantry Regiment.

*No. 3, or Sydney Fortress Movable Column.*—Officer Commanding—Officer Commanding purely Volunteer Regiments and Corps.

##### II.—NEWCASTLE DEFENCES.

Commandant—Officer Commanding 4th Infantry Regiment.

III.

## III.—WOLLONGONG DEFENCES.

Commandant—Officer Commanding No. 6 Company, 2nd Garrison Division Artillery.

## IV.—THE FIELD FORCE.

General Officer Commanding and Staff.

## V.—RICHMOND AND CLARENCE RIVERS.

Officer Commanding—Officer Commanding No. 4 Squadron, New South Wales Lancers.

(16.) The various units comprising the several divisions of the Defence may be congratulated upon the manner in which they grasped the duties allotted them. This is the more satisfactory, seeing it is the first occasion upon which mobilisation at the various essential points has been attempted; a novel experience, which has been productive of much good, and a practical example to all ranks. Weak points, which it has been the very object of the mobilisation to discover, have been undoubtedly ascertained, but that they were not sufficient to dislocate the system is a matter on which all may be congratulated.

(17.) It is to be regretted that apparently the system applicable to the local Military Forces has not been adopted by the local Naval Forces, for which it seems that continuous training is supposed to be impossible; and it cannot be considered at all satisfactory that the guns which ought to have been manned by the Naval Forces were left unmanned altogether, thus leaving some serious gaps in the Defence.

(18.) The partial mobilisation was commenced on the 31st March and concluded on the 8th April as far as the Partially-paid Forces were concerned.

The purely Volunteer Forces only remained in Camp till 3rd April, with the exception of the 1st Australian Horse, which again this year attended the full period.

What has really been of most value has been the experience gained by the Staff and Departments, which will admit of arrangements being made in the future to avoid what in the past have been unforeseen difficulties.

During the second four days all troops not required elsewhere joined the Field Force at Rookwood.

The following Field Manœuvres were carried out on Easter Monday:—

## GENERAL IDEA.

(19.) The General Idea is that an enemy has arrived, and, having beaten the Field Force, is advancing by Saltpan Creek and is proceeding to Sydney south of Canterbury.

Enemy to be represented by Field Force, Rookwood.

Sydney has at its disposal the Movable Column of the Fortress Defence Force.

The operations are to be confined between Cook's River and Wollie Creek.

The bridge across Cook's River, at Canterbury, is supposed to be blown up.

Time for operations to commence will be communicated in Special Ideas to Officers Commanding respective Forces.

All Forces involved in above to carry dinner rations, cooked.

Ammunition to be carried:—10 rounds blank per rifle and carbine; 15 rounds blank per gun.

O.C., Rookwood Force—Colonel Holborow, C.M.G.

O.C., Sydney Force—Colonel Smith, R.A.

(By order) X.Y.Z.,  
Chief Staff Officer.

Umpires were duly appointed.

## SPECIAL IDEAS.

(20.) To O.C., Sydney Fortress.

Rookwood, Monday, 6 a.m., 3rd April, 1899.

Field Force defeated, retiring by Liverpool Road. It is likely enemy will advance along the Canterbury Trust Road, and make for the crossing, Cook's River, either at Canterbury, or Undercliffe Bridge, or Tempe. Push out with all despatch, under your personal command, your Movable Column, and take up a line of defence from Canterbury southwards. Be in position not later than noon.

(By order) X.Y.Z.,  
Chief Staff Officer.

(21.)

(21.) To Colonel Holborow, C.M.G., Camp, Rookwood.

Rookwood, Monday, 8 a.m., 3rd April, 1899.

Representing an enemy, you have successfully reached Saltpan Creek. Push on at once to attack Sydney, *via* country between Canterbury and Tempe, being prepared for strong opposition.

All troops at Rookwood Camp at your disposal, except Engineers.

(By order) X.Y.Z.,  
Chief Staff Officer.

These Ideas were worked out practically, and fully criticised by General Officer Commanding, as per General Order, dated 4th April, 1899.

#### DRILL-HALLS AND ARMOURIES.

(22.) The Sydney Corps are still at a great disadvantage for want of a central drill-hall. A large sum is available for the erection of a drill-hall and offices, but no site can be obtained in a suitable position. Considering the thousands of men who would find such a place a source of convenience for instruction and as a gymnasium, it would seem as if they have a fair claim for a site on some of the reserves in vicinity of Chancery Square.

(23.) Halls have been erected at Albury, Wagga Wagga, Cooma, Goulburn, Richmond, Kiama, Lambton, and East Maitland, and tenders called for the erection of one at Penrith, during the past year, but are still required at \*Hornsby, Dubbo, \*Singleton, \*Orange, \*Forbes, \*Hunter's Hill, \*North Sydney, and \*Sydney, and urgently at those places marked \*.

#### RIFLE ASSOCIATIONS.

(24.) *Defence Force Rifle Association, Sydney*.—Incorporated under regulations approved by the Government, and published in *Government Gazette* of 16th May, 1899.

The first meeting was held on the 8th and 10th April, 1899.

Nine hundred and forty individuals officers, non-commissioned officers, and men entered for nine competitions.

The Provisional Committee of the Defence Force Rifle Association drew up a programme of events for the first meeting, which were fired on the 8th and 10th April, 1899.

Notwithstanding that the programme was issued less than a month prior to the dates fixed for the matches to take place, it is most gratifying to report that the Defence Forces and Civilian Rifle Clubs took advantage of the opportunity to an extent quite beyond which might have been expected.

It may reasonably be concluded that if longer notice had been given, which would have afforded better opportunity for previous practice, the number of competitors would have been much greater; nevertheless, the number of entries clearly indicate the keen interest taken in this class of shooting by the members of the Defence Force generally.

Undoubtedly the success of the Association has been assured by the enthusiasm displayed by all ranks, and as it has now been incorporated under regulations approved by the Government and published in the *Government Gazette*, all future meetings will be governed by these rules, and the Council will be in a position to issue its programme at an early date for the meeting to be held after the forthcoming Encampment.

The difficulties involved in controlling the work in connection with such a very large meeting, taking into consideration that the executive officers were all new to the work, were surmounted by the keenness and energy displayed by all concerned—in fact, it was due to an excess of zeal on the part of these officers that not one single complaint was preferred or protest lodged in connection with the meeting—a very interesting feature, which speaks for itself as to the general management and control of affairs.

The financial success of the meeting may be gauged by the fact that the Committee found itself in a position, after the meeting had commenced, to offer an amount of £90 for additional prizes.

The

The several competitions were conducted in accordance with the published programme, and the following is a list of the matches, with number of entries :—

- “The Duff.” Mounted Section Attack.—16 teams, representing 64 N.C.O.’s and men.
- “The Coomassie.” Infantry Attack Practice.—50 teams, representing 450 N.C.O.’s and men.
- “The Beginners.” Deliberate Individual Fire.—285 entries.
- “The French.” Deliberate Individual Fire.—540 entries.
- “The Roberts.” Rapid-firing.—547 entries.
- “The Scouts.” Individual Rapid-firing.—431 entries.
- “The Ulundi.” Rapid Volleys.—40 teams, representing 360 officers, N.C.O.’s, and men.
- “The Carbine.” Individual Fire.—67 entries.
- “The Continuous.”—937 entries.

In the rapid-firing matches the Magazines were not permitted to be used, as all competitors were not armed with the Magazine rifle.

(25.) *National Rifle Association of N.S. Wales, Sydney*, is governed by regulations passed by members of the Association.

This Association still does little to forward shooting on Service conditions. The following remarks of the Colonial Defence Committee should have weight :—

#### RIFLE ASSOCIATIONS.

The Colonial Defence Committee desire to indorse very strongly the remarks of the Commandant on the subject of expenditure on Rifle Associations. The view held by the Commandant is identical with that taken by the War Office, where relations with similar bodies at Home are at the present moment under the consideration of the Secretary of State.

Individual firing at fixed targets, with known ranges, is a stepping-stone towards the attainment of efficiency by a soldier; but it is only one of many stepping-stones, and it cannot be too clearly understood that such practice, unaccompanied by other military training, is of no real value, and adds nothing to the defensive power of the State in time of emergency. Rifle Associations, therefore, which lack military organisation, and encourage individual target-practice as an end, rather than as a means to an end, should not be subsidised. Money devoted to prizes under such conditions should not be deemed, in any sense, part of the military expenditure incurred by the State as an insurance against the risks of war.

On the other hand, the same money devoted to the encouragement of musketry under Service conditions in the organised military forces of the State is a most valuable form of military expenditure, and adds materially to the efficiency of those forces.

In these circumstances, the Colonial Defence Committee are entirely at a loss to understand the principle upon which the Government of New South Wales extend a large measure of support to Civilian Rifle Associations, while their infantry forces are denied the incentive of musketry prizes\* in the very inadequate annual course of musketry which they undergo.

(26.) *Rifle Associations that have adopted Government terms :—*

- Defence Force Rifle Association,
- Southern Rifle Association,
- South Coast Rifle Association.

#### WARLIKE STORES.

(27.) I pointed out last year the very unsatisfactory manner in which our requisitions on the Imperial Authorities for the most necessary warlike stores are treated, and the loss of time that accrues. We have had a fresh experience during the past year.

(28.) Mr. Chamberlain (who, according to my experience, has done more for Colonial Defence Forces than all his predecessors in office) arranged that these Colonies should exchange their Martini-Henry rifles for ‘303 rifles, and thus have weapons taking the same ammunition as the Imperial troops. With this view, the Colonies were invited to send to England for conversion a proportionate number of Martini-Henry rifles, for which the sum of 10s. each was to be allowed.

Acting on above, 2,000 arms were sent from this Colony, carefully packed in cases, with the result that 1,734 were condemned as unfit for conversion by War Office officials, and we were politely asked if we wished them to be “broken up.”

Some 4,000 arms sent from other Australian Colonies for conversion were every one condemned. This resulted in a strong protest from each Colony concerned, and I am glad to say that by recent reports New South Wales is now credited with 1,541 serviceable arms out of the 2,000 sent. (29.)

\* This has been approved since.



(29.) From the above, it will be observed that the sound intention of the Secretary of State for the Colonies was, in the first instance, entirely frustrated by the officials of the Department which one would naturally expect to be most interested in questions of defence, but a long Colonial experience has forced on me the conclusion that there is no Central Authority responsible for the defences of the extremities of the Empire; if there was, such a *fiasco* as the above could not have occurred, and if this is the result in times of peace, it is serious to think of what might be the result in time of war when distant Colonies were clamouring for the warlike stores so necessary for their protection.

#### “BRASSEY” COMPETITION (VICTORIA).

(30.) In response to the invitation of the Victorian Government, Major J. H. A. Lee, Commanding Submarine Miners, and Captain J. G. Legge, Adjutant, 2nd Infantry Regiment, proceeded to Melbourne for the purpose of witnessing the “Brassey” Competition carried out at Kyneton on 24th May, 1899.

This competition is a combined exercise in marching, field-firing, and camp-pitching. The winning team receives a trophy, value £25, presented by His Excellency the Governor, a silver medal to each member of the team, and £100 cash. The second team receives £25.

Valuable reports were furnished by the abovementioned officers, and Captain Legge, in concluding his, states: “Comparing the match with our own ‘Coomassie,’ I consider that the objectives in the ‘Brassey’ were easier to hit, and that their average, less than 10 per cent., bears no comparison with the 30 per cent. attained in April last at Randwick.”

#### EXCHANGE OF TROOPS.

(31.) The proposal made by Mr. Chamberlain for an exchange of duties between a Company of the Royal Artillery and one of N.S. Wales Artillery was approved in this Colony, and in due course should take place at an early date. This should have a very beneficial result, and, as far as I can see, the benefits will be for the most part on our side.

It is to be hoped that later on a similar change of Field Batteries will take place. The principle seems to be a sound one, and should do much in drawing together the Defence Forces of the Empire.

I have the honor to be,

Sir,

Your obedient Servant,

G. A. FRENCH,  
Major-General.

## APPENDIX A.

From Colonel S. C. U. Smith, R.A., commanding Artillery, to The Assistant Adjutant-General.

Sir,

Artillery Staff Office, Victoria Barracks, 26 June, 1899.

I have the honor to forward a report on my command for the past twelve months.

## BRIGADE DIVISION FIELD ARTILLERY.

## "A" Battery.

(1.) A much-needed increase in personnel has been sanctioned during the last few months, and this <sup>Men.</sup> Battery is now being organised as a 6-gun Battery in lieu of a 4-gun.

The present establishment is 108 of all ranks, which, though very low for a 6-gun Battery, is a decided step in the right direction.

(2.) The establishment of horses has again been slightly increased, and at the present moment stands <sup>Horses.</sup> at ninety-seven. This is the outcome of a proposal made in my report for 1897, and has been a complete success as far as it has gone. The saving to Government, both in transport expenses and in "hire of horses" has not only justified the line adopted, but clearly demonstrates the absurdity of previous arrangements. The work done by the horses of "A" Battery prior to, during, and subsequent to, the Easter Encampment of 1898 saved £1,000 and in 1899 £600, which sums would otherwise have been claimed by contractors.

In addition to the above saving of money, there is the increased efficiency which I trust would in itself have been considered a sufficient return. I was enabled at the last Encampment, for the first time on record, to turn out the three Field Batteries each with four guns fully horsed; the advantage, although apparent to anyone, can be best appreciated by those who have had experience with the animals utilised on the "Hire system" (at enormous expense). Hiring still has to take place for horses for the Army Medical Corps and Engineers, which means that saving is still to be made by a further increase of permanent horses.

(3.) A Battery of four 15-pr. B.-L. guns and equipment are under order from the Home <sup>Armament.</sup> Government. These will be similar to the six guns now forming the armament of "A" Battery, except that the latest improvement for checking the recoil, advocated by Sir George Clarke and adopted by the Imperial Government, is being added to the carriages. The device referred to largely reduces the recoil of the guns, thus enabling greater rapidity of fire and less labour to the detachment, and consequently giving largely increased efficiency.

Application has been forwarded for working drawings to enable me to alter the six in my possession so as to be up-to-date.

(4.) For the first time on record in the Colony I was able to form a satisfactory Field Artillery <sup>Annual camp.</sup> Camp. This desirable object was obtained largely by the courtesy of the Trustees of the National Park, who allowed the Camp to be held on their ground. "A" Battery were in Camp from the middle of September to the end of October, and gained more useful experience than they had had a chance of doing before. Ranges up to 4,000 yards and over were easily obtainable, giving every variety of background. Targets could be placed so as to make observations of fire easy, moderate, or difficult. The country throughout was feasible for movement, requiring in many places much vigilance on the part of Nos. 1 and Drivers, and gave good practice to ground scouts.

It is proposed to repeat this Camp annually, there being no extra expense to Government involved.

## "B" and "C" Batteries.

(5.) An addition of three half-day parades during the year was a welcome addition, and was much appreciated.

Both Batteries were able to make a short visit to the Field Artillery Camp and carry out a little practice.

My remarks last year, referring to these Batteries in connection with the Easter Encampment, I desire to emphasise, and now recommend that in future these Batteries be only in Camp for the four days which constitute the Easter holidays, and that an effort be made to induce them to attend the Field Artillery Camp at National Park for an appreciable period, of certainly not less than four consecutive days, and more if possible. It is impossible at the Easter Encampment, where everyone is fully employed, to exert the necessary supervision over these Batteries, with the result that little, if anything, is learnt in the sixteen half-days which are appropriated at this period. My recommendation that one permanent Driver should be attached to each subdivision of these Batteries has been carried out with beneficial results.

The riding and driving in these Batteries still leaves very much to be desired, and the Driving Drills on a fairly level Parade Field do not tend to improve these points. A good burst across country at National Park, both with and without guns, would soon shake the men into, or out of, their saddles, thus impressing them respectively with the fact of their ability or inability to make good Field Artillery Drivers.

The Officers also require more experience of this sort of work, as although many of them know their drill, they have little idea of leading their Batteries in a practical way across country.

## 1st GARRISON DIVISION.

## Permanent Artillery.

(6.) The only alteration in personnel during the past year has been the addition of fifteen boys. <sup>Personnel.</sup> Preference has been given to the sons of old soldiers of the Regiment, provided they come up to the physical standard. As soon as these boys pass their marching drills they will be instructed as either trumpeters, bandmen, clerks, or artificers, in accordance with any aptitude they may evidence.

- Company courses. (7.) The regular Company Courses instituted last year have been a success, and each Company Commander now gets his Company together for a month without interference. Each Company Course concludes with a searching inspection, both practical and theoretical.
- "Crying down credit." (8.) A proclamation "crying down credit" has been issued on my last year's recommendation, and will have a very good effect in stopping an obnoxious system which existed, of tailors touting for custom in Barracks. I have made it clear to the men under my command that this proclamation is not meant to assist the men to repudiate just debts, a view of the matter they were rather inclined to take.
- Long course. (9.) The usual Long Course lasting six and a half months was held, at which representatives of Victoria and Queensland were present. For some reasons or other, jealousy being doubtless one, no representatives from the other Colonies have accepted our invitation this year; however, it is their own loss.
- Officers in England. (10.) The following Officers and N.-C. Officers who were in England at the date of my last Annual Report have rejoined the Regiment:—Captain Sandford, Lieutenant Lamb, Sergeant-Major Molyneaux. Captain Sandford went through the Long Course of Gunnery at Shoeburyness in 1897, the other two in 1898. Captain Sandford then went through the Firemaster's Course in 1898. All three were well reported on by the Home authorities—Captain Sandford exceptionally so—and they may all be said to have done the Regiment great credit.
- Plain clothes. (11.) I was obliged, as reported last year, to place some restrictions on the wearing of plain clothes. This was rendered necessary by the large numbers of unpaid tailors' bills which were forwarded to me for collection. No man under two years' service is now eligible for the privilege. This has caused some unrest in the Regiment during the year; this I fear the curtailment of any privilege is likely to do.
- Small arms. (12.) This branch of the Force will be rearmed with the Martini-Enfield at the end of the present month, in lieu of the Martini-Henry.
- Camp. (13.) The Permanent Garrison Artillery took part in the Mobilisation Camp at Easter, and took up the actual duties they would be called on to perform on the outbreak of hostilities.

## 2ND GARRISON DIVISION.

*Partially-paid.*

(14.) An addition of three half-day parades during the past year was a concession much appreciated, and the good effect was distinctly noticeable both in the result of the competitive practice as also in the marching of the two Town Companies at the Queen's Birthday Review.

As far as the competitive practice is concerned, the advance was more noticeable in the improved fire discipline and smartness in carrying out the drills than actually in the result as regards hits on the target. However, one Company, Major MacCabe's, from Wollongong, made five direct hits on a record target out of sixteen shots, and thereby acquired a second-class prize. No. 3 Company (Major Wigram) got a third-class prize with three hits. The general result of the shooting was better than these facts would lead one to believe.

Camp. (15.) This year the 2nd Garrison Division were in Camp at Easter during the same period as the other troops, and the Camp, being a mobilisation one, the two outlying Companies did not come to Sydney, but took the positions allotted to them at Wollongong and Newcastle respectively. From all centres good reports were received of the work done by the men.

I append a few remarks on the Forts and Armament (confidential).

I have, &c.,

S. C. SMITH,  
Colonel, Commanding Artillery.

[Confidential.]

## FORTS, ARMAMENT, &amp;c.

The principal points now receiving attention in connection with the Defences are:—

1. The introduction of General French's scheme for fighting forts, as an alternative system.
2. The construction of a battery at South Head to take three 6-in. Q.-F. guns.
3. The provision from England of three 6-in. B.-L. guns converted to Q.-F. mountings and automatic sights of latest pattern.
4. The placing of three 6-pr. Q.-F. in the Casemate at George's Head on embrasure mountings.
5. Improvement of breech gear and loading arrangements of the 25-ton guns at Middle Head.  
As far as the trials in this line have gone they have proved successful, and will probably be adopted.
6. The provision from England of four 15-pr. B.-L. guns and carriages with the latest device for checking recoil.
7. The alteration of existing 15-pr. carriages locally.

Points which will require attention in the near future:—

1. Removal of all 80-prs. from Defences and substitution of Q.-F's. for mine-field protection.
2. Defence of entrance to the Harbours.
3. Defence of Mount Kembla.

All guns are in good working order, and when existing indents have been complied with the ammunition will be complete.

The mobilisation stores in my charge are complete and in good order.

S. C. SMITH,  
Colonel, Commanding Artillery.

APPENDIX

APPENDIX B.  
NEW SOUTH WALES MILITARY FORCES.  
*Report of the School of Musketry.*

1. Five courses of instruction were held at the Rifle Range, Randwick, during the year 1898-1899, one being Class A for officers, two, Class C for Warrant and Non-commissioned Officers, and two, Classes A and C for Officers, Warrant and Non-commissioned Officers.

Courses.	Numbers.		Results of Examination.					
			Officers.			W. and N.-C.O's.		
	Officers.	W. and N.-C.O's.	Class A. Certificate.	Failed.	Total.	Class C. Certificate.	Failed.	Total.
No. 2. Staff, Warrant, and N.-C.O.'s ... Aug. 13, Sep. 12, 1898.	.....	10	.....	.....	.....	7	3	10
No. 3. Staff Officers ..... Sept. 19, Oct. 11, 1898.	3	.....	2	1	3	.....	.....	.....
No. 3. Staff, Warrant, and N.-C.O.'s ... Nov. 19, Dec. 19, 1898.	.....	10	.....	.....	.....	8	2	10
No. 4. Staff Officers, W. and N.-C.O. ... Feb. 4, Mar. 6, 1899.	1	5	1	.....	1	5	.....	5
No. 5. Staff Officers, W. and N.-C.O. ... April 29, May 30, 1899.	1	9	1	.....	1	9	.....	9
Totals .....	5	34	4	1	5	29	5	34

2. The instruction given at the School of Musketry to the Officers and Warrant and Non-commissioned Officers attending the Classes in the theory and practice of Musketry during the year 1898-99, comprised, in addition to the theory of Musketry, thorough grounding in firing exercise drills; also, how to instruct others, and practically to drill and instruct a squad of recruits.

Fire discipline and control of fire.

Range-finding with the Mekometer.

Judging distance by sight and sound.

Complete course of individual range practices with the Lee-Enfield rifle.

Collective firing in all its branches, including long-range volleys at distances of 2,000 yards and upwards, volleys at unknown ranges, &c.

Revolver Practice.

Care of arms and ammunition, and special instruction in the mechanism of the Lee-Enfield and Martini Breech Action rifles and Webley pistol.

Aiming Drill.

Testing rifles and ammunition, and working out the diagrams in connection with same.

Selection and construction of Rifle ranges.

Morris and miniature cartridge tubes.

And instruction in the practical keeping and completion of the various Returns, Registers, &c.

3. The result of the shooting with the Lee-Enfield rifle has proved the superiority of the new weapon, as regards its accuracy, when compared with the Martini-Henry; as a Service weapon, comparison can hardly be made, not a single case of jamb having arisen throughout the year.

4. The following is the result of the shooting:—

*Individual Practices.*

Lee-Enfield Rifle.

	Recruit Course.			M.	Trained Men's.		
	1st C.	2nd C.	3rd C.		1st C.	2nd C.	3rd C.
Officers .....	3	2	.....	.....	3	1	1
W. and N.-C.O.'s .....	30	4	.....	5	23	4	2

*Collective Practices.*

Lee-Enfield Rifle.

	Number of Rounds.	Number of Hits.	Percentage.
Officers .....	600	298	50
W. and N.-C.O.'s .....	4,080	2,494	61

5. Early in the year the new building for the School of Musketry was completed; it is needless to remark on its utility, the work performed by those attending the Classes being far more satisfactory and yielding better results; at the same time the serious inconveniences frequently caused by inclement weather have been entirely avoided.

Headquarters, Sydney, 29th June, 1899.

M. BOAM,  
Major, A.A.A.-General.



#### 4. *Mobilisation.*

The general principles governing the Mobilisation of the Medical Services worked well at the Partial Mobilisation at Easter. Several minor defects were brought to light, and are now remedied. Senior Medical Officers of Districts were well up in their duties, and grasped their responsibilities. With the distribution of the Army Medical Corps into the various Sections of Defence it was apparent that the present establishment of the Partially-paid Corps was strained to meet requirements.

#### 5. *Continuous Training.*

Every advantage was taken to make the training as practical and as near Service conditions as possible, and the nine days' work made a great improvement in all ranks.

Marked attention to detail, which is so essential for an efficient Medical Service, was evident.

#### 6. *Ambulance Transport.*

During the year two Ambulance Waggon have been built. This completes the number required for the Bearer Company attached to the Field Force (War Establishment), viz., ten Ambulance Waggon.

One Ambulance Waggon is yet required for the Newcastle Defences, and another for the Wollongong District, one of which I propose to ask for during the present year, and the second later on.

#### 7. *Medical and Surgical Field Equipment.*

Additions have been made during the present year, and the necessary requisitions have been forwarded to provide for any new service.

The special points to which I would draw attention are—

1. *Regiments and Corps.*—These are now all equipped, in accordance to scale laid down, with Ambulance Stretchers (including stretchers requisitioned for on 14/7/99), Medical Companions, Surgical Haversacks, and Water-bottles, but incomplete in Field Medical Panniers; four pairs are still required for active service conditions.

2. *Sydney Fortress—Half Field Hospital, with Movable Column.*—The necessary Ordnance, Medical, and Surgical Stores, were requisitioned for in 1898, but this requisition was ordered to remain over until this year. It was resubmitted last month.

3. *Newcastle Defences.*—With the supply of stores, already indented for, the Half Field Hospital for this section of Defence will be in order. The Medical and Surgical Equipment for the Forts, Regiments, and Corps of this District of Defence are practically complete.

4. *The Field Force—Field Hospitals.*—With the exception of a few details of medical and surgical Field Equipment, already requisitioned for, the two Field Hospitals (50 beds each) are equipped to scale, and ready for immediate service.

In connection with these Field Hospitals, I would strongly advocate that the E.P. tents be replaced by the light Field Hospital tent ("Tortoise," 20 ft. x 20 ft.), as they are in every way more suitable, and after exhaustive trials they are found superior for Field Hospital uses.

#### 8. *Reserves.*

The Reserve system, as regards training, is now in good working order. The men are well drilled, zealous, and not afraid of work. Eighty-one Reservists were "efficient" on 30th June, 1899. At Newcastle over 20 Reservists attended Camp, many of them for the nine days. The "Khaki drill uniform" with which they are supplied answers all purposes, and with an extra suit and greatcoat they could take the field.

I have submitted a proposal to arrange these Reservists in Companies; at present they do not form any unit, nor are they under any individual control. This suggestion would not entail any expense, and would greatly add to the well-being and efficiency of the Reserve system.

#### 9. *Army Nursing Service Reserve.*

The enrolment has been carried out, and the establishment of 1 Lady Superintendent of Nurses, 1 Superintendent, and 24 Nursing Sisters. There were over 70 applicants. Those selected possess the highest nursing qualifications and training, and are drawn from the past and present staffs of Prince Alfred, the Sydney, St. Vincent's, Children's, and Coast Hospitals.

Lectures will commence for this branch of the Service in September next.

#### 10. *Sanitation.*

(a) *General.*—With the exception of measles, there has not been any outbreak of an epidemic, and the general health of the Garrison during the year has been satisfactory.

(b) *Drainage.*—Every attention has been given to keep this service in a sanitary condition.

(c) *Water Supply.*—All barracks and quarters, with the exception of Wollongong, are now supplied from city services.

(d) *Victoria Barracks—Men's Quarters.*—Since 1841, nearly 60 years ago, the date of building of the Barracks, practically nothing has been done to bring the quarters up to modern ideas of what the accommodation for a soldier really should be. In barrack buildings of a similar age in the Imperial Service (where such still exist), great improvements have been effected by "Sanitary annexes," dining-rooms, &c.

The addition of a wide verandah and balcony on the southern side of main barrack building (western wing), with "Sanitary annexes," would add considerably to the general health and comfort of the men, as at present one room and a strip of balcony has to suffice for sleeping, meals, cleaning arms, &c., and airing bedding. I would most strongly urge that some provision be now made for improved accommodation. I believe that our Engineer Department have plans of these Sanitary annexes as adapted to Imperial barrack buildings.

(e) *Swimming-baths.*—With the natural advantages at South Head, Middle Head, Chowder, and Bare Island, the construction of fair-sized swimming-baths would be an easy matter, and the general good which would obtain therefrom needs no comment. I would recommend this for favourable consideration.



11. *Capitation Fund, A.M.C. (P.P.).*

In order to provide the full dress uniform for the Corps the fund has been found temporarily inadequate, but by the end of present financial year it will be out of debt, and with sufficient funds to carry on the clothing as same becomes due. With the exception of fifteen N.C.O. and men all are duly provided with full dress, and special authority is now asked to complete in this direction, as by a ruling of the G.O.C., of 14/7/99, I was informed through the M.C.C. Board that no further accounts were at present to be passed for the Corps.

12. *Conclusion.*

Not only in personnel and training, but also in ambulance field equipment and transport, I consider that the general efficiency of the Medical Services show a distinct advance on previous years, and in the event of any federation of Services a prominent position will be assured.

I have, &c.,  
W. D. C. WILLIAMS, Colonel, P.M.O.,  
Commanding N.S.W. Medical Services.

## APPENDIX A.

1898-99.

*Acute Specific.*—Influenza, 19; Measles, 79; Fever and ague, 1. Total, 99.  
*Alimentary Canal.*—Colic, 7; Constipation, 1; Diarrhoea, 10; Dyspepsia, 2. Total, 20.  
*Injuries.*—Pott's fracture, 1; Fracture of phalanges, 1; Dislocation of shoulder, 2; Sprain of shoulder, 4; Sprain of hip, 1; Sprain of wrist, 5; Sprain of back, 8; Sprain of knee, 14; Sprain of ankle, 11; Sprain of instep, 1; Minor injuries, 22. Total, 70.  
*Nervous System.*—Neuralgia, 5; Sciatica, 6; Fits, 1; Cardiac stenosis, 1; Tabes dorsalis, 1; Effects of sun, 6; Hyperæsthesia, 1; Lumbago, 1. Total, 22.  
*Eye, Ear, and Skin.*—Catarrhal ophthalmia, 3; Deafness, 1; Boils, 12; Abscess, 10; Herpes zoster, 1; Ulcers, 3; Corns, 4; Sebaceous cyst, 1; Whitlow, 1; Eczema, 1; Ringworm, 1; Minor sores, 29. Total, 67.  
*Respiratory Organs.*—Catarrh, 24; Pharyngitis, 2; Tonsillitis, 18; Asthma, 2; Whooping cough, 1; Pleurisy, 1. Total, 48.  
*Genito-Urinary.*—Gonorrhœa, 52; Gleet, 8; Orchitis, 10; Chancre (soft), 3; Syphilis, 7; Urethritis, 2; Gumma, 2. Total, 84.  
*General Diseases.*—Debility, 2; Rheumatism, 15; Enlarged glands, 3; Piles, 1; Intemperance, 6; Inguinal hernia, 3; Periostitis, 1; Fistula, 1; Myxœdema, 1; Nil, 2. Total, 35.  
Grand total, 445.

W. D. C. WILLIAMS, Colonel, P.M.O.

## APPENDIX B.

RECRUIT Averages, Permanent Forces, from 1st July, 1898, to 30th June, 1899.

	Pre-sented.	Ac-cepted.	Re-jected.	Height.		Weight.		Chest Mea-surement.	Previous Service.	Re-engage-ments.
				ft.	in.	st.	lb.			
Permanent Staff ... ..	11	10	1	5	8	10	10	38	11	.....
1st Garrison Division, N.S.W.A. Regt.	198	131	67	5	10 $\frac{1}{4}$	11	4 $\frac{1}{2}$	38 $\frac{1}{8}$	7	27
Brigade Divisn. Field Art'y. {	60	40	20	5	6 $\frac{3}{8}$	9	10 $\frac{3}{4}$	36 $\frac{3}{4}$	.....	4
Drivers... ..	20	17	3	5	8 $\frac{1}{4}$	10	6 $\frac{1}{2}$	37 $\frac{1}{8}$	.....	3
N.S.W. Corps of Engineers, No. 3										
Company, Permanent Section ...	15	13	2	5	8 $\frac{1}{8}$	10	3 $\frac{1}{2}$	36 $\frac{5}{8}$	.....	9
Permanent Army Service Corps ...	2	2	.....	5	7 $\frac{1}{4}$	10	9 $\frac{1}{2}$	37 $\frac{3}{4}$	.....	2
Army Medical Corps, Permnt. Section	1	1	.....	5	9 $\frac{1}{2}$	12	2	40	.....	1

W. D. C. WILLIAMS, Colonel, P.M.O.

## APPENDIX C.

RECRUIT Averages of Partially-paid Forces, 1898-99.

Regiments and Corps.	Presented.	Accepted.	Rejected.	Height.		Weight.		Chest Measurement.
				ft.	in.	st.	lb.	
N.S.W. Lancers ... ..	134	132	2	5	8 $\frac{3}{8}$	10	6 $\frac{3}{4}$	35 $\frac{5}{8}$
Mounted Rifles ... ..	217	215	2	5	9 $\frac{1}{4}$	10	13 $\frac{1}{2}$	36 $\frac{5}{8}$
Brigade Division Field Artillery {	14	14	.....	5	8 $\frac{1}{2}$	11	1	37 $\frac{1}{2}$
Gunners ... ..	10	10	.....	5	4 $\frac{5}{8}$	9	8 $\frac{1}{2}$	36 $\frac{1}{4}$
Drivers ... ..	103	63	40	5	8 $\frac{1}{8}$	10	12 $\frac{1}{2}$	37 $\frac{1}{4}$
2nd Garrison Division, N.S.W. Artillery Regt.	16	16	.....	5	8 $\frac{1}{4}$	10	10	36 $\frac{3}{8}$
Engineers... ..	168	156	12	5	7 $\frac{7}{8}$	10	2	35 $\frac{1}{8}$
1st Infantry Regiment ... ..	182	161	21	5	8 $\frac{1}{8}$	10	5 $\frac{3}{4}$	35 $\frac{1}{2}$
2nd Infantry Regiment ... ..	112	112	.....	5	9 $\frac{1}{8}$	10	12 $\frac{3}{4}$	36 $\frac{3}{8}$ *
3rd Infantry Regiment ... ..	126	126	.....	5	7 $\frac{3}{4}$	10	6 $\frac{1}{4}$	35 $\frac{7}{8}$ *
4th Infantry Regiment ... ..	81	59	22	5	8 $\frac{3}{4}$	11	2 $\frac{1}{4}$	37 $\frac{1}{2}$
Army Service Corps ... ..	33	23	10	5	8 $\frac{1}{4}$	10	7 $\frac{1}{2}$	36
Army Medical Corps ... ..								
Total ... ..	1,196	1,087	109					

\* The Adjutants for O.C.'s of 3rd and 4th Infantry Regiments explain that all recruits were specially selected and measured prior to examination by Medical Officer, and that none were rejected.

W. D. C. WILLIAMS, Colonel, P.M.O.

APPENDIX

APPENDIX D.

GENERAL State of the New South Wales Military Forces encamped during Easter, 1899, showing Distribution, &c.

Regiment.	Establishment.	Sydney Fortress.																		Total.	Remarks.									
		Rookwood.				South and Middle Heads.			Botany Bay.			Movable Column.			Newcastle.			Wollongong.				Richmond and Clarence Rivers.			Bega.					
		Officers.	W.O's., N.C.O's., and men.	Horses.	...	Officers.	W.O's., N.C.O's., and men.	Horses.	...	Officers.	W.O's., N.C.O's., and men.	Horses.	...	Officers.	W.O's., N.C.O's., and men.	Horses.	...	Officers.	W.O's., N.C.O's., and men.			Horses.	...	Officers.	W.O's., N.C.O's., and men.	Horses.	...	Officers.	W.O's., N.C.O's., and men.	Horses.
Head Quarters Staff.....	23	6	13	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	13	5	*3 Officers and 102 W.O's., N.C.O's., and men in England in addition.
Officers from Queensland .....	...	8	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	4		
Lancers* .....	436	13	176	193	...	...	...	...	...	6	92	98	2	32	34	5	93	98	...	...	...	...	...	...	...	26	393	423		
Mounted Rifles .....	387	14	225	239	4	87	91	...	...	...	...	...	...	...	...	...	...	...	...	...	3	45	48	...	...	21	357	378	†Fatigue party.	
1st Australian Horse .....	410	...	...	...	...	...	...	23	387	382	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23	387	382		
Artillery... {	11	1	...	1	4	6	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	6	5		
Artillery Staff .....	217	3	73	37	9	114	59	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	187	96		
1st Garrison Division .....	449	1	14†	...	12	321	3	...	...	1	38	...	...	1	38	...	...	...	...	...	...	...	...	...	...	14	374	3		
2nd ,, .....	431	...	...	...	9	173	...	...	...	6	83	...	3	89	...	...	...	...	...	...	...	...	...	...	...	18	345	...		
Engineers.. {	21	3	6	3	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	11	3	Includes Director of Military Telegraphs.	
Staff .....	120	3	52	7	...	12	...	1	7	1	24	1	...	5	...	...	...	...	...	...	...	...	...	...	...	6	100	9		
Field Companies .....	106	...	...	4	67	...	...	...	...	1	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	84	...		
S.M.M. Company .....	78	2	33	7	2	25	...	...	2	...	3	...	...	2	...	...	...	...	...	...	...	...	...	...	...	4	65	7		
Electric ,, .....	640	35	590	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	590	4		
Infantry {	640	28	496	3	1	...	1	...	...	...	...	...	6	116	2	...	...	...	...	...	...	...	...	...	...	35	612	6		
Partially-paid {	641	32	586	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	586	6		
1st Regiment.....	641	...	...	...	...	...	...	...	...	31	593	5	...	...	...	...	...	...	...	...	...	...	...	...	...	31	593	5		
2nd ,, .....	428	...	...	11	135	2	...	...	2	56	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	191	2		
3rd ,, .....	641	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	165	1		
4th ,, .....	428	...	...	...	11	135	2	...	...	2	56	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	191	2		
Volunteer {	332	...	...	...	9	165	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	165	1		
5th { Scottish Rifles	635	...	...	...	...	...	...	18	438	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	438	3		
6th Regiment .....	636	...	...	...	...	...	...	16	249	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	249	2		
7th ,, .....	71	5	32	12	...	15	...	2	7	1	...	8	...	4	...	...	...	...	...	...	...	...	...	...	...	7	66	13		
Army Service Corps .....	130	6	53	7	4	19	...	5	14	3	32†	5	...	5	...	...	...	...	...	...	...	...	...	...	...	18	123†	12	†Includes 17 A.M.C. Reservists encamped at Newcastle.	
Army Medical Corps .....	7,483	160	2,349	528	70	1,144	161	65	1,104	389	52	946	109	11	254	36	5	93	98	3	45	48	366	5,935	1,369					

H. D. MACKENZIE, Col.,  
A.A.G.

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## APPENDIX E.

ACTUAL Strength on 1st July, 1899.

Distribution.	Officers.	Warrant and N. C. Officers and Men.	Total Strength.	Estab.	Wanting.	Recruits and Supernumeraries.	Horses.	Remarks.
Head Quarter Staff .....	6	17	23	23	...	...	8	
Military Secretary's Department { Finance ...	1	7	8	8	...	...	...	
{ Pay .....	1	4	5	5	...	...	...	
{ Ordnance...	3	18	21	25	4	13*	...	*Temporary labourers.
Mounted Brigade { Lancers .....	26	387	413	436	23	22	413	
{ Mounted Rifles .....	23	349	372	387	15	4	372	
{ 1st Aust. Volunteer Horse .....	12	488	500	538†	38	145‡	500	†Includes 2 clerks. ‡Includes 13 2nd Lieutenants not passed for higher rank.
Artillery { Artillery Staff .....	4	6	10	10	...	...	4	
{ Brigade Division, Field .....	12	225	237	248	11	3	97	
{ 1st Garrison Division .....	15	434	449	464	15	2	6	
{ 2nd Garrison Division .....	20	402	422	453	31	16	1	
Engineers { Engineer Staff .....	5	14	19	21	2	7	...	
{ Field .....	5	110	115	120	5	...	1	Includes D. of M.T.
{ S.M.M. ....	5	93	98	106	8	2	1	
{ Electricians .....	4	65	69	78	9	...	1	
{ 1st Regiment .....	33	594	627	640	13	2	3	
{ 2nd Regiment .....	35	603	638	640	2	27	3	
{ 3rd Regiment .....	32	590	622	641	19	1	3	
{ 4th Regiment .....	34	597	631	641	10	2§	3	§2 Officers seconded.
Infantry.. { Volunteer Staff .....	1	...	1	1	...	...	1	
{ 5th Regt., Scottish Rifles... ..	12	495	507	635	128	...	1	Establishment just increased.
{ 6th Regt., Australian Rifles.....	20	590	610	635	25	5	1	
{ 7th Regt., St. George's Rifles .....	20	545	565	634	69	3	1	Supernumerary 2nd Lieuts.
{ 8th Regt., Irish Rifles, Kogarah Co.	9	410	419	536	117	...	1	Newly-formed Regt.
{ National Guard .....	4	139	143	202	59	...	...	
Army Service Corps.....	5	70	75	134¶	59	...	8	¶Includes Barrack Sergeant.
Army Medical Corps .....	7	123	130	130	...	...	...	Establishment just increased.
Volunteer Establishment .....	29	...	29	29	...	...	...	
Chaplains .....	14	...	14	14	...	...	...	
Veterinary Department .....	4	...	4	4	...	...	1	
Total .....	401	7,375	7,776	8,438	662	254	1,430	

1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.  
NEW SOUTH WALES.

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**MILITARY.**

(COST OF CAMPS HELD BY THE 1ST AUSTRALIAN HORSE.)

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*Printed under No. 12 Report from Printing Committee, 30 November, 1899.*

[*Laid upon the Table of this House in accordance with promise made in answer to Question No. 3 of 19 October, 1899.*]

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Question.

- (3.) Cost of Camps held by the 1st Australian Horse.—Mr. Wright asked the Colonial Secretary,—  
What has been the total cost to the Government of the various local camps held by the 1st Australian Horse during the past twelve months?

Answer.

Mr. See answered,—This information will be prepared and laid upon the Table of the House early next week.

---

FOUR District Camps of the Australian Horse were held during the last financial year ended 30th June, 1899, at Mudgee, Cootamundra, Gunnedah, and Bungendore, at a cost of £277 2s. 9d., being railway charges for camp equipment, transit of men, and horses of outlying troops.

All the other expenses, viz., forage for horses, rations for the men and transport by road to and from the nearest railway station, were defrayed by the officers and residents of the districts concerned.

Travelling expenses of the General and Permanent Staff, amounting to £101 15s., were also incurred for annual inspection of the troops in question, which would have been necessary according to the regulations, apart from these camps.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## MILITARY.

(PAPERS IN CONNECTION WITH THE RETURN TO THE COLONY OF A PORTION OF THE NEW SOUTH WALES LANCERS SENT HOME FOR TRAINING AT ALDERSHOT.)

*Printed under No. 10 Report from Printing Committee, 16 November, 1899.*Copies of Telegrams sent by the Premier *re* return of Lancers.

Captain Cox, Commanding N.S.W. Lancers, s.s. "Nineveh," Capetown,— 20 October, 1899.  
 INFORM Privates Baly, Madden, Rankin, Maynes, Smith, and Morris parents desire their return; and Gould, brother desires his return to Sydney direct by "Nineveh."

Captain Cox, Commanding N.S.W. Lancers, s.s. "Nineveh," Capetown,— 25 October, 1899.  
 INFORM Privates Larbner, Ceadar, Bradbury, and Dooley parents desire their return to Sydney direct in "Nineveh."

Captain Cox, Commanding N.S.W. Lancers, s.s. "Nineveh," Capetown,— 31 October, 1899.  
 INFORM Rogers father desires his return to Sydney direct by "Nineveh,"—

## Members of N.S.W. Lancers informed relatives desire their return.

Name.	At whose request.
Baly, aged 18... ..	Father, Byron Baly, of Wyong.
Madden, under age ... ..	Mother, Mrs. S. Madden, Glengarry, <i>via</i> Bowral.
Rankin ... ..	Father, F. Rankin, Berry.
Maynes ... ..	Father, Wm. Maynes, Berry.
Smith ... ..	Father, John Smith, South Singleton.
Morris... ..	Father, J. Morris, Darlingto, Singleton.
Gould ... ..	Brother, Frank Gould, South Singleton.
Larbner ... ..	Mother (a widow).
Ceadar (should be Beaver) ... ..	Mother (a widow).
Bradbury ... ..	Sister, on behalf of both parents.
Dooley ... ..	Father, Thomas Dooley, Gerringong.
Rogers... ..	Father, W. Rogers. Orpington-street, Ashfield.





1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

**MILITARY.**

(LETTER FROM LIEUT.-COLONEL BURNS, OFFICER COMMANDING NEW SOUTH WALES LANCER REGIMENT, REPLYING TO REMARKS MADE IN PARLIAMENT ON FRIDAY MORNING, 17<sup>TH</sup> NOVEMBER, 1899.)

*Printed under No. 11 Report from Printing Committee, 23 November, 1899.*

The Officer Commanding New South Wales Lancer Regiment to The Chief Secretary  
of New South Wales.

*Subject :—Remarks in Parliament on 17 November, 1899.*

Dear Sir,

Head-quarters, Parramatta, 20 November, 1899.

Regarding the remarks made by some Members of the House on Friday morning last, I have carefully read the reports of same, and find that the utterances imputed to me by Members differ considerably from the actual published interviews which appeared in the Press.

If I may have said anything which has wounded the feelings of any Member I regret it, as my only desire was to defend my comrades from attack; and I think you will acknowledge that any officer abandoning those under his charge, during any period of trial, could hardly be considered worthy to hold his Commission.

Yours truly,

JAMES BURNS, Lieut.-Colonel,

Commanding N.S.W. Lancer Regiment.



1899.

(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## NEW SOUTH WALES NATIONAL GUARD.

(PARTICULARS RESPECTING.)

*Printed under No. 15 Report from Printing Committee, 21 December, 1899.**[Laid upon the Table of this House in accordance with promise made in answer to Question No. 2 of 12 December, 1899.]*

## Question.

- (2.) Captain Sir George Dibbs, New South Wales National Guard:—Mr. Sleath asked the Colonial Secretary,—
- (1.) Has Sir George Dibbs, the Commanding Officer of the New South Wales National Guard, passed his examination as Captain, in accordance with the Rules and Regulations of the New South Wales Volunteer Forces; and has he been gazetted in General Orders?
  - (2.) Has he qualified himself each or any year as an efficient, since the formation of the National Guard, by attending the necessary number of night and day parades, in accordance with the Volunteer Regulations?
  - (3.) Has he passed through the usual and necessary course of musketry instruction and class-firing to qualify himself as an efficient during the past three years?
  - (4.) Has he been returned as an efficient Volunteer for each of the past three years in the Official Parade States of the National Guard sent to the Military authorities at head-quarters, Victoria Barracks?
  - (5.) Have efficiency capitation allowances been drawn by the officials of the National Guard for Captain Sir George Dibbs during each or any one of the past financial years since the formation of the corps?
  - (6.) What was the sufficiency of the cause for the discharge of Corporal Stephen J. Byrne from the New South Wales National Guard by the Commanding Officer, Captain Sir George Dibbs?
  - (7.) What Military crime or offence did Corporal S. J. Byrne commit to cause his discharge, and where was he discharged?
  - (8.) Why has Corporal S. J. Byrne's discharge not been published in General Orders?
  - (9.) Why have Corporal S. J. Byrne's arms, clothing, accoutrements, &c., not been called in to their Military stores by the officials of the National Guard?

## Answer.

Mr. See answered,—This information is being prepared, and will be laid upon the Table as soon as possible.

The following answers have been furnished by the Major-General Commanding the Military Forces:—

- (1.) In special cases examinations may be waived. I consider this a special case. Yes, he has been gazetted in General Orders.
- (2 and 4.) He has attended parades whenever health permitted, but he acts continually in the interests of the National Guard.
- (3.) Attendance is optional.
- (5.) No.
- (6 and 7.) His Commanding Officer states his conduct was subversive of discipline, of which he is empowered by the Act to judge. He was discharged at Sydney.
- (8.) No request to this effect has been received from the Commanding Officer.
- (9.) It is reported that action in this direction is being taken.



1899.  
(THIRD SESSION.)

LEGISLATIVE ASSEMBLY.

NEW SOUTH WALES.

## FISHERIES OF THE COLONY.

(REPORT OF COMMISSIONERS OF FISHERIES FOR YEAR 1898.)

*Printed under No. 12 Report from Printing Committee, 30 November, 1899.*

The Honorable The Chief Secretary,—

Department of Fisheries,  
Sydney, 1 September, 1899.

Sir,

We have the honor to submit our Annual Report on the Fisheries and Oyster Fisheries of the Colony for 1898.

It is with deep regret that the Commissioners announce the death of Mr. J. R. Hill, after an association of over thirteen years. Mr. Hill took a great interest in the fisheries, and rendered valuable assistance in the administration of the Commission, and the Commissioners wish to place on record their high appreciation of his services.

The appointment of the Honorable J. H. Want, M.L.C., on the 1st September, to the vacancy thus caused has given satisfaction to all who have the interests of the fishing industry at heart. In other respects the constitution of the Board is unchanged.

### Finance.

Mainly owing to the increased demand for oyster-culture leases the revenue for the year has increased beyond the Commissioners' most sanguine expectations, and it affords them much satisfaction in reporting that the receipts from all sources amounted to £3,713 10s. 1d., which is a substantial increase of £732 15s. 9d. on the amount received during 1897.

197 new leases were issued, which is greatly in excess of those granted for several years.

877 fishermen's licenses and 410 fishing-boat licenses were issued, the majority of which were taken out before the end of the half-year, and to this fact is to be accounted an increase of £55 on the previous year's return.

The fact that considerably more licenses for men and boats were issued during the first part of the year is a strong indication that the Inspectors have been in evidence with those who follow the occupation of fishermen.

On account of the small staff at the disposal of the Commissioners the Inspectors have not been able to effectually prohibit breaches of the Act, although they have not been numerous. The amount realised from fines and sale of forfeited nets totalled £169 14s.

A detailed statement of the receipts for the year is appended in Schedule A.

### Official Staff.

Owing to the increase of the work of the Department, it was found necessary to obtain extra clerical assistance to keep the work current, and on the 23rd September Mr. R. L. Taylor was appointed as a probationary clerk.

Provision was made on the Estimates for the appointment of an additional Inspector to supervise the waters of Port Stephens and the Hunter River, and it is the intention of the Commissioners to take steps to secure the services of a practical man to undertake the duties of this position.

\*192—A

735 copies—Approximate Cost of Printing (labour and material), £41 18s. 6d.

Senior-constable



Senior-constable Maude was appointed, with the concurrence of the Inspector-General of Police, as an assistant Inspector for Lake George, as it was represented that a close supervision over those waters was necessary.

Mr. William Jones having resigned his position as caretaker at the Prospect Hatchery, Mr. James Jones was appointed to succeed him from the 1st October.

### Fisheries.

The supply of fish to the several fish markets has been considerably in excess of the quantity supplied during the previous year, and the following list shows the returns consigned from different waters:—

Botany and George's River ...	14,235	Macleay River ... ..	657
Clarence River ... ..	13,588	Richmond River ... ..	630
Lake Macquarie ... ..	12,470	Port Hacking ... ..	538
Hawkesbury River ... ..	9,377	Bermagui River ... ..	533
Tuggerah Lakes ... ..	6,259	Camden Haven ... ..	500
Lake Illawarra ... ..	5,936	St. George's Basin ... ..	420
Port Jackson ... ..	5,016	Terrigal ... ..	273
Cape Hawke ... ..	3,247	Hunter River ... ..	98
Manning River ... ..	3,144	Moruya ... ..	97
Shoalhaven River ... ..	3,057	Wagonga River ... ..	58
Port Stephens ... ..	2,831	Narrabeen ... ..	52
Ulladulla ... ..	1,879	Twofold Bay ... ..	37
Brisbane Water ... ..	1,866	Jervis Bay ... ..	26
Hastings River ... ..	1,426	Kiama ... ..	13
Bateman's Bay ... ..	711	Nambucca River ... ..	6

As far as possible, reliable information has been obtained regarding the operation and volume of business transacted at the various fish markets in Sydney, and interesting returns are given in the Appendices of the quantity of fish disposed of at each market, and the range of prices obtained for each class of fish.

The greatest business is done at the Eastern Market, which possesses a refrigerating chamber, in which the fish are stored on arrival in Sydney, and removed for the early morning sales. It is a drawback to the Redfern Markets that they are not fitted with cooling chambers, but the majority of fish retailed at these markets are stored on their arrival in cooling chambers at Pyrmont, and removed for the daily sales.

While on this subject, it may be pointed out that reform is greatly required in the mode of treatment of fish from the time of capture to its disposal by auction. With very few exceptions, fish are bundled haphazard into baskets and boxes upon capture, exposed to the sun for hours, and when they reach the markets their condition is very inferior, and, naturally, their value much affected. To avert this objectionable method, the Commissioners would suggest that the fishermen, in their own interest, should gut all fish when caught, pack them in cases composed of wire trays at intervals to prevent undue pressure, and charge the cases with ice, care being taken that the dissolved water does not come into contact with the fish. This will effect the necessary reduction of temperature throughout the entire contents of the box, and fish packed and carried in this manner should be sweet and firm, and would realise much better prices than those obtained under the present conditions.

Shoals of fish have been seen in various waters, and have occasionally disappeared without any apparent reason to account for their doing so. As there are good and bad fishing years in the waters, as well as good and bad harvests on land, it is only reasonable to suppose that the seasons and other causes of which nothing is definitely known, influence their movements and consequently the supply.

A considerable quantity of fresh and chilled fish has been imported principally from the adjacent Colonies during the year—7,249 packages, valued at £6,627, as against 2,206 packages exported, valued at £3,299. Detailed particulars of the quantity and value of imports and exports are given in Appendix C. The highest imports come from New Zealand, from which Colony 2,192 packages of fresh fish and 1,379 of chilled fish have been imported.

From the returns furnished and printed in the Appendix marked D, it will be seen that 75,218 baskets of fish, 2,145 baskets of prawns, and 1,689 dozen crayfish were disposed of at the three Metropolitan Fish Markets, particulars of which are given therein. Newcastle is the centre of supply of all the northern towns, and a large percentage of the fish from Port Stephens and Lake Macquarie are sent direct from that city along the railway line, instead of being consigned to Sydney.

Closures.

### Closures.

It having been reported by the various Inspectors that the supply of fish in certain waters was becoming depleted through over-netting and other causes, and the Commissioners having satisfied themselves of the correctness of their reports, the following waters were closed against fishing-nets for periods ranging from four months to two years:—

Portion of Middle Harbour from the Spit to Pearl Bay, and all that part of the Main Arm of Middle Harbour lying to the north of the south-east corner of John Baptiste's 41 acres, portion 5, being about 10 chains south of Echo Farm.

That portion of George's River westward of a line drawn from Dover Point to Horse Rock Point, Sylvania, and the whole of Brisbane Water north of a line drawn from Box or Hawk Head to Green Point.

The continuous netting on these grounds had been most disastrous up to the period of closure, by tearing up the bottom of the waters, and causing injury to the fauna and flora inhabiting the grounds, the principal injury being caused by the sunken nets legalised contrary to the advice of the Commissioners. It is from this fauna and flora that many of the fish obtain their food; but it is gratifying to state that the feeding-grounds are now greatly improving.

The closure of a portion of the waters of Lake Illawarra, Lake Macquarie, Woronora and George's Rivers having expired, advantage was taken of the provision of the Fisheries Act, which allowed an extended protection of such waters, and they were further extended for a term of twelve months.

It is very difficult to adopt necessary measures for a proper protection of the fish and fishing-grounds without causing a certain amount of dissatisfaction amongst the fishermen, but, while the Commissioners are anxious to assist the licensed men as far as practicable, they find it absolutely necessary for the preservation of fish, and to maintain the supply, that breeding-grounds should be nursed and protected.

In all the protected waters young fish abound in vast numbers, and the Commissioners look forward to a great increase in the number of mature fish from these sources.

The "Fisheries Act Amendment Act of 1894," which admits of nets not exceeding 300 fathoms being hauled, was, after careful inquiries and consideration, extended to portions of Lakes Illawarra and Tuggerah.

Upon the recommendation of the Trustees of the National Park, a proclamation was issued under the "Net Fishing in Port Hacking Prohibition Act Amendment Act of 1894," declaring the whole of Port Hacking waters eastward of the Spit to be open to net-fishing during the winter months of June, July, and August, and very heavy freights of fish were captured during this period.

### Prawns.

A request having been made by the Fisheries Department in Auckland, New Zealand, for the supply of live prawns, with a view to acclimatising them in their waters, several experiments have been made by the Inspectors to ascertain whether they could be kept alive a sufficient time to enable them to be successfully carried to the New Zealand coast, but, though every available method has been tried, only partial success has resulted. The experiments resulted as follows:—

Two quarts of prawns were placed in about 4 gallons of the water from which they were taken, and the next morning they were all dead. The next lot were placed in a bucket containing a deposit of sand, and others in a box containing salt-water weeds, and although they were kept in a cool place, the vessels being replenished with salt water morning and evening, they were all dead in three days.

A fresh batch was then placed in a tank half filled with water, sand, and seaweed. This tank was then fed by a small continuous stream from another tank placed above it. The prawns were all dead on the seventh day.

On another occasion the Inspector experimented with sixty-five prawns, all of which died within five days.

These experiments show the impracticability of transporting prawns in a live condition to places that necessitate several days journey.

It has been the practice of the Department for some years to pay a penalty for the destruction of sharks within Port Jackson over 8 feet in length, and during the past year forty-five have been destroyed after being measured and certified to by the Inspectors.

The monsters are, in addition to being a menace to human life, terribly destructive to the schools of fish that frequent these shores, and if they were more generally destroyed the supply of fish might be better.

Sharks are found in these waters all the year round, but are more plentiful in the warm months when the salmon and mullet are travelling. Some of these attain a great size. In one of the sharks caught by Mr. Phillips at Quarantine Grounds he found a joint of a whale's back 10 inches long and 7 inches broad, and tested the size of the jaws by slipping them over the shoulders of a full-sized man.

To give some idea of their fecundity, one specimen was found to contain thirteen young ones, and another case brought under notice contained forty-six young advanced in development, and about 15 inches long.

A well-conditioned sea shark will yield 12 gallons of oil, extracted by cutting the liver into small pieces and boiling it in water, on which it floats.

The oil gives a bright light in burning and is valuable for lubricating machinery.

The fins when dried find a ready market at 10d. per pound, they being considered a delicacy by the Chinese, who utilise them as articles of food.

Much inconvenience to some of the Inspectors, and deterioration to the property of the Department, has been caused through the absence of proper provision to protect boats, &c., in the various waters, and the Commissioners have had erected at moderate expense, boatsheds, but our funds will not allow of this conserve precaution being generally carried out. Such sheds as the Commissioners have had erected at the Hawkesbury River and Lake Illawarra afford protection to the boats and enable the Inspectors to keep their movements to a certain degree from the knowledge of those who are particularly anxious to ascertain them.

The boat at Nelson's Bay has been placed in charge of the local police and the boatshed loaned to the Customs Officer until required, while the boatshed at Newcastle has been temporarily handed over to the Harbour-master at that port.

To replace the boat at Lake Illawarra, which is 15 years old and past utility, a new boat has been built more suited to that water, and the Inspector is now enabled to get about the lake in all weathers.

The preliminary steps taken in 1896 for the resumption of a portion of land at Tuggerah for the erection of a residence for the local Inspector were concluded on the 31st December, 1897, when the area of 1 acre was set apart for this purpose at a cost of £43 16s. 7d.

Steps have been taken to secure a more suitable site for the erection of a residence for the Inspector at Lake Macquarie, which, if successful, will enable him to have a commanding view of the closed waters at the channel entrance as well as the main portion of the lake.

### Oyster Culture.

In our last Annual Report the Commissioners recorded the fact that the supply of oysters for the year had greatly exceeded the returns for the previous ten years, and they find that there has been a further increase of over 1,500 bags in the output for 1898.

As a matter of fact, the great quantity of oysters put on the market has been the means of reducing the cost in bulk, but whether the public have benefited by this reduction in price by obtaining this mollusc at a reduced cost—retail—is a matter of doubt.

At the beginning of the year it was thought the oyster cultivators of this Colony would have a very prosperous season, in view of the fact that in the neighbouring Colony the oysters had developed the same disease as exists in some of our oyster-beds, but as the season advanced oysters from this source were disposed of in this market, and in Melbourne, at exceptionally reduced prices, and militated against the realisation of high prices being obtained.

Some of the best oysters from this Colony's waters, produced last season, were from Camden Haven waters, and their excellent condition is no doubt due, in a great measure, to the care and attention that is bestowed upon them by the lessee.

From April to October the young oysters from the spatting-beds on the foreshores and round the mangroves in these waters are carefully removed and taken to the deep-water maturing beds, where they are allowed to remain a few months and then forwarded to market in excellent condition, and rich in flavour.

As the leases in these waters are all held by one lessee, Mr. Gibbins, he receives the benefit of labour expended in their production, and the Commissioners have every reason to believe that the commendable mode of cultivation now carried out will be continued.

The production in excess over the previous year—from the Hunter River was 1,888 bags, Clyde River 302, Shoalhaven 167, Hawkesbury 266, and George's River and Botany 372, while a considerable falling off was apparent in the Camden Haven, Cape Hawke, and Port Stephens waters.

The increase in the import from and export to other colonies of oysters during the year has been very great, no less than 7,110 bags, valued at £5,322, having been imported, as against 6,124 bags, valued at £8,036, being exported, particulars of which may be seen in Appendix E.

The reason of these high figures is in a large measure due to the partial failure of the oyster crop in Queensland, which Colony has been hitherto a large competitor with the oyster cultivators of New South Wales.

Applications were lodged during the year for 48,154 yards of foreshore, and the total area under lease at the end of 1898 aggregated 191,014 yards.

On the 31st December, 1898, fifty-one leases became due for renewal for a further term of fifteen years, in accordance with the terms of the Oyster Fisheries Act of 1884, and the necessary steps were taken to give effect to the provisions of the Act in the cases of those that had complied with the conditions of the leases and regulations.

Early in February, 1898, a very abundant fall of spat occurred at Wallis Lake, and attached itself chiefly to low-water mark in Wollamba River, Clement's Bay, Twin Islands, Godwin's Island, and Breckenridge Creek. The local Inspector obtained some samples which were placed in good developing ground with a view to making observations as to their growth and maturation, and to ascertain, if possible, the length of time they required to attain a marketable size. At the end of the year they were found to have reached a size of  $1\frac{1}{4}$  inch in diameter, and to have a very healthy appearance, but were not yet ready for the market.

A tabulated statement, marked F, is appended giving particulars of the quantity of oysters consigned to market from each lease monthly, and the monthly output from each water.

A few observations may be made for the benefit of those who wish to take up oyster culture, which, if carefully noted, will ensure the greatest return for the labour employed and expense incurred.

The breeding season varies very materially in different latitudes and in different years, but from records made it is probable that (in this Colony) the spatting season occurs between November and March.

The fecundity of the oyster is enormous; each spatting oyster, it is estimated, produces about 1,000,000, but the risk of destruction is so great that only a small proportion of the larval oysters set free from the parent in the natural condition can survive to attain the fixed state of maturity.

In order that the larvæ of the parent oyster may be saved as much as possible, it is necessary, among other considerations, that when the time for the fixation of the larval oyster arrives, it shall find a clean surface upon which to adhere. An estuary which possesses a clean, firm bed is a most important catchment, and where this feature does not obtain, it is necessary to supply the deficiency.

If the larval oyster falls upon soft muddy ground, it is lost to the oyster cultivator, but if it falls upon a clean catchment its chance of survival is greatly increased.

In order to bring about this condition where it does not naturally exist, substances with a clean surface should be laid down just prior to the liberation of the fry. Such substances as oyster-shells dried and bleached during the winter months, and stones recently broken, with clean surfaces, may be used.

Tops of branches of oak-trees, slates suspended, which have been whitewashed, or tiles covered with a specially-prepared cement, consisting of lime, sea water, and sand in variable proportions, which allows of the easy chipping off of the attached mollusc, are very suitable.

The essential feature, however, is that all or any of these contrivances shall have a clean surface, so that the infant oyster can adhere to it; and to secure this cleanliness the collecting cultch must not be laid down till the time immediately preceding the date of the larval oyster's liberation.

A great deal of judgment in the deposition of the collecting cultch has to be exercised; if placed in position too early the material is apt to become covered with a slimy deposit which is fatal to the adhesion of the spat; if, on the other hand, it is deposited too late, a large number of the infant oysters are lost.

The cultch being ready, and the spatting season having commenced, it should be laid down with all possible haste.

At

At the request of the Honorable J. M. Borrow, a member of the Government of Fiji, who was visiting Sydney, six cases of oysters were procured from the waters of George's River, Hawkesbury River, and Brisbane Water in May, and presented to that gentleman for transport to Fiji, in the hope that the Sydney oyster might be established in their waters. The oysters were carefully packed, and reached their destination safely, but no information has been received as to the result of the experiment.

In February, Mr. George Griffin, a practical oyster cultivator in Moreton Bay, was accredited to this Department by the Chairman of the Fisheries Department of Queensland to inquire into and report on the preventive means used in the Hunter River District by Mr. Gibbins to check the spread of the disease in those waters.

The Chief Inspector accompanied this gentleman to Newcastle, where Mr. Gibbins had made all necessary arrangements for a thorough inspection of the oyster-beds, and Mr. Griffin obtained much valuable information regarding the pest, which is similar to that in the Queensland waters, *Polydora ciliata*.

The disease is generally found below half-tide mark, and generally on mud flats, more particularly those in the back channel.

The long continued dry weather appears to have greatly facilitated the increase of this disease, and the lessee has a gigantic undertaking before him if he succeeds in eradicating it. Mr. Gibbins, the lessee of this river, is, however, endeavouring to grapple with the difficulty in a manner that commends itself to those interested in oyster culture, and is sparing neither time nor money in his efforts to eradicate the worm from his leases.

Hundreds of tons of shell cultch have been dredged from the deep waters and placed on the banks to dry, and are then returned to the waters. When freshes in the river occur, the probability is that he will overcome the disease.

This disease is supposed to be caused by the immature form of the worm, known as *Polydora ciliata*, swimming into the open oyster when the valves are naturally apart and fixes itself within the margin of the shell beneath the mantle of the animal, over which fine mud particles are deposited, acting as a rough irritating body. The oyster sets to work to cover it over with a thin layer of smooth shelly matter. This process is repeated on the entrance of other worms, and in the end the oyster becomes exhausted and dies.

As this disease is becoming prevalent in several of the oyster fisheries of the Colony, it is only reasonable to suppose that the oyster industry will be seriously affected if some stringent measures are not adopted to eradicate the evil, and the Commissioners recommend that a clause should be embodied in the new Bill to be brought before Parliament during the present session, to compel lessees to keep their beds free from this disease.

A report of the Chief Inspector's visit to the Hunter River is printed in the Appendices.

### Reserves.

The Commissioners have not lost sight of the interests of the residents near oyster-grounds, and have proclaimed public oyster reserves at Khappinghat Creek, Clarence River, Port Hacking, and Sussex Inlet, which will be the means of exempting these foreshores from oyster leasing, and will provide ample ground for people residing in the vicinity of such exemptions, provided they are placed under supervision which the present Act does not provide for.

### Inland Fisheries.

A considerable quantity of fresh fish has been forwarded to market from the railway stations of Hay, Wagga Wagga, Bourke, Wellington, Forbes, and Gunnedah, aggregating 16 tons 11 cwt. 1 qr. 11 lb., the greater portion of which were forwarded from Bourke during the winter months.

These fish are principally of the cod species; they meet a ready sale; and greater quantities could be easily disposed of if chilled chambers were provided in trains coming from these far-distant waters once or twice a week.

Detailed particulars of the quantity arriving monthly from these waters are given in Schedule marked G.

The past year has not alone been disastrous to stock and cultivations, but has been terribly disastrous to fish-life in the waters of the interior.

Thousands

Thousands of fish have been reported to have died, as a result of the rivers stopping running and lakes drying up; and it will take a considerable time before such waters are restocked by the remaining ova.

Lake George and other lakes, which at one time promised to become factors in the supply of fish to the metropolis, have suffered very severely; and, in fact, the water in several fine lakes has quite disappeared, and the stench from them is an indication of the enormous destruction of fish-life that must have occurred.

The attention of the Commissioners has been drawn to the class of fish-traps used in various inland rivers, which are of a very objectionable character, and from their manner of working tend to prevent the free passage of fish up and down the rivers.

While deploring the use of these traps, the Commissioners are not in a position to take any proceedings against their use, as they do not come within the provisions of the present Act, and the attention of the Government is recommended to this defect in bringing any new Bill into force.

The trap is constructed as follows:—A drop fence of poles is erected across the river with an opening in the centre of the stream. Into this opening a square wooden frame covered with wire-netting of small mesh is placed, and on the side of the cage facing down stream a funnel-shaped entrance is fixed, the opening being larger on the outside than on the inside.

A Trawling Expedition on behalf of the Government was carried out under the supervision of Mr. Frank Farnell, with a view of testing the ocean bottom off the coast to prove whether trawling operations could be carried on with success.

The Government steamer "Thetis" was fitted out for the purpose and was equipped with an otter trawl in charge of Captain Neilsen. Operations were carried out along the coast in depths from 10 to 90 fathoms, and the grounds from Manning Heads to Jervis Bay were tested.

A very interesting and instructive report upon the experiments made was issued by Mr. Farnell, and laid before Parliament last year, and a detailed account has been partially worked out by the scientific staff of the Australian Museum of fish and other marine fauna found, part of which is now passing through the Press.

#### Trout Acclimatisation.

Fifty thousand trout ova, consisting of rainbow (*salmo irideus*), brown trout (*salmo fario*), and loch leven (*salmo levenensis*), were obtained from the Wellington Acclimatisation Society, New Zealand, in July, August, and September, and hatched out at the Prospect Hatchery.

On account of the late consignment of a portion of these ova (partly due to an adverse season in New Zealand) a number of the eggs were in bad condition on arrival, and consequently several were lost before being hatched out, but the remainder were hatched in a very healthy condition.

The temperature of the water in the hatchery and ponds has been taken, and an average has been struck for each month, particulars of which are given in Appendix H.

Several thousands were liberated in the fry stage in the following waters, with very satisfactory results, viz. :—

Stream at Black Mountain.	Paterson River.
Braidwood Creek.	Winburndale Creek.
St. Omer Creek.	Cudgegong River.
Currowan Creek.	Waterloo Creek.
Cookaralla Creek.	Lake near Cooma.
Fagan's Creek.	Streams near Albury.
Little River.	Macquarie River.
Charleyong River.	Cataract River.
Warrambucca River.	Snowy River.
Bombay Creek.	Nepean River.
Shoalhaven River.	Waters near Armidale.
Wollondilly River.	Turon River.
Nattai Creek.	Lagoon at Glenbrook.
Creek at Lawson.	Scotchies Creek.
Rivers at Walcha.	Beardy River.
Creek at Taralga.	Maun River.
Quidong River.	Woronora River.
Saucy Creek.	Hunter River, Singleton.
Belabula River.	Glen Innes Waters.

In



In response to a communication from the Department to well-known residents in the interior, asking for information as to the growth and increase of trout which have in years past been liberated in the various streams throughout the Colony, much valuable information has been received, pointing to the fact that trout are rapidly becoming thoroughly acclimatised in certain districts, more particularly in the Monaro District waters, where the temperature and conditions are more favourable to their existence.

The following particulars, which have been extracted from the supplies furnished, give those waters in which trout have at various times during the year been observed and caught:—

*South.*

*Eucumbene River.*—Young trout are frequently seen, and some weighing  $\frac{1}{2}$  a pound have been caught with eel lines.

*Moonbah River.*—Over thirty trout have been counted rising out of the water in a distance of half a mile, and some of 1 lb. and  $2\frac{1}{2}$  lb. weight have been caught.

*Mowembah River.*—Upwards of sixty have been caught with hand lines from  $\frac{1}{2}$  lb. to 3 lb. weight.

*Bibbenlake River.*—Two caught weighing 4 lb. and 5 lb., and some from 2 inches to 10 inches long have been seen.

*Upper Queanbeyan River.*—Several have been seen, and one weighing  $1\frac{1}{2}$  lb. to 2 lb. has been caught.

*Albury Waters.*—A number of small fry have been seen, but not yet caught.

*Snowy River.*—These waters are well stocked, and trout from 18 in. to 30 in. in length can be seen.

*Taralga Creeks.*—Several have been caught weighing  $\frac{1}{2}$  lb. and upwards.

*Guincoor Creek.*—Several caught, on eel lines, measuring 8 in. in length.

*West.*

*Carcoar Waters.*—Several 7 in. and 8 in. long have been seen and appear to be thriving.

*Jounama Creek, Tumut.*—Several have been seen, but no attempts have been made to catch them.

*Oberon Waters.*—One caught weighing  $10\frac{1}{2}$  lb.

*Wallinga Creek, Mudgee.*—One caught  $\frac{1}{2}$  lb. in weight.

*Rylstone Creek.*—Small trout can be frequently seen.

*Turon River.*—They have been seen rising out of the water, and one was caught weighing 1 lb.

*Macquarie and Fish Rivers.*—Trout are doing well and a few have been caught.

*Winburndale Creek.*—Several seen 11 in. or 12 in. long.

*Wallerawang Creek.*—Several small trout from 6 oz. to 8 oz. caught, and they appear to be increasing.

*North.*

*Macdonald River.*—Eleven trout were washed ashore by a fresh in the waters, some weighing 4 lb.

*Allyn and Patterson Rivers.*—Several have been seen up to 2 lb. weight.

*Bendemeer Waters.*—Some have been seen, but none caught.

*Sandy Creek, Wandsworth.*—Small trout have been caught, but not in quantity.

*Glen Innes Waters.*—Small trout have been seen swimming about contentedly.

In consequence of the want of power to prevent the destruction of trout or other fish introduced into inland waters under the present Act, it will take several years to properly stock the streams of this Colony with trout.

Until these fish are thoroughly established the Commissioners look to the local people to protect them.

Many fishing enthusiasts in the interior have supported us in this respect by returning trout to the water when caught on lines baited for other fish, and it is the desire of the Commissioners that similar action should be taken in those waters that are only sparingly supplied with this species of fish.

Owing to the excessive dry season which we have passed through several of the water-courses that have been stocked are merely a chain of holes, and it has been reported that boys are in the habit of wading into the shallow parts and spearing the introduced fish.

This reprehensible practice is much to be deplored, and the Commissioners will be glad if the local authorities will assist the Department in preventing such wanton destruction, and protect the fish.

The natural enemies of young trout, in the guise of cormorants, eels, carp, water-rats, water-lizards, and possibly snakes, are very numerous, and it is therefore necessary for sportsmen to offer them all the protection possible till they are well established throughout the Colony.

Two of the ponds running into Prospect Reservoir have been covered with wire-netting, and 4,000 fry were liberated here on the 3rd November, and 2,000 were retained in the three ponds at the hatchery.

It is our intention to retain these fish till they reach the yearling stage, and then liberate them in some of the most suitable waters in the Colony.

Notwithstanding the great care which has been bestowed upon these fish in protecting and regularly feeding them, a fair percentage are from one cause and another destroyed, but the Commissioners hope to have a large number for distribution.

A wire-netting fence has been erected round the hatchery at Prospect, at a cost of £18 10s., with a view of protecting the building and ponds from the stock, and it has improved the appearance of the grounds considerably.

The difficulties and dangers attending the conveyance of trout fry from the Prospect Hatchery to inland waters, renders it necessary that hatcheries should be established on the banks of trout streams, and the Commissioners will be glad if the Government will make the necessary provision for the erection of one or two of such buildings.

In connection with the trout hatchery, valuable assistance has been rendered by the local officers of the Water and Sewerage Board, and the Commissioners have to thank Mr. Jacob, the resident engineer, for the loyal assistance he at all times rendered them.

In concluding this report, the Commissioners would again urge upon the Government the necessity for introducing new legislation to remedy the evils existing under the present fisheries enactments.

The existing laws are full of defects and have failed to promote the fishing industry, or to give satisfaction to the professional fishermen or to the public, and it is much to be deplored that remedial legislation on this important industry has been so long delayed.

We have the honor to be,

Sir,

Your most obedient servants,

JAMES C. COX,  
J. H. WANT,  
S. H. HYAM,  
W. R. CAMPBELL,  
FRANK FARNELL.

## APPENDICES.

## A.

REVENUE of the Department of Fisheries for the year ending 31st December, 1898.

	£	s.	d.
Fishermen's licenses, 738 at 10s. ... ..	369	0	0
" " 139 at 5s. ... ..	34	15	0
Fishing-boat " 337 at 20s. ... ..	337	0	0
" " 73 at 10s. ... ..	36	10	0
Deposits on applications ... ..	491	0	0
Rent on leased areas ... ..	2,028	11	1
Deed fees ... ..	197	0	0
Transfer fees ... ..	50	0	0
Fines and forfeitures ... ..	169	14	0
	<b>£3,713</b>	<b>10</b>	<b>1</b>

EXPENDITURE of the Department of Fisheries for the year ending 31st December, 1898.

£2,525 Os. 2d.

## B.

SCHEDULE of Applications for Oyster-culture Leases received during the year 1898.

Name of Applicant.	Area.	Locality.	Name of Applicant.	Area.	Locality.
Stinson, Mary A. ....	yards. 500	Manning River.	Ongley, John Henry .....	yards. 200	Manning River.
Engel, George A. ....	200	Port Stephens.	Do .....	200	do
Warren, Wm. ....	500	Womboyne River.	Do .....	100	do
White, Thomas.....	530	Quibray Bay, Botany.	Haiser, George .....	200	Shoalhaven River.
Latta, Wm. ....	300	Sussex Inlet.	Woodward and Moriarty .....	100	Manning River.
Do .....	3,300	do	Lange, Francis .....	200	Port Stephens.
Do .....	100	do	Twylford, Joseph Wm.....	300	Nelson's Lake.
Hollis, C. E., and Miles, E. J.	200	Macleay River.	White, Thomas.....	100	Quibray Bay, Botany.
Do do .....	200	do	Ongley, W. S. ....	300	Manning River.
Do do .....	300	do	Johnson, Peter T. ....	300	Port Stephens.
Gibbins, Fredk. J. ....	800	Hunter River.	Latte, Wm. ....	100	Clyde River.
Do .....	400	do	Guy, George T. ....	500	Cullendulla Creek.
Martin, Thomas .....	500	Macleay River.	Denham, Johnson, and Denham	300	Nambucca River.
Haiser, George .....	300	Crookhaven River.	Do do do .....	200	do
Do .....	300	do	Korsman, Joseph H. ....	500	Port Stephens.
Do .....	200	do	Little and Hawkins .....	400	Quibray Bay, Botany.
Vassallo, John .....	300	Tweed River.	Barclay, James .....	100	Clyde River.
Do .....	300	do	Wray, Timothy .....	100	Moruya River.
Johnson, Peter T. ....	200	Port Stephens.	Do .....	100	Congo Creek.
Haiser, George .....	300	Crookhaven River.	Witchard, George .....	400	George's River.
Do .....	200	do	Laman, Henry .....	100	Port Stephens.
Do .....	100	do	Wray, Timothy .....	500	Clyde River.
Thompson, Wm. ....	500	Port Stephens.	Do .....	600	do
Comino, Young.....	100	Manning River.	Barclay, J., and Latta, D.....	800	Womboyne River.
Vassallo, John .....	200	Tweed River.	Barclay, Edmund.....	600	Narrawillie Creek.
Wray, Timothy .....	100	Moruya River.	Do .....	200	do
Do .....	100	do	Wray, Timothy .....	100	Moruya River.
Do .....	100	do	Do .....	200	do
Do .....	100	do	Elliott, Walter .....	70	Wallis Lake.
Hollis, C. E., and Miles, E. J.	200	Macleay River.	Woodward and Moriarty .....	200	Port Stephens.
Want, John H. ....	200	Port Hacking.	Barclay, James .....	200	Clyde River.
Diemar, Ernest N. ....	100	Port Stephens.	White, Cyril C. ....	500	Port Stephens.
Do .....	300	do	McMillan, John .....	200	Wagonga River.
Haiser, George .....	200	Crookhaven River.	Emmott, Thos. W. ....	200	Moruya River.
Stevens, Nicholas.....	500	Port Stephens.	Do .....	200	do
Hyde, George T. ....	500	do	Do .....	100	do
Cromarty, James .....	100	do	Wray, Timothy .....	200	Clyde River.
Lonesborough, John .....	200	Crookhaven River.	Do .....	44	do
Do .....	200	do	Do .....	100	do
Haiser, George .....	200	do	Do .....	200	do
Laman, Henry .....	500	Port Stephens.	Do .....	200	do
Do .....	300	do	Barclay, James .....	100	do
Brown, Alexr. K. ....	500	Nellica River.	Ravel, George .....	200	Wallis Lake.
Woodward and Moriarty .....	200	Port Stephens.	Do .....	100	do
Do do .....	166	do	McLean, Ronald.....	500	Wagonga River.
Witchard, George .....	400	Botany Bay.	Stuart, James .....	500	George's River.
			Ellmoos, Jacob.....	500	Sussex Inlet.

SCHEDULE of Applications for Oyster-culture Leases—*continued.*

Name of Applicant.	Area.	Locality.	Name of Applicant.	Area.	Locality.
	yards.			acres.	
Davison, Ada F. ....	400	Wagonga River.	Wray, Timothy .....	4	Clyde River.
Comino, John .....	200	Manning River.	Do .....	500	do
Do .....	200	do	Richards, Fredk. W. ....	500	Manning River.
Do .....	100	do	Hanley, Nicholas .....	100	Bellinger River.
Gibbins, Fredk. J. ....	800	Hunter River.	McLean, Ronald .....	300	Wagonga River.
Do .....	700	do	Do .....	200	do
Cromarty, James .....	200	Port Stephens.	McDermid, John .....	500	Manning River.
Gibbins, Fredk. J. ....	200	Hunter River.	Latta, Wm. ....	300	Clyde River.
Browne, Fredk. D. ....	500	Hawkesbury River.	Milton, Wm. Henry .....	500	Wagonga River.
Waddingham, Henry .....	500	Port Stephens.	Lonesborough, John .....	300	Crookhaven River.
Dick, Ernest H. and Thos. ...	100	Hastings River.	Collis, Edwin J. ....	900	George's River.
Eagleton, Wm. ....	200	Port Stephens.	Latona, Vincenzo .....	500	Boambee Creek.
Field, Annie .....	500	Wagonga River.	Do .....	500	Bonville Creek.
Ongley, J. H., and Meagher, R. D. ...	500	Manning River.	Mudford, David .....	100	Manning River.
Do do .....	100	do	Do .....	200	do
Do do .....	100	do	Do .....	200	do
Gibbins, Fredk. J. ....	1,500	Hunter River.	Richards, Fredk. Wm. ....	500	do
Colbran, Frank .....	500	Hawkesbury River.	Symonds, Ernest .....	400	Port Stephens.
Dick, John Stuart .....	200	Hastings River.	Nantes, Henry .....	500	Wagonga River.
Marshall, G., Covell, S., and Izzard, J. ....	400	Hawkesbury River.	Barclay, J., junr., & Latta, D. ....	100	Candlegut Creek.
Do do .....	700	do	Templeman, Thos. ....	374	Clyde River.
Davis, George A. ....	100	Brisbane Water.	Ongley, W. S., and Meagher, R. D. ...	300	Manning River.
Woodward, H. and Moriarty, J. ....	100	Manning River.	Do do .....	300	do
Hyde, George Thos. ....	200	Port Stephens.	Do do .....	300	do
Ongley, J. H., and Meagher, R. D. ...	300	Manning River.	Gibbins, Fredk. J. ....	100	Camden Haven.
Gibbins, Fredk. J. ....	200	Hunter River.	Wray, Timothy .....	100	Clyde River.
Do .....	500	do	Laman, Thomas .....	200	Port Stephens.
Barclay, James .....	200	Clyde River.	Sheather, C. H. ....	200	Manning River.
Holbert, Edward .....	300	Port Stephens.	Holbert, F. ....	1,000	Port Stephens.
Shoosmith, Alfred .....	500	Manning River.	Sheather, C. H. ....	300	Manning River.
Cheyne, George .....	200	Richmond River.	Smith, James .....	200	do
Paddon, Thomas .....	200	Evans River.	Do .....	200	do
White, Cyril C. ....	300	Port Stephens.	Do .....	100	do
Do .....	200	do	Wray, Timothy .....	300	Clyde River.
Wray, Timothy .....	200	Clyde River.	Latta, Wm. ....	100	do

## C.

RETURN showing the Number of Packages of Fish imported into New South Wales during 1898.

Imported from—	Fresh Fish.		Chilled Fish.		Totals.	
	Packages.	Value.	Packages.	Value.	Packages.	Value.
Victoria .....	396	£ 277	1	£ 10	397	£ 287
Tasmania .....	10	384	50	20	60	404
Queensland .....	1,003	602	.....	.....	1,003	602
New Zealand .....	2,192	2,007	1,379	1,493	3,571	3,500
South Australia .....	1,512	1,300	.....	.....	1,512	1,300
United Kingdom .....	.....	.....	335	328	335	328
United States .....	.....	.....	355	144	355	144
Canada .....	.....	.....	16	62	16	62
Totals .....	5,113	4,570	2,136	2,057	7,249	6,627

RETURN showing the Number of Packages of Fish exported from New South Wales during 1898.

Exported to—	Fresh Fish.		Chilled Fish.		Totals.	
	Packages.	Value.	Packages.	Value.	Packages.	Value.
Victoria .....	1,652	£ 2,129	.....	£ .....	1,652	£ 2,129
South Australia .....	386	916	.....	.....	386	916
New Caledonia .....	23	35	.....	.....	23	35
Queensland .....	.....	.....	2	3	2	3
New Zealand .....	.....	.....	1	1	1	1
Cape Colony .....	.....	.....	139	209	139	209
Ceylon .....	.....	.....	1	1	1	1
Natal .....	.....	.....	2	5	2	5
Totals .....	2,061	3,080	145	219	2,206	3,299

D.  
EASTERN Market, Woolloomooloo.

Name of Water.	Baskets of Fish received.	Dozens of Crayfish received.	Baskets of Prawns received.	Baskets unfit for food.	Name of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Richmond River .....	630	...	...	20	Schnapper ... doz.	15/- to 81/-	12/- to 57/-	15/- to 78/-	18/- to 123/-	12/- to 96/-	20/- to 81/-	7/- to 90/-	20/- to 69/-	24/- to 72/-	24/- to 132/-	20/- to 84/-	15/- to 90/-
Clarence River .....	7,413	...	...	49	Black Bream ..	2/- ,, 6/-	1/- ,, 4/-	-/9 ,, 7/6	2/- ,, 8/-	3/- ,, 8/-	2/- ,, 7/-	1/- ,, 8/-	2/- ,, 9/-	1/- ,, 9/6	1/- ,, 8/-	2/- ,, 9/-	2/- ,, 7/6
Macleay River .....	494	...	...	...	Flathead ... ..	2/- ,, 17/-	3/- ,, 15/-	2/- ,, 18/-	2/- ,, 18/-	5/- ,, 30/-	4/- ,, 24/-	4/- ,, 24/-	5/- ,, 24/-	4/- ,, 24/-	4/- ,, 18/-	4/- ,, 24/-	6/- ,, 24/-
Nambucca River .....	6	...	...	...	Whiting .....	2/- ,, 5/-	1/3 ,, 4/6	3/- ,, 8/6	1/3 ,, 9/-	2/- ,, 8/-	1/6 ,, 7/-	1/9 ,, 8/-	2/- ,, 7/6	2/6 ,, 9/6	2/- ,, 7/3	2/- ,, 7/-	1/- ,, 9/-
Port Macquarie .....	593	...	...	7	Flounders ... ..	4/- ,, 8/-	2/6 ,, 6/-	2/- ,, 8/-	3/- ,, 6/-	2/- ,, 6/-	3/- ,, 12/-	3/- ,, 12/-	3/- ,, 9/-	3/- ,, 9/-	3/- ,, 10/-	3/- ,, 9/-	3/- ,, 9/-
Manning River .....	1,976	...	...	...	Kingfish .....	12/- ,, 24/-	10/- ,, 20/-	15/- ,, 24/-	.....	.....	20/- ,, 24/-	24/- ,, 36/-	18/- ,, 20/-	12/- ,, 30/-	18/- ,, 30	12/- ,, 18/-	2/- ,, 3/6
Cape Hawke .....	1,957	10	...	...	Jewfish .....	14/- ,, 62/-	4/- ,, 36/-	6/- ,, 60/-	12/- to 93/-	6/- to 96/-	20/- ,, 74/-	6/- ,, 90/-	19/- ,, 120/-	18/- ,, 72/-	8/- ,, 72/-	14/- ,, 90/-	12/- ,, 102/-
Seal Rocks .....	...	77	...	...	Teraglin.....	6/- ,, 9/-	4/- ,, 6/-	6/- ,, 15/-	9/- ,, 20/-	.....	.....	4/- ,, 18/-	9/- ,, 15/-	6/- ,, 8/-	6/- ,, 18/-	6/- ,, 12/-	2/- ,, 10/-
Port Stephens .....	519	676	...	4	Nannegai ..	2/- ,, 3/6	3/- ,, 4/-	3/- ,, 12/-	3/- ,, 8/-	4/- to 7/-	.....	1/6 ,, 2/6	3/- ,, 3/6	3/- ,, 4/6	2/- ,, 3/6	2/- ,, 5/-	1/9 ,, 2/9
Hunter River.....	13	...	6	...	Salmon ... ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1/6 ,, 2/9	1/6 ,, 3/-
Lake Macquarie .....	1,089	13	...	...	Mullet .....	-/6 to 3/-	-/3 to 1/6	-/9 to 4/6	-/9 to 6/-	1/- to 4/-	-/9 to 4/-	-/9 to 3/-	-/9 to 5/3	-/9 to 4/6	-/9 to 5/-	-/9 ,, 5/-	1/6 ,, 5/-
Tuggerah Lakes.....	1,281	...	...	4	Rock Cod ... ..	2/- ,, 4/3	2/- ,, 4/6	2/- ,, 5/-	4/- ,, 9/-	4/- ,, 60/-	2/- ,, 4/6	2/- ,, 4/-	1/- ,, 1/6	2/- ,, 6/-	2/- ,, 5/-	12/- ,, 27/-	2/- ,, 5/6
Terrigal ..	273	...	...	...	Eels .....	2/- ,, 7/-	2/- ,, 6/-	2/- ,, 10/-	3/- ,, 6/-	4/- ,, 7/-	3/- ,, 5/-	2/- ,, 7/-	2/6 ,, 14/-	4/- ,, 18/-	3/- ,, 15/-	1/- ,, 4/-	2/- ,, 4/-
Brisbane Water.....	549	...	...	...	Garfish ..... bskt.	10/- ,, 19/-	10/- ,, 15/-	8/- ,, 15/-	10/- ,, 25/-	8/- ,, 20/-	9/- ,, 18/-	10/- ,, 16/-	12/- ,, 30/-	14/- ,, 29/-	8/- ,, 30/-	15/- ,, 25/-	18/- ,, 35/-
Hawkesbury River .....	6,177	...	90	...	Blackfish ... ..	6/- ,, 9/-	5/- ,, 7/6	4/- ,, 12/6	6/- ,, 18/-	6/- ,, 15/-	6/- ,, 12/-	6/- ,, 12/-	6/- ,, 12/-	5/- ,, 12/-	6/- ,, 12/6	6/- ,, 10/-	6/- ,, 10/-
Narrabeen ..	52	...	...	...	Silverbellies. ..	2/- ,, 7/-	3/- ,, 6/6	3/- ,, 5/-	4/- ,, 6/-	3/- ,, 7/-	4/- ,, 6/-	4/- ,, 5/-	3/- ,, 6/-	3/- ,, 5/6	3/- ,, 8/-	3/- ,, 5/-	3/- ,, 4/-
Port Jackson ..	4,920	18	890	361	Travally.....	4/- ,, 9/-	4/- ,, 8/-	5/- ,, 7/-	6/- ,, 9/-	5/- ,, 7/-	5/- ,, 8/-	5/- ,, 8/-	6/- ,, 10/-	6/- ,, 9/-	4/- ,, 8/-	5/- ,, 6/-	4/- ,, 7/-
Botany and George's River.....	3,201	...	109	5	Yellowtail... ..	4/- ,, 8/-	3/- ,, 5/-	3/- ,, 6/-	4/- ,, 7/-	4/- ,, 16/-	4/- ,, 15/-	6/- ,, 8/-	5/- ,, 10/-	4/- ,, 8/-	3/- ,, 10/-	5/- ,, 18/-	4/- ,, 15/-
Port Hacking .....	534	...	...	...	Tailer.....	4/- ,, 6/-	4/- ,, 6/-	3/- ,, 5/-	.....	.....	7/- ,, 10/-	6/- ,, 9/-	5/- ,, 7/-	6/- ,, 9/-	4/- ,, 6/-	5/- ,, 10/-	4/- ,, 6/-
Lake Illawarra .....	2,334	...	32	6	Pilchards ... ..	.....	.....	.....	.....	.....	.....	.....	.....	3/- ,, 5/-	3/- ,, 4/6	.....	.....
Kiama .....	13	20	...	...	Crayfish..... doz.	7/- to 12/-	8/- to 10/-	8/- to 17/-	.....	.....	8/- to 12/-	5/- to 15/-	4/6 to 14/-	5/3 ,, 15/-	6/- ,, 7/3	6/- to 10/-	7/- to 14/-
Shoalhaven River.....	669	45	...	...	Prawns ..... bskt.	18/- ,, 45/-	20/- ,, 50/-	20/- ,, 50/-	15/- to 66/-	30/- to 65/-	18/- ,, 30/-	.....	18/- ,, 20/-	.....	15/- ,, 90/-	20/- ,, 60/-	20/- ,, 45/-
Jervis Bay .....	26	...	...	...	Crabs ..... doz.	1/- ,, 3/6	1/- ,, 4/-	-/3 ,, 9/-	-/3 ,, 2/-	-/3 ,, 2/3	-/3 ,, 2/-	1/- to 3/-	1/- ,, 4/-	1/- to 3/-	1/- ,, 5/-	-/3 ,, 2/9	-/6 ,, 2/-
Ulladulla.....	456	...	...	...	Totals .....	36,306	1,075	1,130	468								
Bateman's Bay .....	502	210	3	...													
Moruya .....	97	...	...	...													
Wagonga River .....	6	...	...	...													
Bermagoe .....	489	6	...	12													
Twofold Bay .....	37	...	...	...													

HUDSON'S Market, Redfern.

Name of Water.	Baskets of Fish received.	Dozens of Crayfish received.	Baskets of Prawns received.	Baskets of Fish unfit for food.	Name of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Clarence River .....	4,313	...	...	96	Schnapper ... doz.	15/- to 60/-	14/- to 50/-	18/- to 40/-	.....	18/- to 60/-	21/- to 75/-	20/- to 63/-	15/- to 60/-	20/- to 70/-	21/- to 80/-	18/- to 60/-	15/- to 65/-
Macleay River .....	70	...	...	...	Black Bream. ,,	2/- ,, 4/-	1/- ,, 4/-	1/- ,, 5/-	2/- to 6/-	2/- ,, 7/-	1/3 ,, 4/-	1/6 ,, 7/-	1/6 ,, 8/-	1/9 ,, 6/6	1/- ,, 7/-	1/- ,, 8/-	2/- ,, 7/-
Port Macquarie.....	833	...	...	30	Flathead .....	1/3 ,, 7/6	3/- ,, 18/-	2/- ,, 11/-	2/- ,, 9/-	2/- ,, 20/-	2/- ,, 11/-	1/6 ,, 16/-	1/9 ,, 15/-	2/- ,, 12/-	2/- ,, 15/-	2/- ,, 19/-	6/- ,, 20/-
Manning River .....	945	...	...	...	Whiting .....	2/- ,, 4/6	1/- ,, 4/-	1/- ,, 4/3	1/3 ,, 5/-	2/- ,, 7/-	1/4 ,, 4/6	2/- ,, 7/-	1/6 ,, 5/6	1/6 ,, 7/-	2/- ,, 7/-	2/- ,, 5/6	1/- ,, 8/-
Camden Haven .....	500	...	...	...	Flounders.....	2/- ,, 12/-	2/- ,, 6/-	2/- ,, 4/-	2/- ,, 6/-	3/- ,, 5/-	1/- ,, 4/-	.....	3/- ,, 9/-	3/- ,, 8/-	2/- ,, 8/-	3/- ,, 8/-	3/- ,, 9/-
Cape Hawke .....	2,090	...	...	109	Kingfish .....	6/- ,, 12/-	9/- ,, 18/-	.....	.....	.....	.....	.....	12/- ,, 21/-	12/- ,, 18/-	12/- ,, 20/-	12/- ,, 18/-	2/- ,, 8/-
Port Stephens .....	1,620	320	...	40	Jewfish .....	13/- ,, 40/-	14/- ,, 40/-	3/- to 48/-	24/- to 64/-	10/- to 55/-	11/- to 50/-	10/- to 60/-	12/- ,, 90/-	12/- ,, 85/-	14/- ,, 85/-	12/- ,, 80/-	12/- ,, 90/-
Hunter River.....	44	...	44	...	Teraglin .....	3/- ,, 5/-	4/- ,, 6/-	3/- ,, 5/-	9/- ,, 12/-	.....	.....	4/- ,, 12/-	9/- ,, 11/-	6/- ,, 9/-	6/- ,, 18/-	6/- ,, 12/-	2/- ,, 9/-
Lake Macquarie .....	3,100	...	...	34	Nannegai .....	2/- ,, 4/-	2/- ,, 3/-	2/- ,, 4/-	.....	.....	.....	1/3 ,, 2/6	3/- ,, 3/6	3/- ,, 4/-	2/- ,, 3/6	2/- ,, 4/-	1/9 ,, 5/-
Tuggerah Lake .....	634	...	...	10	Salmon .....	.....	.....	.....	.....	.....	.....	.....	.....	3/- ,, 3/6	1/6 ,, 3/-	1/6 ,, 3/-	2/- ,, 3/-
Brisbane Water.....	346	...	...	...	Mullet .....	-/9 to 3/-	-/3 to 2/6	-/9 to 2/6	-/6 to 3/-	2/- to 5/-	-/6 to 3/6	-/9 to 4/-	-/9 to 5/3	-/9 ,, 4/-	-/9 ,, 5/-	-/9 ,, 5/-	1/6 ,, 5/-
Hawkesbury River .....	259	...	20	...	Rock Cod.....	2/- ,, 3/-	2/- ,, 4/-	.....	4/- ,, 8/-	6/- ,, 9/-	2/- ,, 4/-	2/- ,, 7/-	1/- ,, 1/6	2/- ,, 5/-	2/- ,, 4/-	2/- ,, 15/-	2/- ,, 5/6
Port Jackson .....	96	...	411	...	Eels .....	2/- ,, 4/-	2/- ,, 6/-	3/- to 4/6	3/- ,, 6/-	2/- ,, 6/-	3/- ,, 5/-	2/- ,, 8/-	2/- ,, 11/-	2/- ,, 7/-	3/- ,, 11/-	1/- ,, 5/-	2/- ,, 3/6
Botany Bay and George's River ...	6,946	10	186	36	Garfish .....bskt.	9/- ,, 14/-	10/- ,, 15/-	9/- ,, 16/-	2/- ,, 18/-	7/- ,, 19/-	10/- ,, 18/-	12/- ,, 17/6	10/- ,, 25/-	13/- ,, 21/-	8/- ,, 25/-	12/- ,, 23/-	10/- ,, 30/-
Illawarra Lake .....	270	...	...	15	Blackfish .....	5/- ,, 9/-	4/- ,, 8/-	7/- ,, 10/-	4/- ,, 7/-	6/- ,, 12/-	5/- ,, 8/-	5/- ,, 9/-	6/- ,, 12/-	4/- ,, 8/-	6/- ,, 12/-	6/- ,, 11/-	6/- ,, 12/-
Shoalhaven River .....	806	36	...	23	Silverbellies... ,,	4/- ,, 7/-	3/- ,, 5/6	3/- ,, 4/-	4/- ,, 7/-	4/- ,, 7/-	4/- ,, 6/-	3/- ,, 6/-	5/- ,, 8/-	3/- ,, 5/-	3/- ,, 8/-	3/- ,, 5/6	3/- ,, 4/-
St. George's Basin .....	420	...	...	19	Yellowtail ... ,,	4/- ,, 6/-	3/- ,, 5/-	3/- ,, 7/-	4/- ,, 8/-	4/- ,, 11/-	4/- ,, 12/-	6/- ,, 8/-	5/- ,, 10/-	4/- ,, 9/-	3/- ,, 10/-	5/- ,, 12/-	4/- ,, 12/-
Ulladulla .....	1,328	...	...	39	Travally .....	5/- ,, 10/-	4/- ,, 6/-	.....	3/- ,, 9/-	.....	4/- ,, 5/-	5/- ,, 7/-	5/- ,, 7/-	8/- ,, 10/-	4/- ,, 6/-	5/- ,, 9/-	4/- ,, 6/-
Bateman's Bay .....	56	80	...	...	Pilchard .....	.....	.....	.....	.....	.....	.....	.....	.....	3/- ,, 5/-	3/- ,, 4/6	.....	.....
Bermagoe .....	44	...	...	9	Crayfish .....doz.	9/- to 12/-	8/- to 11/-	.....	.....	.....	.....	8/- to 9/-	5/- to 14/-	7/6 ,, 10/-	6/- ,, 15/-	6/- to 10/-	7/- to 15/-
Totals .....	24,720	446	661	460	Prawns .....bskt.	20/- ,, 35/-	20/- ,, 35/-	20/- to 40/-	30/- to 85/-	30/- to 60/-	.....	15/- ,, 80/-	15/- ,, 21/-	20/- ,, 80/-	20/- ,, 60/-	20/- ,, 45/-	20/- ,, 67/-
					Crabs.....doz.	-/9 ,, 3/-	1/- ,, 4/-	-/9 ,, 1/3	-/9 ,, 4/-	3/- ,, 1/6	-/9 to 1/3	-/6 ,, 1/6	1/- ,, 3/6	1/- ,, 2/-	-/3 ,, 1/9	-/3 ,, 2/-	1/6 ,, 2/-



BACHELOR'S Market, Redfern.

Name of Water.	Baskets of Fish received.	Bags of Oysters received.	Dozens of Crayfish received.	Baskets of Prawns received.	Baskets of Fish unfit for food.	Name of Fish.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Clarence River .....	1,862	...	...	...	24	Schnapper ... doz.	12/- to 50/-	20/- to 65/-	13/- to 84/-	25/- to 60/-	12/- to 56/-	6/- to 48/-	14/- to 40/-	21/- to 36/-	31/- to 46/-	15/- to 48/-	19/- to 60/-	25/- to 67/-
Macleay River.....	93	...	...	...	5	Black Bream ,,	2/- ,, 7/6	1/3 ,, 4/6	1/- ,, 7/-	2/- ,, 6/6	2/- ,, 5/9	3/- ,, 5/-	2/- ,, 6/6	2/- ,, 8/9	2/- ,, 6/6	2/- ,, 6/-	3/6 ,, 8/-	2/- ,, 10/-
Manning River .....	223	...	...	...	7	Flathead .....	1/- ,, 8/-	2/- ,, 16/-	2/- ,, 21/-	2/- ,, 19/-	1/3 ,, 16/6	3/- ,, 12/6	2/- ,, 7/-	3/- ,, 13/-	3/- ,, 9/6	1/6 ,, 9/6	3/- ,, 11/-	2/- ,, 17/-
Cape Hawke .....	218	...	...	...	...	Whiting .....	1/- ,, 9/-	1/- ,, 9/-	3/- ,, 8/-	2/- ,, 10/-	1/9 ,, 6/-	1/9 ,, 9/-	1/3 ,, 6/6	2/- ,, 5/-	2/- ,, 5/-	1/- ,, 7/-	1/9 ,, 6/-	1/9 ,, 4/9
Port Stephens.....	692	...	168	...	...	Flounders ... ,,	2/- ,, 10/-	2/- ,, 11/-	2/- ,, 16/-	2/- ,, 13/-	2/- ,, 9/-	8/- ,, 12/-	7/- ,, 11/-	8/- ,, 11/-	4/- ,, 8/-	6/- ,, 12/-	12/- ,, 17/-	3/9 ,, 9/6
Hunter River .....	41	...	...	...	...	Kingfish .....	4/- ,, 18/-	3/- ,, 23/-	2/- ,, 23/-	7/- ,, 35/-	14/- ,, 70/-	30/- ,, 48/-	24/- ,, 40/-	.....	24/- ,, 26/-	20/- ,, 24/-	8/- ,, 10/-	24/- ,, 27/-
Lake Macquarie.....	2,402	...	...	...	16	Jewfish .....	3/- ,, 80/-	3/- ,, 85/-	7/- ,, 95/-	8/- ,, 90/-	12/- ,, 72/-	15/- ,, 36/-	24/- ,, 48/-	24/- to 35/-	28/- ,, 33/-	15/- ,, 36/-	12/- ,, 36/-	12/- ,, 40/-
Tuggerah Lakes .....	999	...	...	...	1	Nannegai..... ,,	.....	.....	8/- ,, 17/-	2/- ,, 6/-	3/- ,, 4/-	9/- ,, 11/-	2/- ,, 6/-	2/- ,, 7/-	2/- ,, 14/-	6/- ,, 9/-	6/- ,, 12/-	6/- ,, 9/-
Brisbane Water .....	236	...	...	...	...	Salmon..... ,,	3/6 to 9/-	.....	2/- ,, 16/-	3/- ,, 7/-	2/- ,, 7/-	9/- ,, 10/-	9/- ,, 12/-	2/- ,, 8/-	.....	2/- ,, 6/-	2/- ,, 5/-	3/- ,, 7/-
Hawkesbury River.....	17	77	...	46	...	Mullet Sea).. ,,	2/6 ,, 6/-	2/- to 4/-	3/- ,, 4/-	.....	1/6 ,, 3/6	1/6 ,, 3/6	2/6 ,, 7/-	2/- ,, 4/9	2/6 to 5/6	2/6 ,, 5/6	3/- ,, 5/-	2/- ,, 4/9
Botany and George's River ...	4,088	75	...	278	...	,, (of kinds) ,,	1/- ,, 2/-	1/- ,, 1/6	1/- ,, 2/6	1/- to 1/9	-/6 ,, 1/6	1/- ,, 2/-	-/9 ,, 1/9	1/- ,, 2/-	1/- ,, 2/-	1/- ,, 4/6	1/6 ,, 4/-	-/9 ,, 3/-
Port Hacking .....	4	...	...	...	...	Eels .....	3/- ,, 9/-	2/- ,, 18/-	4/- ,, 13/-	.....	3/- ,, 6/-	3/- ,, 5/6	4/- ,, 11/-	2/9 ,, 6/-	2/- ,, 4/-	3/- ,, 9/-	3/- ,, 12/-	2/- ,, 11/-
Lake Illawarra .....	1,435	...	...	30	...	Garfish .....bskt.	9/- ,, 19/-	7/- ,, 23/-	10/- ,, 29/-	10/- to 19/-	10/- ,, 18/-	9/- ,, 18/-	10/- ,, 25/-	9/- ,, 13/-	8/- ,, 19/-	10/- ,, 16/-	8/- ,, 23/-	9/- ,, 15/-
Shoalhaven River .....	1,582	571	...	...	10	Blackfish .....	2/- ,, 17/-	5/- ,, 20/-	5/- ,, 11/-	4/- ,, 9/6	6/- ,, 9/-	8/- ,, 10/-	9/- ,, 24/-	8/- ,, 22/-	7/- ,, 16/-	7/- ,, 11/-	9/- ,, 14/-	11/- ,, 14/-
Ulladulla .....	95	...	...	...	...	Silverbellies.. ,,	4/- ,, 11/-	4/- ,, 9/-	6/- ,, 17/-	6/- ,, 14/-	5/- ,, 8/-	4/- ,, 6/-	6/- ,, 8/-	.....	2/- ,, 7/-	2/- ,, 6/-	2/- ,, 8/-	6/- ,, 7/-
Bateman's Bay .....	153	...	...	...	...	Travally .....	.....	2/- ,, 9/-	4/- ,, 11/-	2/- ,, 8/-	2/- ,, 9/-	5/- ,, 6/6	6/- ,, 9/-	5/- to 7/-	4/- ,, 12/-	3/- ,, 8/-	14/- ,, 16/-	4/- ,, 11/-
Wagonga River .....	52	...	...	...	...	Tailers .....	3/- to 10/-	2/- ,, 10/-	4/- ,, 11/-	3/- ,, 14/-	5/- ,, 11/-	4/- ,, 12/-	4/- ,, 7/-	6/- ,, 7/-	7/- ,, 8/-	5/- ,, 11/-	8/- ,, 16/-	4/- ,, 17/-
Totals .....	14,192	723	168	354	63	Crayfish ..... doz.	9/- ,, 16/-	14/- ,, 18/-	10/- ,, 21/-	9/- ,, 21/-	.....	4/- ,, 10/-	7/6 ,, 13/-	11/- ,, 12/6	9/- ,, 12/-	6/- ,, 10/-	4/- ,, 9/6	6/- ,, 12/6
						Prawns .....bskt.	20/- ,, 45/-	20/- ,, 42/-	15/- ,, 50/-	10/- ,, 25/-	30/- to 40/-	.....	.....	.....	20/- ,, 50/-	12/- ,, 35/-	10/- ,, 40/-	10/- ,, 45/-
						Oysters ..... bag	10/- ,, 15/-	16/- ,, 25/-	13/- ,, 18/-	10/- ,, 21/-	10/- ,, 20/-	12/- to 15/-	15/- to 17/6	12/- to 21/-	11/- ,, 21/-	18/- ,, 22/-	11/- ,, 25/-	9/- ,, 20/-
						Crabs .....	1/- ,, 4/6	1/- ,, 6/-	2/- ,, 5/-	3/- ,, 4/-	1/- ,, 3/-	2/- ,, 8/-	1/6 ,, 4/-	2/- ,, 7/-	1/9 ,, 3/-	2/- ,, 7/-	2/- ,, 13/-	3/- ,, 12/-

## 15

## E.

RETURN showing the Number of Bags of Oysters imported into New South Wales during 1898.

Imported from—	No. of Bags.	Value.
Victoria .....	30	£ 30
Queensland .....	550	537
South Australia .....	282	676
Tasmania .....	12	8
New Zealand .....	6,236	4,071
Totals.....	7,110	5,322

RETURN showing the Number of Bags of Oysters exported from New South Wales during 1898.

Exported to—	No. of Bags.	Value.
Victoria .....	5,923	£ 7,777
Western Australia .....	71	101
Tasmania .....	130	158
Totals.....	6,124	8,036

## F.

RETURN showing the Number of Bags of Oysters taken from the Tidal Waters of the Colony during the year 1898.

Locality.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
Richmond River .....	53	128	16	...	...	...	...	...	...	27½	73¼	297¾	
Evans River .....	56	28	...	...	...	...	...	...	24	32	56	87	283
Clarence River .....	...	2	...	...	...	...	...	...	...	...	...	...	2
Bellinger River .....	25	15	2	...	...	...	...	23	31	25	20	24	165
Hastings River .....	53	108	50	15	...	...	...	16	35	60	39	100	476
Camden Haven .....	119	356	132	321	50	...	...	...	...	117	116	223	1,434
Manning River .....	233	222	364	190	79	58	47	56	61	86	240	331	1,967
Cape Hawke .....	213	219	223	195	56	118	130	122	200	232	178	290	2,176
Port Stephens .....	278½	273¾	334¼	206½	71½	117¾	86¼	120	101	67	163½	318¼	2,138¾
Hunter River.....	266	273	333	390	275	322	256	288	251	258	260	320	3,492
Brisbane Water.....	25	23	50	11	1	6	7	4	...	...	3	19	149
Hawkesbury River .....	54¾	52½	126	117½	50½	74½	62	74½	74½	87	78	98	949¾
Pittwater .....	...	...	...	...	...	2	5	5	6	6	4	4	32
George's River and Botany... Shoalhaven and Crookhaven Rivers .....	70	61	52	73	48½	69½	72½	82½	85½	87½	69	107½	878½
Currambene Creek .....	38	25	96	49	2	...	...	...	6	16	29	56	317
Durras Water .....	...	14	40	...	...	...	...	...	...	...	...	...	54
Clyde River .....	...	...	7	8	...	...	...	...	...	...	...	...	15
Moruya River .....	104	317	154	115	42	32	30	46	64	37	50	164	1,155
Tuross Lake .....	...	...	34	52	...	...	...	...	...	...	...	...	22
Wagonga River .....	...	...	...	...	...	...	14	42	33	6	...	...	86
Bermagui River .....	...	...	...	24	...	16	...	...	...	...	...	...	95
Wapengo Lake .....	...	...	2½	1	1	...	...	1	...	1	1	1	40
Panbula River .....	...	...	9	12	...	16	5	...	12	...	...	5	8½
Kiah River.....	12	11	5	15	...	...	...	...	...	...	...	...	59
Totals.....	1,600¼	2,128¼	2,029¾	1,795	676½	831¾	714¾	880	984	1,139½	1,334	2,221	16,334¾

RETURN of Oysters consigned to Market monthly from each Oyster-culture Lease.

No. of Lease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
<i>Richmond River.</i>													
229 .....	...	70	...	...	...	...	...	...	...	...	...	...	70
410 .....	53	43	16	...	...	...	...	...	...	...	27½	50¼	189¾
508 .....	...	15	...	...	...	...	...	...	...	...	...	23	38
Totals.....	53	128	16	...	...	...	...	...	...	...	27½	73¼	297¾

RETURN of Oysters consigned to Market monthly from each Oyster-culture Lease—*continued.*

No. of Lease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
<i>Hawkesbury River.</i>													
132	1	2½	4	...	1	2	...	2	9	6	1½	6	35
162A	...	9	5	5	2	11	4	6	3	5	7	5	62
566	4½	2½	1	...	...	1	...	6	2	15	14	18	64
720A	1	...	2	...	...	...	...	2	...	...	...	...	5
1,442	14	12	16	18	12	16	15	20	13	10	4	9	159
1,449	4½	3	4	3½	3	1½	6½	5½	4	3½	7½	4½	51
1,600	8	6	6	6	5	5	4	4	5	4	7	7	64
1,698	...	...	2	...	...	...	...	...	...	1	...	3	6
1,888	1½	3	5	5	3	4	6	3½	6	4	3	6	50
1,942	11	8	9	8½	13	16	12	13½	14	15	14	15	148½
2,029	...	...	7	10	2	10	2	2	8	11	12	10½	74½
2,080	...	...	...	...	...	...	5	...	...	...	...	...	5
2,294	9½	6½	8	10½	9½	8	7½	10½	10½	9½	11	10	110½
2,548	...	...	39	...	...	...	...	...	...	...	...	...	39
2,551	...	...	...	15	...	...	...	...	...	...	...	...	15
2,552	...	...	18	36	...	...	...	...	...	3	...	4	61
Totals	54½	52½	126	117½	50½	74½	62	74½	74½	87	78	98	949½
<i>Panbula River.</i>													
2,367	...	...	...	...	...	...	...	...	...	...	...	2	2
2,433	...	...	...	3	...	8	...	...	...	...	...	3	14
2,434	...	...	...	...	...	8	...	...	6	...	...	...	14
2,435	...	...	...	...	...	...	5	...	...	...	...	...	5
2,504	...	...	9	9	...	...	...	...	6	...	...	...	24
Totals	...	...	9	12	...	16	5	...	12	...	...	5	59
<i>Wagonga River.</i>													
2,463	...	...	...	...	...	...	...	20	26	...	...	...	46
2,530	...	...	...	...	...	...	6	16	3	...	...	...	25
2,531	...	...	...	...	...	...	8	6	4	6	...	...	24
Totals	...	...	...	...	...	...	14	42	33	6	...	...	95
<i>Pittwater.</i>													
2,674	...	...	...	...	...	2	5	5	6	6	4	4	32
<i>George's River and Botany.</i>													
2,250	...	...	...	16	9	2½	5	6	2	...	4	...	44½
2,258	...	...	7½	5	...	5	...	21	9	8½	5	4	65
2,278	10	9	5½	3	5	7	8	9	7	2	1	7	73½
2,287	...	...	9	17	...	6	...	...	...	...	...	...	38
2,296	10	9	5½	7	4½	5	9	9	18½	14	10	14	115½
2,415	15	8	...	17	...	...	...	...	17	...	5	27	89
2,416	15	8	...	...	6	5	19	7	4	10	...	...	74
2,417	...	9	...	...	11	...	14	...	...	13	...	...	47
2,418	...	3	...	...	...	...	...	...	...	...	...	...	3
2,419	5	5	13½	...	...	...	...	...	6	5	10	11	55½
2,420	15	10	11	8	10	25	10	8	9	14	12	17	149
2,507	...	...	...	...	...	...	...	...	2	5	4	3	14
2,638	...	...	...	...	2	1	...	1	2	3½	...	3	12½
2,639	...	...	...	...	1	...	...	...	...	...	...	1	3
2,642	...	...	...	...	...	11	5½	18½	8	10	6½	8½	68
2,645	...	...	...	...	...	2	2	3	1	2	3	6	19
2,695	...	...	...	...	...	...	...	...	...	...	8	...	8
Totals	70	61	52	73	48½	69½	72½	82½	85½	87½	69	107½	878½
<i>Kiah River.</i>													
2,286	12	11	5	15	...	...	...	...	...	...	...	...	43
<i>Hastings River.</i>													
1,863	7	21	17	11	...	...	...	7	15	14	20	...	112
2,196	36	76	25	...	...	...	...	16	28	10	...	30	221
2,199	...	...	...	...	...	...	...	...	...	5	5	...	10
2,200	...	...	...	4	...	...	...	...	...	...	...	...	4
2,233	3	5	...	...	...	...	...	...	...	...	...	...	8
2,235	7	6	...	...	...	...	...	...	...	...	...	...	13
2,277	...	...	8	...	...	...	...	...	...	20	20	30	78
2,288	...	...	...	...	...	...	...	...	...	...	...	20	20
2,488	...	...	...	...	...	...	...	...	...	10	...	...	10
Totals	53	108	50	15	...	...	...	16	35	60	39	100	476
<i>Wapengo Lake.</i>													
2,028	...	...	2½	1	1	...	...	1	...	1	1	1	8½

RETURN of Oysters consigned to Market monthly from each Oyster-culture Lease—continued.

No. of Lease.	Jan.	Feb.	Mar.	April.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Tot ls.
<i>Clarence River.</i>													
769 .....	...	2	...	...	...	...	...	...	...	...	...	...	2
<i>Brisbane Water.</i>													
824 .....	1	2	10	4	1	...	...	...	...	...	...	9	27
1,189 .....	7	5	16	...	...	...	...	...	...	...	3	10	41
1,833 .....	1	...	...	...	...	...	...	...	...	...	...	...	1
2,230 .....	2	...	...	...	...	...	...	...	...	...	...	...	2
2,495 .....	14	16	24	7	...	6	7	4	...	...	...	...	78
Totals .....	25	23	50	11	1	6	7	4	...	...	3	19	149
<i>Hunter River.</i>													
57 .....	25	25	22	47	32	20	...	...	19	19	30	60	299
82 .....	50	60	74	94	40	40	46	56	40	44	...	...	544
83 .....	97	96	109	120	70	47	47	50	57	53	37	40	823
84 .....	38	33	40	63	40	55	60	65	48	40	24	30	536
344 .....	...	...	...	...	...	48	...	...	...	38	40	42	168
345 .....	...	...	...	...	...	27	50	60	30	...	...	...	167
458 .....	...	...	...	...	18	28	23	22	12	25	...	...	128
808 .....	...	...	...	...	...	...	...	...	...	...	18	26	44
809 .....	...	...	...	...	...	...	...	...	...	...	29	34	63
1,343 .....	...	...	...	...	...	...	...	...	...	...	30	24	54
1,612 .....	30	39	60	26	31	28	30	35	25	21	...	...	325
1,658 .....	...	...	...	...	12	...	...	...	...	...	25	30	67
1,753 .....	26	20	28	40	32	29	...	...	20	18	27	34	274
Totals .....	266	273	333	390	275	322	256	288	251	258	260	320	3,492
<i>Tuross Lake.</i>													
2,303 .....	...	...	12	12	...	...	...	...	...	...	...	...	24
2,304 .....	...	...	3	...	...	...	...	...	...	...	...	...	3
2,305 .....	...	...	...	4	...	...	...	...	...	...	...	...	4
2,306 .....	...	...	10	...	...	...	...	...	...	...	...	...	10
2,320 .....	...	...	7	...	...	...	...	...	...	...	...	...	7
2,321 .....	...	...	...	25	...	...	...	...	...	...	...	...	25
2,325 .....	...	...	...	1	...	...	...	...	...	...	...	...	1
2,327 .....	...	...	...	1	...	...	...	...	...	...	...	...	1
2,330 .....	...	...	2	...	...	...	...	...	...	...	...	...	2
2,337 .....	...	...	...	9	...	...	...	...	...	...	...	...	9
Totals .....	...	...	34	52	...	...	...	...	...	...	...	...	86
<i>Durras Water.</i>													
2,292 .....	...	...	7	8	...	...	...	...	...	...	...	...	15
<i>Moruya River.</i>													
78 .....	...	...	...	...	...	...	...	...	...	22	...	...	22
<i>Cape Hawke.</i>													
181 .....	...	...	...	26	10	16	...	21	6	...	...	45	124
417 .....	18	6	8	...	...	7	...	...	2	36	34	29	140
711 .....	...	...	...	...	...	...	...	...	...	...	...	...	31
907 .....	...	...	13	42	14	30	...	...	39	...	...	81	219
908 .....	...	...	51	65	32	20	...	...	...	...	...	54	222
1,431 .....	31	36	23	...	...	26	...	...	3	48	...	...	167
1,432 .....	23	28	23	...	...	11	...	...	4	29	...	...	118
1,625 .....	66	68	20	...	...	...	13	...	...	...	...	...	167
2,067 .....	20	23	25	35	...	2	1	...	3	16	7	17	149
2,178 .....	...	...	...	...	...	...	14	...	...	7	26	...	47
2,184 .....	...	...	...	...	...	...	...	36	64	...	...	...	100
2,191 .....	...	...	...	...	...	...	9	...	...	...	...	...	9
2,206 .....	23	29	17	6	...	...	...	9	15	...	...	...	99
2,207 .....	...	...	...	...	...	...	9	19	...	...	...	...	28
2,208 .....	...	...	...	...	...	...	...	...	3	...	...	...	3
2,209 .....	...	...	...	...	...	...	...	16	28	...	...	...	44
2,210 .....	...	...	...	...	...	...	47	...	...	...	...	...	47
2,282 .....	...	...	...	...	...	...	14	...	...	...	...	...	14
2,318 .....	...	...	2	12	...	1	...	...	...	...	...	...	15
2,340 .....	15	6	10	...	...	...	...	6	2	10	...	...	49
2,341 .....	...	...	...	...	...	...	13	...	...	...	...	...	13
2,342 .....	...	...	...	...	...	...	...	...	...	15	64	10	89
2,394 .....	...	...	...	...	...	...	...	...	3	1	...	...	4
2,395 .....	5	...	3	1	...	...	...	...	...	...	...	...	9
2,398 .....	...	...	...	...	...	...	...	2	2	1	...	2	9
2,400 .....	...	1	2	1	...	...	...	...	3	...	...	...	7
2,401 .....	6	6	14	...	...	4	...	...	...	4	3	4	41
2,407 .....	...	...	...	...	...	...	...	...	1	37	29	7	74
2,411 .....	...	7	2	7	...	...	...	...	3	3	3	6	31
2,413 .....	6	9	10	...	...	...	...	7	15	17	9	3	76
2,592 .....	...	...	...	...	...	...	...	6	...	...	...	1	7
2,672 .....	...	...	...	...	...	1	10	...	7	5	...	...	24
Totals .....	213	219	223	195	56	118	130	122	200	232	178	290	2,176

RETURN of Oysters consigned to Market monthly from each Oyster-culture Lease—*continued.*

No. of Lease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
<i>Clyde River.</i>													
34	...	16	...	7	...	...	...	6	5	...	9	6	49
93	...	3	...	15	...	...	...	...	3	...	...	...	21
105	39	42	25	15	6	2	...	4	18	14	21	24	210
106	...	31	...	...	5	3	3	13	23	15	...	33	126
274	...	...	4	...	...	...	3	2	...	...	...	...	9
275	...	8	...	5	...	...	...	...	...	...	...	...	13
398	...	4	...	...	1	...	...	...	...	...	...	...	5
438	...	7	7	...	...	...	...	...	...	...	...	...	14
480	...	...	2	...	...	...	6	...	...	...	...	...	8
583	...	28	...	8	...	3	...	...	...	...	...	17	56
714	...	...	...	...	...	...	...	...	2	...	...	6	8
774	...	12	...	...	...	...	...	3	...	...	...	...	15
803	...	...	...	...	...	...	...	...	...	...	...	44	44
804	...	...	...	...	...	2	2	1	...	...	...	2	7
833	...	12	...	...	...	3	...	...	...	...	...	...	15
1,185	13	6	13	6	4	16	6	...	5	8	11	14	102
1,290	...	...	...	...	...	...	...	...	...	...	...	3	3
1,311	...	6	...	...	...	...	3	...	...	...	...	...	9
1,355	...	6	2	...	...	...	1	...	...	...	...	2	11
1,356	...	...	4	...	...	...	...	...	...	...	...	...	4
1,357	...	...	7	...	...	...	...	3	...	...	...	...	10
1,501	...	...	...	5	...	...	...	...	...	...	...	...	5
1,616	...	5	...	...	...	3	...	...	...	...	...	...	8
2,088	...	2	...	...	...	...	...	...	...	...	...	5	7
2,116	...	4	...	6	...	...	...	...	...	...	...	...	10
2,140	30	24	52	20	16	...	6	...	...	...	...	...	148
2,190	...	4	...	...	...	...	...	...	...	...	...	...	4
2,220	...	...	...	...	...	...	...	3	3	...	...	...	6
2,221	...	...	...	...	...	...	...	...	5	...	...	...	5
2,264	...	...	...	...	...	...	...	3	...	...	...	...	3
2,267	12	60	8	...	...	...	...	...	...	...	...	...	80
2,268	...	...	...	...	...	...	...	5	...	...	...	...	5
2,269	...	3	...	...	...	...	...	...	...	...	...	...	3
2,270	...	...	...	...	...	...	...	3	...	...	...	...	3
2,285	...	...	...	...	...	...	...	...	...	...	9	...	9
2,302	10	22	30	20	10	...	...	...	...	...	...	8	100
2,307	...	6	...	4	...	...	...	...	...	...	...	...	10
2,226	...	6	...	4	...	...	...	...	...	...	...	...	10
Totals	104	317	154	115	42	32	30	46	64	37	50	164	1,155

<i>Manning River.</i>													
5	6	19	27	16	...	...	...	...	...	...	16	42	126
17	17	30	52	49	33	10	16	11	22	21	31	35	327
29	38	14	49	12	...	...	...	...	...	...	...	34	147
67	6	...	...	10	13	7	...	3	16	11	36	38	140
202	22	23	32	5	...	...	...	...	...	5	3	15	105
424	25	24	44	30	6	...	...	1	...	...	...	15	145
489	12	...	...	11	...	...	...	...	...	...	...	...	23
548	...	...	...	...	...	...	...	...	...	19	2	...	21
1,521	13	22	9	9	3	7	13	23	14	18	20	5	156
2,061	7	8	4	...	...	3	...	...	...	...	...	11	33
2,159	12	13	15	5	8	25	4	...	...	...	5	26	113
2,164	10	24	22	26	10	...	7	14	4	8	...	...	125
2,186	...	...	24	...	...	...	...	...	...	...	38	38	100
2,187	10	...	4	...	...	...	...	...	...	...	...	...	14
2,190	...	4	...	...	...	...	...	...	...	...	...	...	4
2,198	...	...	...	...	...	...	...	...	...	...	5	3	8
2,243	19	...	...	...	...	...	...	...	...	...	...	...	19
2,252	...	...	14	...	...	...	...	...	...	...	47	...	61
2,339	10	...	...	...	...	...	...	...	...	...	...	...	10
2,357	...	9	31	3	...	...	...	...	...	...	...	...	43
2,358	...	...	10	3	...	...	...	...	...	...	4	...	17
2,360	15	16	15	13	...	...	...	...	...	...	...	...	59
2,424	...	...	...	...	...	...	...	...	...	...	...	21	21
2,426	2	...	...	...	...	...	...	...	...	...	...	...	2
2,427	...	5	...	...	...	...	...	...	...	...	21	...	26
2,428	...	...	10	...	...	...	...	...	...	...	5	1	16
2,429	...	5	2	4	...	...	...	...	...	...	3	3	17
2,432	9	...	...	...	...	...	...	...	...	...	...	...	9
2,487	...	6	...	...	...	...	...	...	...	...	...	...	6
2,497	...	...	...	4	4	...	...	4	5	4	4	5	30
2,500	...	...	...	...	...	...	...	...	...	...	...	12	12
2,662	...	...	...	...	...	...	...	...	...	...	...	27	27
2,692	...	...	...	...	5	...	...	...	...	...	...	...	5
Totals	233	222	364	190	79	58	47	56	61	86	240	331	1,967

<i>Shoalhaven and Crookhaven Rivers.</i>													
528	...	...	15	6	...	...	...	...	...	...	...	...	21
858	...	...	28	...	...	...	...	...	...	...	...	...	28
895	13	9	15	4	...	...	...	...	6	...	19	23	89
1,171	...	...	...	8	...	...	...	...	...	...	...	...	8
1,172	...	...	...	8	...	...	...	...	...	...	...	...	8
1,314	...	...	7	...	...	...	...	...	...	...	...	...	7
1,619	...	...	11	7	...	...	...	...	...	...	...	...	18
1,956	9	8	5	3	...	...	...	...	...	5	2	10	42
2,131	6	5	3	2	...	...	...	...	...	3	...	13	32
2,160	10	3	12	6	2	...	...	...	...	8	8	10	59
2,274	...	...	...	5	...	...	...	...	...	...	...	...	5
Totals	38	25	96	49	2	...	...	...	6	16	29	56	317

RETURN of Oysters consigned to Market monthly from each Oyster-culture Lease—continued.

No. of Lease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
<i>Currambene Creek.</i>													
130 .....	...	...	7	...	...	...	...	...	...	...	...	...	7
1,067 .....	...	...	21	...	...	...	...	...	...	...	...	...	21
1,372 .....	...	14	12	...	...	...	...	...	...	...	...	...	26
Totals .....	...	14	40	...	...	...	...	...	...	...	...	...	54
<i>Bermagui River.</i>													
1,123 .....	...	...	...	17	...	...	...	...	...	...	...	...	17
1,230 .....	...	...	...	7	...	16	...	...	...	...	...	...	23
Totals .....	...	...	...	24	...	16	...	...	...	...	...	...	40
<i>Bellinger River.</i>													
1,378 .....	...	...	...	...	...	...	...	...	31	...	...	...	31
1,379 .....	...	...	...	...	...	...	...	23	...	...	...	...	23
1,380 .....	...	...	...	...	...	...	...	...	...	...	...	24	24
1,594 .....	6	11	2	...	...	...	...	...	...	...	...	...	19
2,100 .....	...	...	...	...	...	...	...	...	...	25	20	...	45
2,215 .....	7	...	...	...	...	...	...	...	...	...	...	...	7
2,265 .....	12	4	...	...	...	...	...	...	...	...	...	...	16
Totals .....	25	15	2	...	...	...	...	23	31	25	20	24	165
<i>Evans River.</i>													
216 .....	...	...	...	...	...	...	...	...	24	24	...	...	48
386 .....	46	22	...	...	...	...	...	...	...	...	...	...	68
1,935 .....	10	6	...	...	...	...	...	...	...	...	...	...	16
1,963 .....	...	...	...	...	...	...	...	...	...	...	...	30	30
1,974 .....	...	...	...	...	...	...	...	...	...	24	...	57	81
2,133 .....	...	...	...	...	...	...	...	...	...	8	32	...	40
Totals .....	56	28	...	...	...	...	...	...	24	32	56	87	283
<i>Port Stephens.</i>													
88 .....	1	...	2	...	2	17½	20	10	...	...	...	...	52½
449 .....	7	34	31	28	11	7	...	...	...	...	8	10	136
702 .....	20	10	20	18	4	6	...	...	...	...	...	...	80
792 .....	...	...	5	21	...	...	9	9	10	3	...	...	57
793 .....	...	...	2	3	8	15	11	...	5	4	...	...	48
794 .....	...	...	10½	2	5	6	2½	3	4	...	...	...	32½
882 .....	...	17	12½	...	...	...	...	...	...	...	...	6	35½
901 .....	...	...	3	...	4	5	...	6	10	2	...	...	30
1,072 .....	12	...	14½	...	...	...	...	...	...	...	...	...	26½
1,119 .....	...	...	3	...	4	...	...	...	...	...	...	...	3
1,120 .....	...	...	4½	6½	4½	4½	...	8	4	...	1	...	32½
1,122 .....	...	...	...	...	...	...	...	2	3	...	...	...	5
1,140 .....	8	6	...	...	...	...	...	...	...	...	...	1	15
1,345 .....	...	...	...	4	...	...	3	...	...	...	...	...	7
1,683 .....	...	...	2	7	3	3	...	3	...	...	...	...	18
2,201 .....	6	1	...	3	2	...	...	...	...	...	1	2	15
2,202 .....	17	5	...	1	...	...	...	...	...	...	...	9	32½
2,309 .....	21	33	39	...	...	...	...	...	...	10½	...	43	146
2,310 .....	...	...	...	7	...	...	...	...	...	...	...	8	15
2,311 .....	26	18	22	16	4	19	5	...	7	8	...	...	125
2,312 .....	...	...	...	...	...	...	...	...	9	15	40	...	64
2,313 .....	40	23	33	7	5	...	...	...	3	8	...	...	119
2,315 .....	14	21	...	...	...	...	...	...	2	3	...	...	48
2,316 .....	17	14	22	9	...	...	...	...	...	24	21	...	107
2,317 .....	8	33	24	31	4	9	...	...	...	2	6	...	117
2,344 .....	...	...	...	...	...	9	16	27	5	...	...	...	57
2,345 .....	18	24	33	24	...	3	...	12	3	4	14	8	143
2,346 .....	15	6	21	3	...	...	...	...	2	...	...	...	47
2,347 .....	23	4	...	...	...	...	...	...	6	...	4	5	42
2,354 .....	7	...	2	...	...	...	6	4	2	...	4	19	44
2,355 .....	3	12	8	...	9	2	...	...	...	...	...	5	39
2,369 .....	6½	2½	1¾	4	1	...	...	...	...	9	15	51	91
2,371 .....	9	7	6	...	...	...	...	...	...	...	...	...	22
2,372 .....	...	...	3	4	...	...	...	...	...	...	...	...	7
2,474 .....	...	...	...	...	...	...	...	...	...	...	...	22	22
2,477 .....	...	...	...	...	...	6	3	...	...	3	3	...	15
2,478 .....	...	...	...	...	...	...	9	8	3	11	6	...	37
2,479 .....	...	...	...	...	...	...	...	...	...	9	6	...	15
2,485 .....	...	...	...	...	...	...	...	...	3	...	...	...	3
2,563 .....	...	...	...	...	...	...	...	13	5	2	...	...	20
2,564 .....	...	...	...	...	...	2	...	...	5	...	3	2	12
2,565 .....	...	...	...	...	...	...	...	...	3	3	3	2	11
2,568 .....	...	...	...	...	...	...	...	...	...	12	10½	...	22½
2,569 .....	...	...	...	...	...	...	...	...	2	6	5	5	18
2,571 .....	...	3	8	8	5	5	2	6	8	2	...	...	47
2,572 .....	...	...	2	...	...	5	6	4	...	...	...	...	17
2,619 .....	...	...	...	...	...	...	...	1	1	1	...	...	4
2,633 .....	...	...	...	...	...	...	...	...	...	...	...	6	6
2,661 .....	...	...	...	...	...	...	...	...	...	5	2	...	7
2,675 .....	...	...	...	...	...	...	...	...	...	3	4	...	7
2,710 .....	...	...	...	...	...	...	...	...	...	2	...	...	2
2,714 .....	...	...	...	...	...	...	...	...	...	9	5	...	14
Totals .....	278½	273¾	334½	206½	71½	117¾	86½	120	101	67	163½	318½	2,138½



RETURN of Oysters consigned to Market monthly from each Oyster-culture Lease—*continued.*

No. of Lease.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
<i>Camden Haven.</i>													
346 .....	...	37	...	...	...	...	...	...	...	...	...	...	37
347 .....	...	152	37	73	...	...	...	...	...	37	36	106	441
347B .....	...	...	...	...	32	...	...	...	...	...	...	...	32
348 .....	20	95	64	30	18	...	...	...	...	32	30	23	312
542 .....	...	32	31	26	...	...	...	...	...	48	50	45	232
708 .....	18	...	...	106	...	...	...	...	...	...	...	13	137
1,437 .....	...	...	...	47	...	...	...	...	...	...	...	...	47
1,439 .....	81	40	...	39	...	...	...	...	...	...	...	36	196
Totals .....	119	356	132	321	50	...	...	...	...	117	116	223	1,434

G.

RETURN showing the quantity of Fresh Fish consigned by rail to Sydney from towns of the interior during 1898.

Month.	Hay.	Wagga.	Bourke.	Wellington.	Forbes.	Gunnedah.
	t. c. q. lb.	q. lb.	t. c. q. lb.	lb.	lb.	c. q. lb.
January .....	.....	1 0	.....	.....	.....	.....
February .....	.....	0 14	.....	.....	.....	.....
March .....	.....	0 7	0 10 0 0	.....	.....	.....
April .....	0 2 2 0	0 9	1 12 3 10	.....	7	.....
May .....	0 5 3 0	0 7	1 17 2 20	.....	7	.....
June .....	0 4 1 0	0 3	4 9 0 17	.....	5	.....
July .....	.....	.....	3 5 0 17	.....	.....	0 2 14
August .....	.....	.....	1 5 1 15	.....	.....	0 1 22
September .....	0 2 1 0	.....	1 6 2 15	.....	.....	0 1 2
October .....	0 16 2 0	.....	0 4 0 0	.....	.....	.....
November .....	0 5 0 0	.....	0 2 0 0	.....	.....	.....
December .....	.....	.....	.....	16	.....	.....
Total .....	1 16 1 0	2 12	14 12 3 10	16	19	1 1 10

H.

TABLE showing the average Maximum and Minimum Water Temperatures at the Prospect Hatchery for each month during 1898.

Month.	Average Maximum. F.	Average Minimum. F.
January .....	74·29	72·51
February .....	73·10	71·78
March .....	71·61	69·83
April (10 days) .....	68·80	66·50
May (18 days) .....	57·83	55·88
June .....	55·16	54·60
July (19 days) .....	52·05	50·73
August (24 days) .....	53·04	52·45
September .....	58·26	58·26
October .....	64·83	63·80
November .....	69·60	68·00
December .....	70·74	68·69

I.

NETS confiscated during 1898. No prosecutions.

1. Portion of an illegal net seized at Tuggerah.
2. An illegal net found in Wm. Burton's boat at George's River.
3. An illegal net seized in closed waters, Cook's River.
4. An illegal net seized at George's Beach.
5. An illegal net found staked across Mylock Creek.
6. A net found which had been hauled in closed waters of Parramatta River.
7. A sunk net seized at Cockatoo Island.
8. An illegal net seized at Narrabeen Lake.
9. A net seized in closed waters at Port Hacking.
10. A net staked in closed waters at Tuggerah.
11. An overlength seized at Tuggerah.
12. A portion of an illegal net seized at Tuggerah.

PARTICULARS of Prosecutions for infringements of the "Fisheries Act, 1881," and the "Oyster Fisheries Act, 1884," during the year 1898.

Name.	Nature of Offence.	Result of Prosecution
Goodwin, Walter H.	Fishing in closed inland waters . . . . .	Net confiscated ; fined £10, in default three months' imprisonment.
McHale, R. . . . .	do closed waters . . . . .	Net confiscated ; fined 20s., 5s. 6d. costs.
Robinson, Wm. . . . .	do do . . . . .	Fined 10s. and 5s. 6d. costs
Wells, Richard . . . . .	do do . . . . .	do do } Net con-
Hughes, Harry . . . . .	do do . . . . .	do do } fiscated.
Flynn, H. . . . .	do with illegal net . . . . .	Fined 40s. ; net confiscated.
Do . . . . .	do without license . . . . .	do 5s.
Do . . . . .	Giving wrong name and address to Inspector . . . . .	do 5s.
Newman, Edward . . . . .	Fishing in closed waters . . . . .	do 20s. and 5s. 6d. costs ; net confiscated.
Charleson, Charles A. . . . .	do do . . . . .	Fined 20s. and 5s. 6d. costs.
Shaw, Samuel . . . . .	do do . . . . .	do 40s. and 4s. 10d. costs.
McIntyre, John . . . . .	do do . . . . .	do do do
Dunn, Thomas, senr. . . . .	do do . . . . .	do £5 and 5s. 6d. costs.
McGuinness, Dennis . . . . .	Neglecting to mark licensed boat . . . . .	do 5s. and 4s. 10d. costs.
Smith, George . . . . .	do do do . . . . .	do do do
Drennan, Thomas . . . . .	do do do . . . . .	do do do
Douglass, Edward . . . . .	Fishing with illegal net. . . . .	do £2 and 8s. costs.
Bieman, Karl . . . . .	do do . . . . .	do do
Phillips, J. . . . .	Prawning in closed waters . . . . .	do £10.
Robertson, A. . . . .	do do . . . . .	do £10.
Carroll, M. . . . .	Fishing without license . . . . .	do £1.
Walker, T. . . . .	do do . . . . .	do £1 and 5s. 10d. costs.
Puckeridge, R. . . . .	do do . . . . .	do 5s. do do
Puckeridge, E. . . . .	do do . . . . .	do 10s. do do
Rowland, W. . . . .	do do . . . . .	do 10s. do do
Tweedle, E. . . . .	do do . . . . .	do 5s. do do
Parkes, E. . . . .	do do . . . . .	do 10s. do do
Smith, J. . . . .	do do . . . . .	do 5s. do do
Wilson, Thomas . . . . .	Giving wrong name to Inspector . . . . .	do 5s. and costs.
Do . . . . .	Fishing in closed waters . . . . .	do 10s. and 5s. 6d. costs, and £1 1s. professional costs.
Lane, G. M. . . . .	do do . . . . .	Fined 20s. and 2s. 6d. costs.
Do . . . . .	Giving wrong name to Inspector . . . . .	do 20s. and costs.
Mercer, John . . . . .	Fishing with illegal net . . . . .	Dismissed.
Do . . . . .	Obstructing Inspector whilst on duty . . . . .	Fined £10 and costs.
Mercer, William . . . . .	do do . . . . .	do do
Do . . . . .	Fishing with illegal net. . . . .	Dismissed.
Cole, W. . . . .	Consigning undersized oysters for the purpose of sale. . . . .	Fined £3 and 5s. 6d. costs
Higgs, Bernard . . . . .	Fishing without license. . . . .	do £2 and 5s. 6d. costs ; £1 1s. professional expenses.
Gyler, Andrew . . . . .	Stealing oysters from Crown lands . . . . .	Fined £2 and 4s. 10d. costs.
Blundell, W. . . . .	do do . . . . .	do £5 and 5s. 6d. costs.
Colbran, Fred. . . . .	Fishing with an illegal net . . . . .	do £2 do
Brown, John . . . . .	do do . . . . .	do £2 do
Field, Annie . . . . .	Stealing oysters from Crown lands . . . . .	Dismissed.
Johnson, J. . . . .	do do . . . . .	Fined £5 and 5s 6d costs.
McGuinness, Dan. . . . .	Fishing with an illegal net . . . . .	do £2 and 4s. 10d. costs.
Whitehall, R. . . . .	Illegally removing oysters from Crown lands . . . . .	do £5 and 5s. 10d. costs ; £1 1s. professional expenses.
Denny, Samuel . . . . .	Neglecting to mark licensed fishing-boat . . . . .	Fined 5s. and 4s. 10d. costs.
Smith, Joseph . . . . .	do do do . . . . .	do do do
Drennan, D. . . . .	Fishing with an illegal net . . . . .	do 20s. do do
Bishop, J. . . . .	do do . . . . .	do do do
Denney, H. . . . .	do do . . . . .	do do do
Dark, S. . . . .	Consigning underweight fish for sale . . . . .	do 5s. and costs.
Barnes, Andrew . . . . .	Fishing without license . . . . .	do £1.
Roberts, Hy. . . . .	do do . . . . .	do 10s. and 4s. 10d. costs.
Denney, Wm. . . . .	do do . . . . .	do 5s. and 4s. 10d. do
Kelly, R. . . . .	do do . . . . .	do 2s. 6d. and 4s. 6d. costs.
Do . . . . .	do in unlicensed boat . . . . .	do 2s. 6d.
Wilson, M. . . . .	do without license . . . . .	do 2s. 6d. and 4s. 6d. costs.
Ken, A. . . . .	do do . . . . .	do 1s.
Ross, Edward . . . . .	Illegally removing oysters from Crown lands . . . . .	do £5 and 5s. 6d. costs.
Merrick, C. . . . .	do do do . . . . .	do £5 do do
Alicks, C. . . . .	Consigning undersized oysters for sale . . . . .	do 5s. do do
Ongley, William . . . . .	Removing oysters illegally from public oyster reserve . . . . .	Case dismissed.
Graham, William . . . . .	do do do do . . . . .	do
Graham, James . . . . .	do do do do . . . . .	Fined £5 and 7s. 8d. costs.
Boyaze, Nicholas . . . . .	do do do do . . . . .	Case dismissed.
Jordon, George . . . . .	do do do do . . . . .	do
Jordon, George, jun. . . . .	do do do do . . . . .	do
Sutton — . . . . .	Setting net in closed waters . . . . .	Fined 40s. and costs.
Matthews — . . . . .	do do . . . . .	do 40s. do
Emerson, A. E. . . . .	Illegally taking oysters from Crown lands . . . . .	do £5 or two months' imprisonment.
Hooley, Peter . . . . .	do do do . . . . .	do £5 do do
Brown, J. . . . .	do do do . . . . .	do £5 do do
Ginger, W. . . . .	Fishing in closed waters . . . . .	do * £1 and costs.
Reid, G. . . . .	Using an illegal net . . . . .	do £2 do
Blakemore, T. . . . .	do do . . . . .	do £2 do
Menzies, George . . . . .	do do . . . . .	do £2 do
Hair, W. . . . .	Illegally removing oysters from Crown lands . . . . .	do £5 do

## K.

RETURN showing the Quantity of Fresh Fish exported to Victoria from Swan Hill, Moama, and Koondrook.

Month.	Swan Hill.	Moama.	Koondrook.	Total.
	lb.	lb.	lb.	lb.
January .....	5,040	.....	.....	5,040
February .....	5,600	1,680	400	7,680
March .....	4,480	1,344	1,500	7,324
April .....	22,400	1,360	3,900	27,660
May .....	23,072	960	2,200	26,232
June .....	15,680	840	400	16,920
July .....	.....	240	.....	240
August .....	.....	280	.....	280
September .....	.....	.....	.....	.....
October .....	33,936	3,600	.....	37,536
November .....	19,152	7,200	.....	26,352
December .....	11,200	3,960	.....	15,160
Totals .....	140,560	21,464	8,400	170,424

### Fisheries Inspectors' Reports.

The President, Fisheries Commission,—

Sydney, 1 March, 1899.

Sir,

I have the honor to report as follows, with regard to the Fisheries, for 1898 :—

#### *Port Jackson.*

Fish have not been plentiful in the open waters, but in those closed against net-fishing they have increased greatly, and is a good number of fry.

Occasionally fishermen in the harbour have made good hauls, but, taking the year as a whole, poor freights have been made.

During the summer months the prevalence of blubber was a great hindrance to fishermen, as well as being injurious to the nets.

Several shoals of fish have been observed travelling along the coast from the south. Sea mullet entered the harbour in March; pilchards and cowan young in great quantities in September, and king-fish and salmon in December. During the winter the scarcity of fish was very marked, and a number of the local fishermen migrated to other waters north and south of the metropolis.

These waters were as usual closed against prawning from the 1st of June to the 30th September, and towards the end of the year exceptionally large prawns were captured in the deep waters near Bradley's Head.

Marketable oysters on the foreshores are very scarce, the public paying so much attention to them that they are not allowed to grow to a proper size. The rocks in Middle Harbour are literally covered with small stuff, but they do not grow here to any size, on account of the amount of salinity in the water.

In addition to the existing closures of the Parramatta and Lane Cove Rivers, the breeding-grounds situated between the Spit and Pearl Bay, and that portion of Middle Harbour from Echo Farm to its source, have been closed for a period of two years, with a view to protecting the shoals of young fish inhabiting these localities.

#### *George's River and Botany.*

The upper portions of George's River and Woronora River have been well supplied with fish principally of a young age, and owing to the protection afforded by the closure of these portions of the waters, great hopes are held that the lower waters will receive the benefit when the fish reach maturity.

Line-fishing has been carried on vigorously during the summer months, and great quantities of whiting, bream, and flathead have been caught in this manner.

The net fishermen have had a good season, and have consigned 14,244 baskets to market as the year's take.

Prawns have been very plentiful in Cook's River, Salt-pan Creek, and on Lady Robinson's Beach, and several men have obtained a livelihood by devoting themselves to this class of fishing.

Considerable activity has been shown in regard to oyster culture, and several new areas have been taken up during the year.

The oysters growing on the mud flats, notably in Wooloware Bay, have been slightly affected with mud disease, but not to such an extent as to materially affect their market value. On the rocks and on the hard bottoms oysters of good quality have been grown.

A good deal of trouble has been caused to the oyster lessees through the pilfering from leased areas, and great difficulty is experienced in protecting them from the depredations of unprincipled persons, who make a practice of stealing them both day and night.

More stringent provisions are necessary than those provided by the present Act, and it is very desirable that, when new legislation is introduced, more protection will be given to the oyster cultivators.

#### *Lake Illawarra.*

These waters have not been so prolific as in the previous year.

They have been worked incessantly by a large number of fishermen, with the result that the supply has been considerably depleted.

The tributaries flowing into the lake are all well stocked with fish in young stages of growth, which will eventually make their way into the deep waters.

Several

Several shoals of different kinds of fish have been observed travelling northerly, and have passed the entrance to the lake without making any attempt to enter. The situation of Windang Island, which stands immediately on the southern side of the bar at the mouth of the lake, is probably the cause of the fish being diverted from these waters, as, after passing that point, they keep wide out, and, consequently, miss the entrance.

The bar carried plenty of water over it until December, when it closed up owing to the continued dry weather, and it will not reopen until heavy rains set in and replenish the waters in the lake.

With the exception of a few oysters in the channel entrance, there are no such deposits in the lake, and there is practically no prawn-fishing carried on.

Good sport has been obtained by amateur line fishermen during the summer months, and some exceptionally large bream have been captured in Mullet Creek.

A steam-launch has been built for the use of visitors to the lake, and, as she is of light draught, is able to steam over the flats without any risk. This little vessel is a great attraction to the lake, and is used by fishing and picnic parties to a considerable extent.

#### *Hawkesbury River.*

The supply has been fully maintained for the year, no less than 9,377 baskets of fish having been caught by licensed fishermen, as well as great quantities by amateur line men. Many thousands of immature fish of all kinds have been destroyed in these waters during the past year, both by the professional and the amateur men, the former leaving them on the banks and the latter adding them to their baskets.

There is no more certain way of reducing the supply of mature fish than this deplorable practice, and it is to be regretted that the provisions of the present law will not allow of any penalty being imposed to prevent such wanton destruction.

Prawning is carried on to a considerable extent, but the prawns do not grow to a large size. In the summer months they are largely used as bait, and are forwarded to Woy Woy in great quantities for line fishing.

Several cases of fishing in closed waters have been reported by the local inspector, and the parties offending have had to pay the penalty by being mulcted in fines.

Several new areas have been taken up for oyster-culture, and the oysters have maintained their good condition during the year.

Extensive pilfering has been carried on in these waters, of oysters from Crown lands, and much trouble has been experienced in protecting the unleased portions of the river from the depredations of unprincipled persons, many of whom obtain a living in this illegal way.

The local inspector frequently sees illicit oystering when patrolling the waters, but owing to the rugged and steep hills along the foreshores the oysterers have little difficulty in eluding him.

#### *Brisbane Water.*

The closure of these waters expired on the 30th April, and for four months the fishermen worked them so continuously that they were practically cleaned out.

On the 3rd September they were again closed for a period of two years, and since then great quantities of young fish have made their appearance.

These waters appear to be a natural breeding-ground for bream, whiting, flathead, and mullet, and with protection from indiscriminate netting will soon be alive with mature fish of the above species.

There is no more attractive fishing-ground for line-fishing than these waters, and they are much frequented in ordinary seasons, but owing to the very small run of fish in the early part of the summer only a comparatively few visitors were attracted to Woy Woy.

#### *Tuggerah Lakes.*

The quantity of fish taken from this water last year was only about two-thirds of the number caught during 1897, and it is probable that the scarcity is the result of a practice that has existed for some time of the fishermen using hauling ropes of over a mile in length, and in dragging the bottom of large areas and disturbing the feeding-grounds to such an extent that the fish have not found the same attraction as formerly.

The entrance from the ocean to the lake has been open the whole year, and schools of fish have been observed travelling in and out at various times.

Fish caught in these waters are placed on board the steamer by the fishermen and conveyed from the mouth of Wyong Creek to the railway station, and thence consigned to Sydney. This means considerable handling, and does not tend to improve the fish.

It would be a distinct advantage to those engaged in the fishing industry, as well as to the public, if a light railway line could be laid to the shores of the lake, and it is probable that such an undertaking would be self-supporting, as visitors would be attracted in great numbers if there was a quick and easy means of access.

#### *Lake Macquarie.*

These waters have fully maintained their foremost position for the supply of fish, no less than 12,470 baskets having been consigned to the Newcastle and Sydney markets during the year.

The entrance from the ocean to the lake has been open the whole year, and numerous shoals of mullet, bream, and garfish have entered and distributed themselves through the lake.

The tributaries are closed against net-fishing, and owing to the protection thus afforded they are very plentifully supplied with young fish, which will eventually find their way into the main waters of the lake.

On the 21st November the closure of that portion at the channel entrance including Belmont Bay expired, and was reclosed for a further period of twelve months. During the thirty days' grace allowed by the Act before the extension came into operation, great catches were made, and on the first day no less than 120 baskets, consisting mostly of whiting, were captured.

The waters of Black Ned's Bay, adjoining the channel entrance, having been included in an old grant of land, it has been found that this Department has no jurisdiction over them, and steps are being taken to lease the bay from the Australian Joint Stock Bank, who are the present owners, in order that the Department may have a legal right to afford the same protection to the fish in this inlet as is given in waters that are closed against net-fishing.

*Cape Hawke.*

Every variety of fish has been in abundance in these waters, but on account of the irregular steam service only a small percentage of the fish caught find their way to the market. It is no uncommon thing for the fishermen to have to throw away the whole of their catches owing to the delay in the arrival of the boat, and its inability to cross out over the bar when the weather is unfavourable.

Until some better and more reliable arrangements are made for the speedy conveyance of fish to the markets, these waters cannot be relied upon for regular supplies.

During the winter months a number of the Sydney fishermen visit these waters and obtain from the rocky foreshores considerable quantities of crayfish.

These waters are very suitable to the growth of the oyster, and have been very prolific in its production. The oyster industry has improved, and the majority of the beds are being worked in a satisfactory manner.

With a view to determining the age at which oysters reach maturity, Inspector Massingham secured some oyster spat which had just been deposited, and laid them on good ground under regular observation, and in the course of eleven months the diameter of the shells measured  $1\frac{1}{4}$  inches.

The oysters are free from disease in Wallis Lake.

The Manning River is visited periodically by Inspector Massingham, but the waters north of this river, and those south of Lake Illawarra, are without regular supervision, on account of the small staff at the disposal of the Department.

I have, &c.,

J. A. BRODIE,  
Chief Inspector.

Sir,

Sydney, 26 January, 1899.

In compliance with your request, I beg to submit a brief report for the past year, and in doing so I must say that there is no perceptible difference between this and the previous year's report.

The same closures exist, viz., Lane Cove River, and Parramatta above Abbotsford. In the latter part larger shoals of mullet have been seen during the first and last quarters than have been seen for at least two years; throughout the remaining portion of the period fish were less plentiful. I have not observed any marked increase in bream and whiting, but there is an improvement in flathead and jewfish. I never knew the fry of any of the fish to be so scarce in the latter closure as in the past year. It may be attributed to the polluted state of the water; if such be the case, the evil cannot be remedied before the completion of the sewerage scheme.

It was particularly noticeable that whilst fry did not make its appearance in the above waters the young fish in a more advanced stage were to be seen; therefore, it is evident that the water did not suit the fish.

As to the open waters, the fish have been in no way plentiful, and most of the fishermen have made but poor living at their calling. This is, to a great extent, caused through the indiscriminate use of the destructive prawn and garfish nets, which are the most used; whilst but little use is made of the hauling and meshing nets. The only spell these waters receive is during the winter months, when prawning is prohibited, thus giving a four months' stoppage to the prawn-nets.

During the month of September some of the fishermen down the harbour caught fair quantities of pilchard and mackerel; but such catches realised but little for the catcher, the supply being more than equal to the demand.

It would be almost impossible to state the number of persons following out the occupation of fishermen as a living, as about seventy boats may be counted some weeks, then it will fall down to as low as twenty, some of the crews having gone to other waters for a change; whereas others knock off till fish improve—this takes place throughout the winter months.

Having visited Batchelor's Fish Market, Redfern, frequently throughout the year, and found the fish in good order and size, and although 14,000 baskets of fish have been received there, Botany Bay having contributed nearly one-third, the remainder coming from Clarence, Macleay, Manning, Port Stephens, Hunter, Lakes Macquarie, Tuggerah, and Illawarra, Shoalhaven, Bateman's Bay, and Wagonga, not more than sixty-three were condemned as unfit for food. I also made visits to Marriott's Market, and found the fish plentiful and good size, and only sold if in good condition. Both these persons expressed to act on their own judgment in getting bad fish out of their markets to prevent a possibility of its being sold. At both markets quantities of oysters, prawns, and crayfish have been sold; as regards the latter, in warmer months, about 10 per cent. have been found dead upon arrival at the markets; these are sent away also.

The prices realised for fish alone have been good throughout, and in some instances large returns have been the results of the fishermen's work, much to the detriment of the large numbers of fish-dealers who visit the markets daily, as their profits would be reduced.

FRED. W. SMITHERS.

Sir,

Sydney, 9 January, 1899.

I have the honor to present the following report on the Fisheries and Oyster Fisheries of Sydney Harbour for the year ending 30th December, 1898:—

During the months of February and March large shoals of mullet were in the harbour, and a great quantity were caught. Bream and whiting were also plentiful.

From April to July fish of all sorts were very scarce. In August a few bream were caught in the lower part of the harbour, principally by meshing.

In September and October large shoals of pilchard and cowyoung came in the harbour, and some large hauls were made. By November these fish had all left, and large shoals of kingfish and salmon came in. In the latter part of December a quantity of mullet came down the river, being driven down by the south-westerly weather, but are working up the river again with the fine weather.

The

The Parramatta and Lane Cove Rivers were closed on the 14th October, 1897, for two years. Port Jackson and tributaries are entirely closed against prawn-fishing during the months of June, July, August, and September in each year.

Narrabeen, Deewhy, Curl Curl, and Manly Lagoons were closed on the 8th May, 1897, for two years. That portion of Middle Harbour within a line drawn from Spit Point to Pearl Bay Wharf, also that portion above a line taken from below the Orange Grove to the opposite shore, were closed on the 6th April, 1898, for a period of two years. The whole of Crown land's foreshores were closed against the removal of oysters on 14th October, 1897, for a term of three years.

For some time past the blubber has been a great nuisance to net-fishing throughout the harbour, and often fishermen have been unable to land their nets, and consequently lost their fish. Another of the ill-effects of blubber is that fish and prawns, mixing with it, very soon go bad, and further still, it rots the nets.

The quantity of fish taken to the Eastern Markets during my attendance there—that is, from the 7th February, 1898, to the end of December—is 32,522 baskets, 949 dozen crayfish, and 1,020 baskets prawns.

I have endeavoured to obtain information respecting the quantity of fish condemned as unfit for food from the market inspector, the only person who can give same, and he declines to furnish it.

The only fish seized by me in this market for being under weight were two cases of garfish from Newcastle.

Approximately, there are just over 200 men and ninety-five boats licensed. These men are distributed, sometimes working in the harbour, other times, various places along the coast, rivers, and lakes; of course, taking their boats with them.

Most fish are affected by the weather. Southerly weather will disturb fish in the rivers, and drive the matured into outside waters and then carry them north, and on the southerly weather abating, the matured fish will work their way back to the rivers. Freshes in a river will also disturb fish, and cause them to leave.

The following are the kinds of nets used:—Meshing-net, general hauling-net, garfish and prawn net. The two last-named are very destructive to small fish and spawn.

The prawners started on the 1st October, but the supply at the market has not been plentiful; not because prawns are scarce, but on account of the blubber being so thick that in some places they cannot haul a net.

Respecting oysters, with the exception of Vacluse and a few private wharfs, there is scarcely a marketable oyster in the harbour. There are plenty of oysters in Middle Harbour, but they are very small, and I do not think they will ever grow to a marketable size. I have taken them on different occasions, and laid them down in Woolloomooloo Bay where other oysters grow fairly fast, but they never got any larger.

I beg to state that I have attended Woolloomooloo Market every morning early since the 7th February when not on other duty, and also attended at office for instructions and obeyed.

I have, &c.,

RICHARD HELLINGS,

Inspector of Fisheries.

Sydney, 17 February, 1899.

Sir,

I have the honor to report on the working of the Prospect trout hatchery during the year 1898.

On the 28th July I received from New Zealand two boxes of trout ova; one box contained 20,000 rainbow ova, the other box contained 15,000 brown trout ova. This consignment arrived in very bad condition, owing to ova not having a sufficient supply of ice on the passage from New Zealand.

I found the top trays of ova in each box perfectly dry, through being kept short of ice, with the result that 10 per cent. of ova were dead.

This consignment was placed in the hatching boxes soon after arrival, and was hatched out at a temperature of 49 to 51 degrees. The brown trout ova began to hatch on the 5th August, and were all hatched out by the 17th of the same month; they began feeding on the 8th September.

The rainbow started to hatch on the 3rd August, were all out by the 16th, and started feeding on the 8th September.

On the 29th August I received one box containing 10,000 rainbow ova which were in bad condition, fully 12 per cent. of ova had died.

This consignment was hatched out at a temperature of 55 degrees. They began to hatch out on the 30th August, and were all hatched on the 6th September, a great number dying after hatching.

On the 21st September I received the third shipment of rainbow; a great number, I found, had hatched out on the passage from New Zealand, and the remainder were all hatched out by the 26th of the same month, and started to feed on the 6th October, fifteen days after receiving the ova.

This ova was hatched out at a very high temperature, the water at 65 and the inside of the hatching-house at 80 degrees, a great number of fry dying after hatching.

Owing to the hot weather on the 21st October the distribution of trout fry commenced. Consignments of fry were sent to Bathurst, Walcha, Glen Innes, Black Mountain, Armidale, Paterson River, Cooma, Boloko, Bombala, Albury, Whittingham, Carcoar, Sofala, Rylstone, Lawson, Collaroy, Hazelbrook, Yalbraith, Picton, Burratorang, Yass, Woronora River, Queanbeyan, Braidwood, Merimbula, Bell, and the Cataract River. From last year a small number of rainbow were kept and distributed as yearlings in the Wollondilly River.

Four thousand rainbow trout fry were placed in the Bloxsome Ponds, and 2,000 in the hatching-house ponds, and will be distributed as yearlings when the cool weather returns.

I beg to call your attention to the unsatisfactory results obtained from the brown trout ova, which are unable to stand the warm climate.

A fence has been erected round the hatchery, and has been the means of protecting the building from the stock.

I beg to call your attention to the hatching-house ponds, which are leaking very badly, and will have to be repaired before the ova arrive next season.

I have, &c.,

GEORGE GLADING.



Sir,

Forster, 12 January, 1899.

I have the honor to submit the report of the fisheries of Wallis Lake for the year 1898.

*Net-fishing.*

The supply of bream, whiting, and garfish in their season has been fairly good, whilst tailer, jew-fish, black-fish, mullet, and flathead are in abundance during their season.

With regard to the latter, it is a common occurrence during the summer months, in the lower waters, for one person to land forty or fifty fish with hook and line in a few hours; but frequently the bulk of these fish are allowed to be wasted.

Large quantities of sea-mullet appeared in the Wollamba and Wallingat Rivers during the month of April; also, during November, fairly large schools of salmon entered the harbour; but as these fish are considered of such little value as a food fish very few were captured.

It was reported to me that a school of whales were seen in the offing during the month of November.

A party of Italians were engaged during June, July, and August in the cray-fishing industry. Good results were obtained at the beginning; but, latterly, bad weather, detention, and non-arrival of the steamer seriously retarded the enterprise. Their total catch amounted to about 164 dozen, out of which one shipment, consisting of twenty-five dozen, were rendered unfit for consumption through detention of the steamer.

The quantity of fish sent to the metropolis was 3,247 baskets, being an excess of 784 baskets for the previous year. Unfortunately, a very considerable portion of these did not reach the market in a satisfactory state, owing to delay in transit.

The number of licensed fishermen employed at irregular intervals during the year was twenty-two, and the licensed fishing-boats nine. In addition to these, a number of half-castes were employed, being supplied with boats and nets by the licensed fishermen, who receive shares. During the winter months the number is augmented by Italian fishermen from the home fisheries.

I regret to report that the fishing industry is at present practically at a stand-still, owing to the want of steam communication. The last steamer—which was, however, unsuitable for the trade—has been recently wrecked.

That such an extensive fishery within easy distance of the metropolis should be rendered idle through the want of a suitable steamer is to be deplored, both on account of the hardship entailed by the local fishermen and the consequent limited supply placed upon the Sydney market. However, it is an ill wind that blows good to no one; the temporary may conduce to a greater abundance of fish when operations are resumed.

There were three prosecutions during the year for fishing without license, and one for fishing in an unlicensed boat, and verdicts obtained.

*Oyster Fisheries.*

On the whole, the condition and prospects of the oyster fisheries may be considered as encouraging.

Much work has been done during the year in laying down shells along the foreshores for the collection of spat, notably on Leases Nos. 2,412, 2,263, 876, 2,526, 2,640, and portions applied for by Mr. G. Ravel, at Goodwin Island.

It may be mentioned that the shells referred to were obtained locally, from heaps on the land fronting old oyster deposits, presumably left there by aboriginals.

The custom of importing shells from Sydney for this purpose has been discontinued, for two very good reasons, one on account of the expense entailed, the other on account of the liability to transmit disease.

Good progress has also been made in laying out immature oysters, and removing others to more suitable situations for their development. In this work Messrs. Woodward and Moriarty keep one and two men almost constantly employed, and as a result the leases which are comparatively free from weeds have been heavily stacked, notably, Nos. 1,431, 1,432, 417, 907, 908, 2,205, 2,405, 2,208, 2,210, 2,625. Other leases also have been considerably improved. Messrs. Ravel, Rush, and Elliott, have also done good work in this direction on their Leases Nos. 2,652, 2,413, and 2,672.

Some attempts to eradicate the weeds by pulling them up, has been made, but the results achieved have not proved a success. There are indications of a diminution of this pest on some of the areas, but whether any permanent benefit will follow is very difficult to determine at present, but I am of opinion that a succession of dry seasons will have the desired effect. From information supplied to me, very few weeds existed prior to the flood. I think it quite possible the flood brought them, and they have become accustomed to the new conditions, and nothing but the dense salt water will destroy them.

Other leases than those enumerated are, where the weeds will allow, fairly well stocked.

The condition of the oysters is good, and no appearance of disease is perceptible.

A heavy fall of spat was noticeable in February, so small, however, as not to be determined with the naked eye. A sample was forwarded to the Department as evidence. Some were also secured and laid down on the 4th March as an experiment, and which have grown remarkably well. I consider them, at time of writing, to be about eleven months old, and they have attained to the diameter of  $1\frac{1}{4}$  inch, but this mostly flat shell, and are still a long way from being considered of a marketable size. They are situated on the best ground in the fishery, and where they can be examined from time to time.

During the year there has been six applications for oyster-culture leases dealt with, comprising 1,200 yards of foreshore, thus bringing the total length of foreshore under lease and applied for as 24,250 yards. But although the Cape Hawke Oyster Fishery is so extensive, the fact remains that about one half the areas are held merely for the catching of spat, and for this purpose they are well suited, and I think it safe to assert that they would not produce a bag of good marketable oysters in ten years if allowed to remain. This, then, shows the necessity of a system of oyster cultivation in these waters in order to ensure a regular supply being obtained.

The prolific resources of the district may be estimated by the quantity of oysters obtained during the year viz. :—2,126 bags, which were sent to Sydney, and two bags locally consumed, making a total of 2,128 bags.

It is also noteworthy that these beds are constantly being worked throughout the year.

*Manning*

*Manning River.*

From occasional visits to this river, I am not in a position to give a detailed account of the actual condition of the oyster fisheries, but from observations and examinations of the different areas which were dealt with, I may state that they are generally in a satisfactory condition, and with careful management on the part of the lessees and their employees, the average output will be maintained.

Numerous spat-collecting areas have been applied for, with a view to increasing the stock on suitable situations, and some good work has been done in this direction during the winter months. Hitherto cultivation in this direction has received scant attention on this river.

The major portion of the areas are deep water, or dredge beds, and are fairly well stocked.

The only leased area on which disease is known to exist to any extent are situated in Scott's Creek, and to all appearance on last examination the disease does not seem to have extended, if anything it has somewhat decreased.

An examination of the public oyster reserve at Luthrie Bay reveals the fact that disease is there as rife as formerly. I would specially recommend that strict precautions be taken to prevent the removal of oysters from this to any other areas in order that disease may not be spread over the district.

From report it appears that a considerable deal of oyster-stealing has been carried on, and prosecutions have followed; but with what result I am unable to state, as the cases were not in my charge.

Applications for oyster-culture leases, nine in number, and consisting of 1,800 yards of foreshore, has been examined and reported on, bringing the total number of yards under lease and applied for up to 20,650.

I have, &c.,

J. MASSINGHAM,

Inspector of Fisheries.

Sir,

Swansea, 21 January, 1899.

I have the honor to submit my report on the fisheries of Lake Macquarie for the year 1898.

About 70 fishermen and 30 boats were engaged in catching fish for sale; these captured an average of 178 baskets per man, or 415 baskets for each boat; and although this does not reach the number caught during the previous year, 1897, I think the returns from the sales, if they could be obtained, would show a decided improvement, as, from my observations, there were a great deal more choice fish, such as whiting, bream, and schnapper, caught during the twelve months than there were for either of the two previous years. There are no large hauls to report, but the supply seems to have been more general and regular.

The mullet season was the best I have ever seen. Old residents and fishermen of the lake say they never saw them so plentiful; in fact, fishermen, during one month, would not bother about catching them, as their returns would not yield sufficient to pay the expense of sending them to Sydney.

The total number of baskets of fish caught for market was 12,470; of these, 260 baskets were taken from Belmont and retailed about Newcastle and its suburbs. During the month of July a fisherman named J. Davis and his son, of Port Stephens, paid a visit to Lake Macquarie with a view of testing the lobster grounds about the Heads; but, as they did not find many lobsters, they soon left; their total catch was about fifteen dozens.

Towards the end of the year the lake entrance closure was thrown open to net-fishing, and it proved a great harvest to some of the fishermen, for at other parts of the lake about that time fish were somewhat scarce. On the first day it was opened about 120 baskets of fish were caught, the majority being sand whiting. Charles Parker and George Parker were the most successful, they having about twenty baskets each of whiting besides other fish. Salmon and sharks were so plentiful about this time that there was very little hauling done in the channel, fishermen would not risk their nets amongst them.

F. C. ALDRICH.

Sir,

Brisbane Water, 13 January, 1899.

In compliance with your request, I have the honor to submit a short report upon the Brisbane Water Fisheries for the year 1898.

The waters were open for net-fishing on the 30th April, and were reclosed 3rd September. During the period between opening and reclosing a number of fishermen were here with their boats and nets from Botany, Sydney, and Tuggerah, it being thought at time of opening that large freights would be the result, consequently no less than thirty-two boats were here to start work, but that number did not continue, as by the time of reclosure only eight boats remained.

During the above period of opening and reclosing no less than 1,866 baskets of fish were sent away, being the record of the total by the licensed fishermen, but the catch during the first and last parts of the time fell off considerably, as during the first month 753 baskets were obtained as against 398 captured in the last month. I am of opinion that the fishermen that work here are blind to their own interests through the continual use of the garfish net, thereby causing destruction to the immature fish, and further, that class of net dragging more heavily on the bottom; and still some of these men seem not satisfied with hauling as above, but had to weight the lead lines of their nets with increased weight by attaching iron bolts or half bricks to make the net drag everything out of the channels, and tearing the bottom to pieces, and it was some time after the reclosure before the fish again worked upon them where excessive hauling took place.

I would hope that in the near future a power be given to prevent the use of garfish-nets in these waters when open, and allow nothing under 2½-inch mesh to be used.

Referring to the cases made, I think that more care should have been used in transit to the market. If this had been done the fish would have gone through in better order, as it should be, considering the close proximity of these waters to Sydney.

I may also add that during the year 600 baskets of fish were sent from Gosford to Sydney which were caught at Terrigal. All these baskets contained good fish, namely, bream, whiting, garfish, mullet, and flathead.

I must draw attention to the vast importance of this place as a fishing resort, as will be seen when I point out that 4,500 persons visited Woy Woy alone during the year; a great number also arrived from Gosford and Point Clair. The catches taken must total largely, as it should be taken into consideration that over 200 boats are in use by line fishermen.

When

When speaking of line fishermen, I regret to say that numbers of them cause wilful destruction among small fish, simply catching and keeping everything in order that it may be said they caught so many fish. It is no unusual thing to see such crews go away with twelve dozen fish, half of which would not weigh 3 ounces, yet I have no power to stop this waste.

I may say that the matured fish have been very plentiful, especially mullet, and a visit to any part of these waters would prove this. With regard to the fry—go where you like on shallows in creeks, both from the bottom to the top of these waters, and you will find them in thousands.

I have much pleasure in drawing attention to the satisfactory condition of the oyster leases, as some of the lessees take a deal of interest in the matter of oyster culture; their beds may be found well stocked with marketable and small oysters, and by putting down spat collectors, they have secured a deal of spat. During the year, 136 bags were recorded as having been removed from the leases, an increase on the previous year, and this increase will steadily go on as the leased areas amount to 3,100 yards.

The other foreshores being Crown lands have been almost denuded of oysters by persons for their own use. The fall of spat has taken place at different parts throughout the year, the largest set took place in October, and that in Cockle Creek, and further down.

The oysters have been free from any disease, and, taken right through, have been in good condition, and have grown well.

Although prawns may be found here in quantities, no attempt is made to catch them.

The Fisheries laws have been fairly well adhered to, only a few cases having been taken before the court for fishing without licenses, and one illegal net, but several warnings were given and taken.

I have, &c.,

JOHN CAIN,

Inspector of Fisheries.

Sir,

Wyong, 17 January, 1899.

I have the honor to submit my annual report to you for the year 1898 of Tuggerah Lakes.

The year just ended has been the worst year for fish that has been known, all kinds being alike scarce. The reason for the scarcity is, I think, the light weight that all varieties of fish are allowed to be sent to market; also the diver nets used here do much harm in continually disturbing the bottom. These nets are sunk, and with the long hauling lines which are used, sometimes over a mile long, on either end, come along the bottom, thereby stirring the food of the fish up and killing it.

About the month of August there was some sort of disease among the eels here, large quantities being seen all over the lake dead. I noticed that those which were sick could not stay long under the water, but would come to the surface and twist about till death overtook them.

On April the 20th I noticed the entrance full of very small fish. I caught some, and forwarded them to the Department—to Dr. Cox—and they proved to be the spawn of the mullet, and only a day or two old, so by this I conclude that mullet, at all events, spawn in the entrance.

I also put about twelve in a small glass jam jar, and kept them alive for ten days, only changing the water once or twice a day. I think by this that fish from the other Colonies could be introduced in this way, as well as ours sent to other parts.

I have also been experimenting with prawns to see how long they can be kept alive. On 23rd November I caught four dozen prawns, and put them in a kerosene tin, with about 2 inches of sand on the bottom, and half filled with water. I then placed another tin full of water over the one with the prawns in, so that the top tin could leak into the lower and give the prawns a supply of fresh water. In this manner I kept two prawns alive for over a week. I got some fresh prawns, sixty-five in number, and put them in with the two which were alive, with the following result:—Prawns caught 9 p.m. on 1st December; on the 2nd, thirty dead; 3rd, thirteen; 4th, ten; 5th, nine; 6th, three; 7th, two prawns alive, and they kept alive till 26th, when one died; the other kept alive till the 28th. If larger vessels were used I think more could be kept alive.

I have observed several shoals of fish travelling both in and out during the year. So late as 25th July a very large shoal of mullet came in, and on 19th August I saw a large shoal of bream and blackfish lying at entrance, bailed up by tailers and jewfish.

The entrance still keeps open, having about 4 feet on bar at high water, so that travelling fish can enter, and fish outward bound can get out.

The catch for the whole year was only 6,259 baskets, as compared with 10,372 for 1897, and 11,422 for 1896. This shows a decrease yearly, but this last year has the greatest decrease of any previous years.

There is only one oyster lease here, and the lessee has not sent any oysters to market off it yet. He has sold two and a half bags in small lots to various pleasure parties.

The acre which was resumed for inspector's residence has been fenced, and shelter trees planted round it. The house, which is my own, is in a very leaky condition, and leaks every time it rains. A new house is very much wanted.

The average number of men at work during the year has been fifty-seven, and twenty-three boats.

CHARLES GORDON,

Inspector of Fisheries.

Sir,

Hawkesbury River, 6 January, 1899.

I have the honor to report on the condition of the net and line fisheries on this river, and also the oyster fisheries for the past year, 1898.

The net and line fisheries on this river have during the past year given employment to 106 persons, who use fifty-two licensed fishing-boats.

Some of these men follow prawn-fishing, others line-fishing, others use hauling-nets, and others depend on meshing-nets.

The kind of hauling-nets mostly used in the Hawkesbury River is the destructive garfish net, the most destructive net among all nets to young fish, great quantities of which are destroyed daily. The meshing-net, being of large mesh, destroys no small fish, and a net which I can recommend. In consequence of the destructive nature of the nets used, great quantities of young fish are destroyed daily, also a large number of undersized fish are caught by pleasure parties for pleasure. Fish of all kinds have now become very scarce in the whole of this river.

The

The total number of baskets of fish sent to market during the past year was 9,377, but of this number a large percentage are only half baskets or small baskets, especially for prawns.

I beg to state for your information that the prawn fisheries of the Hawkesbury River promises to be a very important industry, but it requires a little help from the Government in providing a suitable market, and later hours of selling.

Of the oyster fisheries of this river, I would again beg to state that a valuable industry in oyster culture is being neglected, which would give employment to many; also that the leased areas, together with all the oyster-bearing foreshores of Crown land, are greatly denuded of oysters; that leased areas are in no cases used for oyster culture, but only for points of vantage in plundering the surrounding Crown lands of all oysters. During the past year 971 bags of oysters have been shipped to Sydney, besides quantities of oysters which are used on this river as bottled oysters and sold by persons who have no lease. The quantity stated may be looked upon as the produce of the whole river, and fully 70 per cent. of which oysters must have come off unleased Crown land, and the result of thieving.

I would also beg to bring under your notice the fact that certain oyster lessees have, for a consideration, lent their name and the number of their lease to others who have no lease, in order that stolen oysters may be sent to market.

I would further beg to state that in November I observed a quantity of oyster spat floating on the water near Bar Point, a thing often seen in former years, but rarely seen of late years. Under an improved plan of oyster culture spat found in this manner might be utilised.

I beg further to state that on the 1st January two oyster leases expired by expiration of time.

I have, &c.,

P. SMITH,

Inspector of Fisheries.

Sir,

George's River, 18 January, 1899.

I have the honor to submit the following report of the fisheries under my supervision during the year ending the 31st December, 1898:—

*Woronora River.*

This river has been closed against net-fishing up to the 29th September, being again closed on the said date for a further period of one year. There being no penalty in the Act for net-fishing for one month from date of closure, large quantities of mullet and other fish were caught during October. There being no blubber of any account in this river, the fish are at the mercy of the nets. In the early part of the year the line fishermen were catching thousands of whiting, and two-thirds of them would not weigh more than 3 ounces. Since the last closure, fish have accumulated in great quantities, especially mullet.

Since the early part of November great quantities of mullet and other fish have left the river at every change of the weather; in fact, all fish are travelling from river to river along the coast from September to April.

*George's River.*

George's River was open to net-fishing from 1896 up to the 26th May, 1898, when it was closed till 30th September, and reclosed on the latter date for a further period of one year. During the month of October there were about twenty net boats fishing in the river. There was a great quantity of fish caught during the month, but the blubber being so plentiful in the river during the warm weather the net boats could not kill many white fish; the principal fish caught being what are commonly called 2½ to 3-inch hardgut mullet, they being plentiful. At the present time the upper part of the river is in a flourishing condition, although great quantities of mullet are continually travelling down the river. From the early part of February to the end of July was the best season for many years for line-fishing, an average of over 200 dozen whiting (all big fish) being caught daily from Commons Point to mouth of river and in the bay.

During last mullet season great shoals of sea-mullet came into the bay, but through keeping wide off could not be killed as the nets could not reach them, only about thirty boatloads being killed.

On the whole this has been a very prosperous season, as we have had no freshes in the river during the winter. The only fresh of any consequence was in February, which brought down a fair quantity of white fish, from which the fisherman and public derived the benefit. If a fresh occurs in our river during the winter months, it takes some time to recover; but during the warm weather when fish are travelling, a fresh in the river does no harm.

Prawns.—I am pleased to state that prawns are very plentiful this year, five boats and crews being employed at Salt Pan Creek, ten boats and crews at Cook's River, besides private boats. Prawns have also been caught in fair quantities at Lady Robinson's Beach, Kogarah, and other bays, and in all the boats crews have done fairly well.

Oysters.—At the present time there is an area of 14,700 yards under lease, besides 1,400 yards applied for; all the leases have greatly improved during the year, and 857 bags have been sent to market, an increase of 326 bags over last year, and all the leases are still well stocked. All oysters after being laid down take the disease, and a small percentage of those growing naturally are slightly touched; some of the lessees have tried experiments to get rid of the disease, but have failed. I think the only remedy is to pick up all diseased oysters and throw them away, which the lessees do not seem inclined to do.

I have, &c.,

J. D. GRANT,

Inspector of Fisheries.

Sir,

Wollongong, 30 January, 1899.

I have the honor to furnish the following report on the fisheries under my supervision for the year ending 31st December, 1898:—

During the year large shoals of fish have been reported to your inspector as having been seen at sea.

The first shoals being reported during February, the varieties noticed being whiting, bream, sea and flat-tail mullet.

Large shoals of sea-mullet were noticed working in a northerly direction during the months of February, March, April, and May. Very few of these fish worked into this fishery. The

The only reason I can assign for this is that the sea entrance through sand-bar being on the north side of Windang Island, these shoal fish invariably work away from the sea-beach to the north of the island, and consequently miss the entrance to lake. Further, I have noticed that, with the channel to the south of this island, they have no difficulty of entering.

A very large shoal of sea garfish was reported travelling north during the month of October, also a large shoal of salmon was reported as being off the coast during the same month.

None of these shoals of fish were utilised.

The total output for 1898 was 5,936 baskets of fish, of which 4,646 were forwarded to the metropolis, the balance (1,290) being consumed in this district.

Prawns have not been worked to any extent, only four baskets being forwarded to the Sydney market.

The average number of men at work during the year was thirty, and boats eighteen.

Several of the best hauling grounds in the lake continue to be so weeded up as to be almost useless for hauling purposes.

The closing against net-fishing of the tributaries of the lake, with the sea entrance, has had a beneficial effect on the continuity of supply of young fry of the several varieties in which the lake abounds, the supply of which is very abundant in all parts of this fishery.

The entrance of lake to the sea sanded up during the early part of December, thus preventing the ingress and egress of shoal fish.

Amateur line fishermen have had fair sport in this fishery during the year, the varieties caught being whiting, bream, tarwhine, flathead, and tailer.

Crayfish, as hitherto, have not been utilised, except a few that have been caught by amateurs off Wollongong.

Amateurs have had good sport on the offing fishing-grounds. Schnapper, of which large numbers have been caught, being the principal variety, with a fair quantity of teraglin, flathead, nannegai, and morwong.

During the month of January several amateur line fishermen reported to me that teraglin and schnapper were full roed.

#### *Tom Thumb Lagoon.*

This water is fairly well stocked with whiting, bream, flathead, and mullet, and has not been netted to any extent.

The oyster deposits in Tom Thumb Lagoon and the entrance of Lake Illawarra are in fair condition, no disease existing. There was a fall of spat in both these waters during the early part of the year.

I have, &c.,

D. W. BENSON.

Sir,

Sydney, 7 March, 1898.

I have the honor to report that I accompanied Mr. George Griffin, a representative of the Queensland Fisheries, to the Hunter River oyster-beds, with a view to inquire into the worm disease there existing, to ascertain if it is similar to the disease now rampant in Moreton Bay.

Mr. Gibbins' foreman, Mr. Poile, met us with a boat on the 3rd and 4th instant, and conveyed us to the oyster-beds, giving us every assistance in prosecuting the work in hand.

We started on Lease No. 334, an area of 2,000 yards, on Spit Island in the Back Channel, and had several samples brought up by the dredge. They are badly affected here, worms being easily seen with the naked eye in the majority of oysters, and the mud being covered in some by half a dozen layers of thin shell. We also examined several leases off Sandy, Goat, and Spectacle Islands, and found the disease freely showing in these localities, which are all deep-water beds and worked with the dredge.

On Spit Island there is a vast heap of shells, some thousands of baskets, which have been dredged from badly-affected areas, and placed there for eighteen months to dry.

The disease seems by this process to be completely driven out of the shells, and the lessee is now shipping them to the Camden Haven waters to lay down as cultch.

Mr. Gibbins is grappling with the disease in a very practical manner. He has several hands employed in thoroughly dredging the affected areas, and has the oysters cast into heaps on dry land for some months to dry.

This seems to be the best way to check its spread, but it is doubtful even if this treatment will completely eradicate it, as it is only natural to suppose that the worm is carried about in barnacles on dirty bottomed ships, and possibly by birds.

If these surmises are correct, it would account for the disease being introduced into the different rivers on our coast.

Portions of this river are exceptionally favourable to the rapid growth of the bivalve. On one bank out in the stream I was shown oysters of ten months' growth which would not go through an inch and three-quarters' ring, quite healthy and fit for market, and I know of no other water in the Colony where a similar growth is obtained in so short a period.

Mr. Griffin is of opinion that the worm in these waters is in some respects similar to the one they have in Moreton Bay, but that it is not the same.

The worm is said to enter the oyster when it is feeding, and after collecting a deposit of mud, it spawns in the oyster about November, depositing bags of eggs, the young of which set to work to form another layer of mud on the top of the deposit already existing in the fish, and this is covered over by another thin shell, and so on, until the oyster completely exhausts itself and dies.

The most effectual way to cope with the disease is, in my opinion, to freely dredge the areas badly affected, just prior to the spawning season of the worm, and to place the oysters and shells on dry land for some months to be thoroughly dried.

I have, &c.,

J. A. BRODIE,

Chief Inspector.

Memo.

Memo.

22 December, 1898.

During my visit to Camden Haven I inspected the majority of oyster-beds with the following results:—

No. 347B. This is the southernmost lease on the western shore. It has a shelly bottom; is well stocked with large-shelled oysters in very good condition. They have been laid down on this bed from the mangroves, and there is a very good show of young stuff.

I made two hauls and got good results.

Oysters will not thrive south of this lease, as it is sandy bottom.

As the north end of 347B and the south end of 347 terminate opposite the centre of the mouth of Saltwater Creek, I instructed Mr. Gibbins to put stakes at each side of the mouth of the creek. The oysters are on a bank in centre of river.

No. 347. This is a fattening-ground. Bankers laid down here last winter show a splendid growth, with plenty of young stuff attached.

No. 348. A fattening-bed, on which bankers from the rocks at the entrance and Hunter River shells were laid down last winter.

I made two hauls and got some fine oysters, with a splendid show of young stuff.

No. 348A. A fattening-bed, where bankers have been laid down. I made two hauls with dredge and got very good oysters, with a good show of young stuff. This water is about 7 feet deep.

In May, 1898, there were 148 bags of bankers laid down in No. 348. In April, 176 bags from Gogley's Island, 15 bags from Chinaman's Bay, 52 bags from the Heads, and 303 tons of shells from the Hunter River.

No. 346. A fattening-bed, on which bankers were laid down in the winter. A good show of oysters, with plenty of young stuff.

No. 708. Made three hauls, and found oysters large and in good condition. There are no oysters on the foreshore, but plenty in deep water near centre of stream, about 11 feet deep.

No. 1,244. This is a shallow bed, with oysters along the foreshore. Some Hunter River shells were laid down here, and there are Mangrove and Cobbler Peg oysters.

No. 791. Has a good supply of bankers in good order and well grown on the northern end, but the southern end is sandy, and has no oysters.

These oysters were turned, and laid out in April.

No. 535. Consists of bankers and oysters on ballast stones, and plenty of them.

No. 533. A foreshore bed, with a splendid show on ballast stones, which are removed to deep-water beds in winter.

No. 1,439. This lease is about 2 miles away from the general oyster-beds up Stinkey Creek.

I made three hauls with the dredge, and got some very fine oysters, well grown, and in good condition. The water is about 10 feet deep in the centre of the stream, and the oysters grow up to the foreshore. This is a fattening-ground, and has very little young stuff. 204 bags were taken off this lease in 1897.

No. 1,437. Adjoins the previous lease, and is all sand, except the southern end, where there are a few oysters.

It is a peculiar thing there are no oysters on this creek between these two leases and the main river.

No. 849. Mangrove and Cobbler Peg oysters in great quantities; also a good show on the ballast stone around the foreshore.

The oysters from this lease are used to stock the deep-water beds. This lease is not located on the river in accordance with the plan.

The area worked under this lease and the adjoining one, No. 742, is some hundreds of yards to the south of those charted on the map,

No. 1,273. Has a frontage to the southern portion of Gogley's Island, and is plentifully supplied with Mangrove and Cobbler Peg oysters of a small size on the foreshore, while in the deep water they grow large and marketable.

It is plentifully supplied with young stuff, which is removed to the deep-water leases in the month of April yearly.

No. 1,274. Has a frontage opposite the previous lease, and the same remarks apply to it as No. 1,273.

Nos. 861, 812, 2,241. These three leases with No. 1,273 take in the whole of Gogley's Island.

They are all bountifully supplied with Mangrove and Cobbler Peg oysters, while No. 2,241 has a very excellent show of large oysters in deep water.

No. 1,209. Well supplied with oysters on ballast stones.

This lease is wrongly charted on the map; it should adjoin No. 542, as described in the lease.

No. 2,175. Has been erroneously placed and described in the lease as starting from the southern end of No. 1,209. As there was no vacant foreshore between 1,209 and 542, it will be necessary to amend the lease and place it at the north-eastern end of No. 1,209.

Through the errors made in Nos. 1,209 and 2,175, the public oyster reserve of 500 yards is wrongly described, and it would be advisable to amend the description of same to start from the north-west corner of No. 2,175 when amended and run 500 yards northerly.

There will then be 100 yards of good oyster ground vacant at the northern end of the termination of the public oyster reserve.

The training-wall for the breakwater is nearly completed, and when finished will run from the entrance up to Gogley's Island, and will leave two clear entrances, one for the channel, and the other will allow the water to have a clear run round Gogley's Island into the river. As far as I can judge at present none of the leases will be affected by the deepening of the channel and the training-wall.

The office map does not show the contour of the shores correctly, and should be amended, and the leases out of position will require to be properly placed.

The result of my inspection shows that this is one of the best, if not the best, of oyster-growing grounds in the Colony, and is worked to the best advantage both as regards production and continuity of supply by the lessee, Mr. Gibbins.

J. A. BRODIE,  
Chief Inspector.

Sir,



Sir,

Sydney, 23 May, 1898.

On the 20th instant I visited Lake George, with a view to inquiring into the fisheries there.

At the present time the lake is not more than 15 miles in extent from north to south, the waters having receded between 2 and 3 miles owing to the continued dry weather in the district.

The average depth was 7 feet a few years ago, but now it is estimated that it does not exceed 5 feet, and the water is quite brackish and unfit for drinking purposes.

From local information I ascertained that the waters are plentifully supplied with codfish and carp, the latter forming one of the principal foods for the cod.

Crayfish are also here in great quantities, and, on account of the abundant supply of fish-food, the efforts made by the local anglers to catch the cod with the hook and line meet with very little success.

The cod in these waters are said to be of an excellent flavour, and are much appreciated by the local residents of Bungendore, who readily pay 6d. a pound for them.

If it is at any time considered advisable to experiment with the cod with a view to trying the fry in the eastern waters, there is very little doubt that some full-grown female fish could be obtained in the spawning season and transported in casks to the Prospect Hatchery, where the ova could, in all probability, be taken from them and hatched out.

There are no professional fishermen here, as the waters offer very little inducement to fishing as a livelihood.

Nets cannot be hauled, on account of the snags and stumps all over the lake, and it is only at the mouths of the creeks that meshing-nets are ever used.

At the present time there is so little water flowing into the lake from the creeks that they are not now used.

There are four tributaries emptying into the lake, into two of which trout have at various times been liberated, but there is no trace of them now, nor have they been seen by the local people.

The country through which these creeks flow is very flat and the water rather sluggish, consisting at the present time of a long chain of water-holes with muddy and sandy bottoms.

These streams appear to me to be very unsuitable for the propagation of trout, and I think it inadvisable to send any more for liberation here.

In view of the proposed appointment of Senior-constable Maude as an Assistant Inspector of Fisheries, it would perhaps be as well to notify Messrs. Patrick Osborne and Nathaniel Powell that their services will not now be required as honorary Inspectors.

The fisheries boat is in charge of Mr. W. H. Glover, and is very badly in want of a couple of coats of paint.

I have, &amp;c.,

J. A. BRODIE,

Chief Inspector.

21.